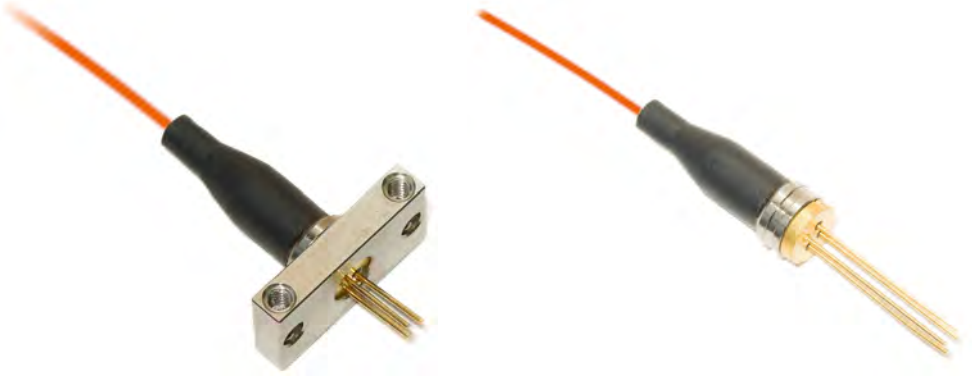
LASERS COM

Coupling Light to Your Success

PRODUCT CATALOGUE

2021



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ABOUT US

LasersCom LLC manufacture laser diode, SLD and photodiode fiber-coupled modules for measuring and test optical fiber equipment, communication systems, optical time-domain reflectometry (OTDR), biomedicine and scientific research.

LasersCom, LLC is a team of highly qualified engineers and researchers including PhD holders. We work in a close collaboration with the National Academy of Sciences of Belarus, national and foreign research institutions and industrial companies. We constantly improve our products to meet the standards and to satisfy the demands of the dynamic fiber optics and optoelectronics market.

We developed the unique technology of laser diode module assembly that provides high optical power coupling efficiency to a fiber and excellent stability with temperature variation. Our technology of photodiode module assembly allows for producing the modules with large responsivity, small back reflection and large dynamic range. Fabrication takes place in a clean zone under constant quality monitoring that ensures reliability and durability of our products.

We thoroughly design the modules to provide superb optical power stability, heat removal and mechanical strength. The lightweight and compact laser and photodiode modules can be widely used in stationary as well as portable fiber optics equipment.

We are open to collaboration and new ideas and always ready to improve our products in order to fit the specific needs of our customers.

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LDS-505-FP-10

OVERVIEW

LDS-505-FP-10 is the laser diode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Wavelength: 505 nm
- Cavity type: Fabry-Perot
- Optical power: 10 mW in CW mode in single-mode fiber Nufern S405-XP
- Package types: coaxial with bracket, 14 pins DIL

APPLICATIONS

- Spectroscopy
- Biomedicine
- Laser systems

ORDERING INFORMATION

LDS-505-FP-10 -X-21-X-X-X-X

Case type

B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SM03: SM, Nufern S405-XP, furcation tubing ∅0.9 mm
MM105: MM, 105/125, furcation tubing ∅0.9 mm
Other type on request

Connector type

FU: FC/UPC
FA: FC/APC
N: no connector
Other type: on request

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C)

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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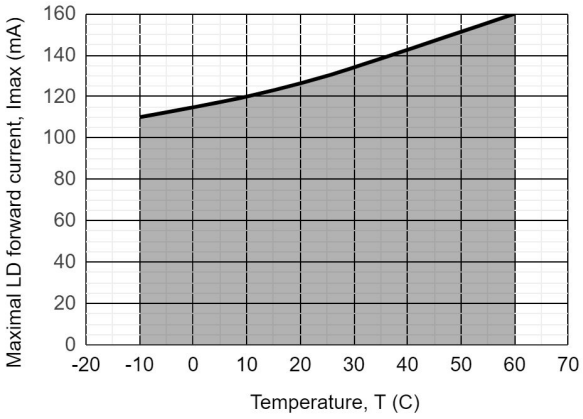
LDS-505-FP-10

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current*	Imax	130	mA	CW, T = 25°C
Laser diode reverse voltage	V_{RL}	2	V	
Operating temperature**	T_{OP}	-10 - +60	°C	Package B
Operating temperature**	T_{OP}	-40 - +60	°C	Package T, E (Tst = 25°C)
Storage temperature	T_{stg}	-40 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 5 seconds

*Maximal laser diode forward current depends on the operating temperature. Please, refer to the figure below.



**Operating temperature is defined by the case temperature. It is recommended to ensure sufficient heat dissipation so that the module's maximum operating temperature is not exceeded.

Operating temperature for the DIL-14-pins case (T or E) with TEC is defined for internal temperature stabilization at Tst = 25°C that corresponds to thermistor resistance Rt = 10 kOhm.

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LDS-505-FP-10

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Optical power (CW)	P_{cw}	10			mW	CW, I_{op} = 130 mA, SM03
Mean wavelength	λ	500	505	515	nm	CW, I_{op} = 130 mA
Spectral width	Δλ		1	3	nm	CW, I_{op} = 130 mA
Wavelength-temperature coefficient	dλ/dT		0.03		nm/°C	CW, I_{op} = 130 mA
Threshold current	I_{th}		70	100	mA	
Slope efficiency	S_e	0.15	0.17		mW/mA	CW, SM03
Operating voltage	V_{op}		6.0	7.5	V	CW, I_{op} = 130 mA

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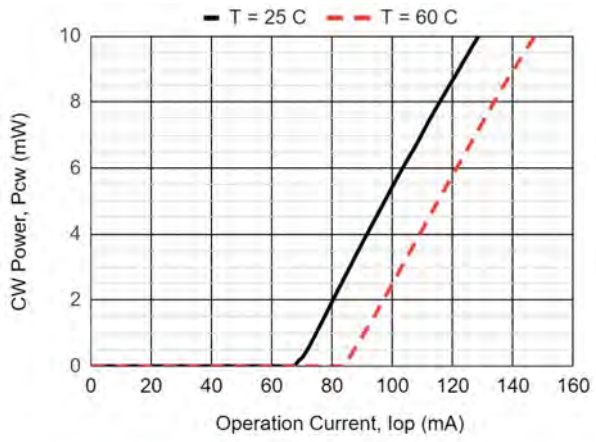

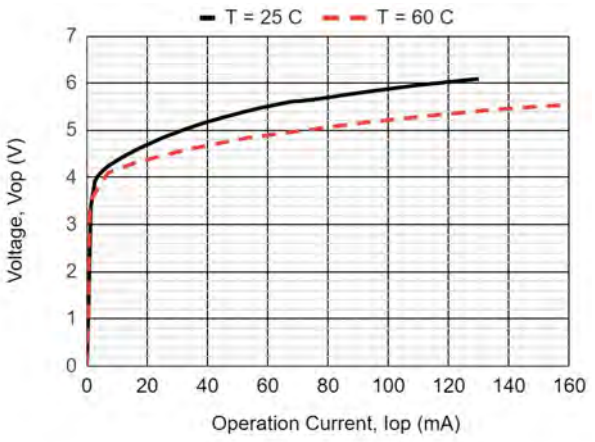

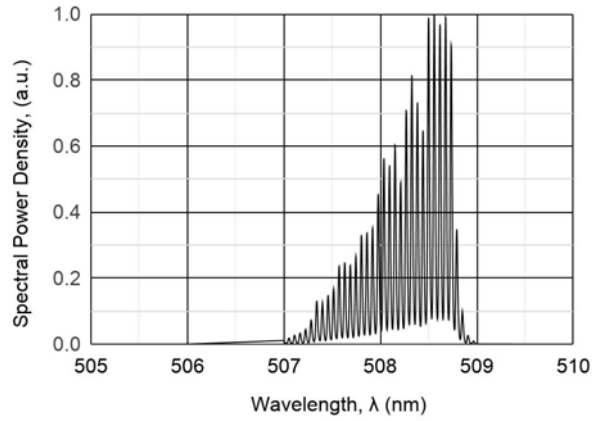

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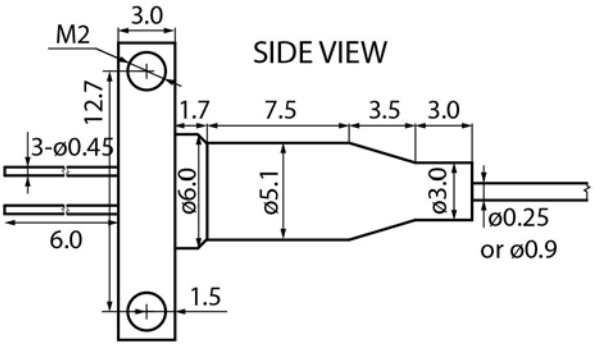
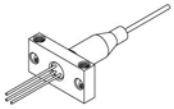
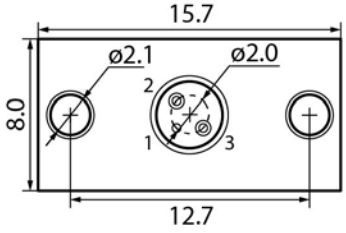
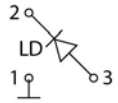
LDS-505-FP-10

PACKAGE B





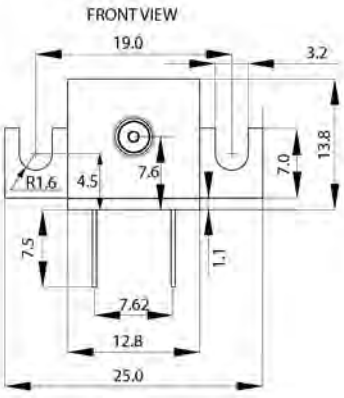


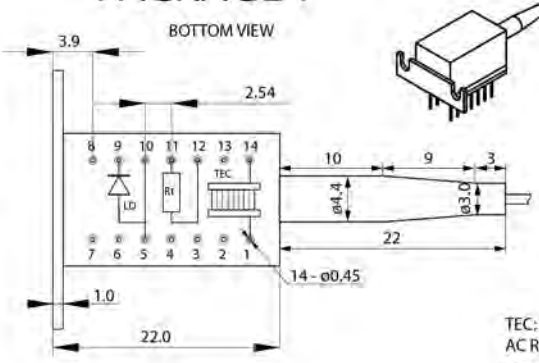


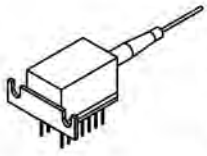
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T







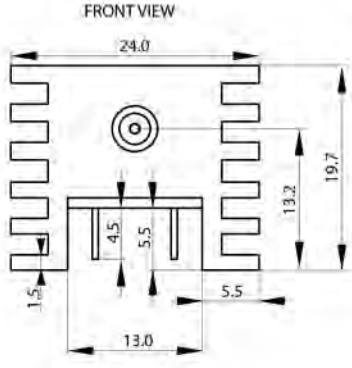
PINOUT #4, #18, #21, #31

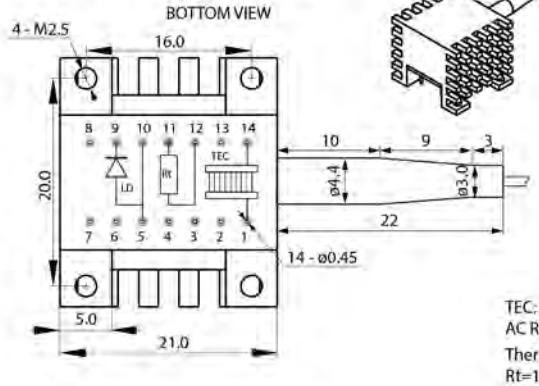
1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.-
8.-
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

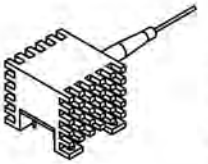
TEC: I_{max}=1.4A, U_{max}=3.9 V, Q_{max}=3.3 W,
AC R = 2.0 Ohm, ΔT_{max} = 69 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

PACKAGE E







PINOUT #4, #18, #21, #31

1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.-
8.-
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

TEC: I_{max}=1.4A, U_{max}=3.9 V, Q_{max}=3.3 W,
AC R = 2.0 Ohm, ΔT_{max} = 69 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

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LDS-505-FP-10

Characteristics, data, materials and structures specified in this datasheet are subject to change without notice. Please refer to the latest specification before use of the products.

Safety and handling cautions

1. Avoid smashing and burning of the module. Avoid storing and using the module in conditions where water, organic solvents or aggressive acids or bases may contact the module or where there is a possibility of exposure to corrosive gases, explosive gases, dust, salinity or other harsh conditions. The module should be disposed as special industrial waste.
2. Exceeding absolute maximum ratings even for a short time can cause permanent damage of the module.
3. The module is sensitive to and can be broken by ESD (static electricity).

Conflict Minerals Policy Statement

LasersCom LLC achieves business objectives and customer needs with social responsibility. We do not support or contribute to the violence and human rights violations associated with the mining of conflict minerals coming from Conflict Regions according to US "Dodd-Frank Act". When possible, our suppliers' conflict mineral statements are reviewed. We do not directly purchase Conflict Minerals from any source and do not knowingly procure any parts and products containing Conflict Minerals from Conflict Regions.

RoHS Compliance Statement

Restriction of Hazardous Substances (RoHS) directive (Directive 2011/65/EC amended with Directive (EU) 2015/863) is the directive aimed at reducing the harmful environmental impact of waste electrical equipment by restricting the use of known dangerous substances. Based on information received from our supply sources, LasersCom LLC hereby states that the banned substances listed in the RoHS directive are not found in the parts and materials used above the threshold level listed other than exceptions approved by the European Commission.

REACH Compliance Statement

Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) is a European Union regulation 1907/2006/EC that addresses the production and use of chemical substances, and their potential impacts on human health and the environment. Based on information received from our supply sources, LasersCom LLC hereby states compliance of the parts and materials used in manufacturing to REACH regulation. LasersCom LLC does not manufacture or import any substances or preparations as defined under REACH.

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LDS-520-FP-10

OVERVIEW

LDS-520-FP-10 is the laser diode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Wavelength: 520 nm
- Cavity type: Fabry-Perot
- Optical power: 10 mW in CW mode in single-mode fiber Nufern S405-XP
- Package types: coaxial with bracket, 14 pins DIL
- Built-in monitor photodiode

APPLICATIONS

- Spectroscopy
- Biomedicine
- Sensorics

ORDERING INFORMATION

LDS-520-FP-10-X-3-X-X-X-X

Case type

B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SM03: SM, Nufern S405-XP, furcation tubing ∅0.9 mm
MM105: MM, 105/125, furcation tubing ∅0.9 mm
Other type on request

Connector type

FU: FC/UPC
FA: FC/APC
N: no connector
Other type: on request

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C)

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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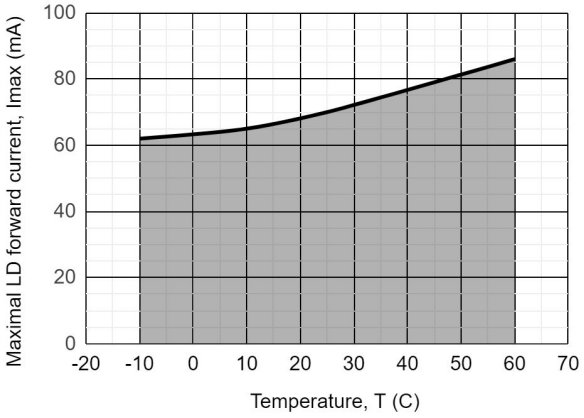
LDS-520-FP-10

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current*	Imax	70	mA	CW, T = 25°C
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	30	V	
Operating temperature**	T_{OP}	-10 - +60	°C	Package B
Operating temperature**	T_{OP}	-40 - +60	°C	Package T, E (Tst = 25°C)
Storage temperature	T_{stg}	-40 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 5 seconds

*Maximal laser diode forward current depends on the operating temperature. Please, refer to the figure below.



**Operating temperature is defined by the case temperature. It is recommended to ensure sufficient heat dissipation so that the module's maximum operating temperature is not exceeded.

Operating temperature for the DIL-14-pins case (T or E) with TEC is defined for internal temperature stabilization at Tst = 25°C that corresponds to thermistor resistance Rt = 10 kOhm.

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LDS-520-FP-10

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Optical power (CW)	P_{cw}	10			mW	CW, I_{op} = 70 mA, SM03
Mean wavelength	λ	515	520	530	nm	CW, I_{op} = 70 mA
Spectral width	Δλ		1	3	nm	CW, I_{op} = 70 mA
Wavelength-temperature coefficient	dλ/dT		0.03		nm/°C	CW, I_{op} = 70 mA
Threshold current	I_{th}		25	45	mA	
Slope efficiency	S_e	0.22	0.30		mW/mA	CW, SM03
Operating voltage	V_{op}		6.0	7.5	V	CW, I_{op} = 70 mA
Monitor current	I_m	0.1	0.4	0.7	mA	CW, I_{op} = 70 mA, V_r = 5 V

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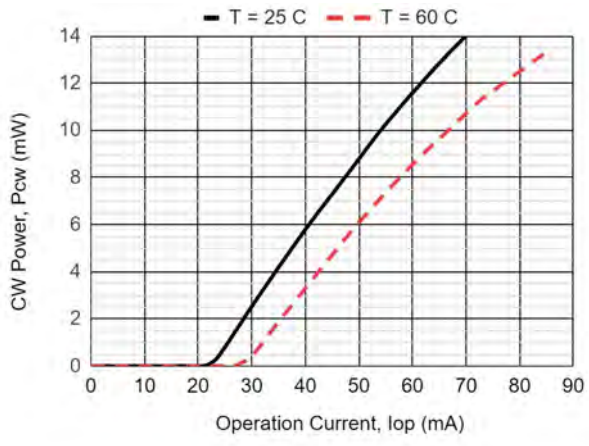
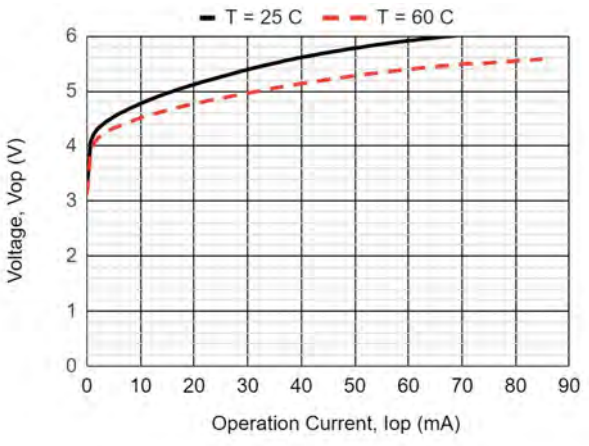
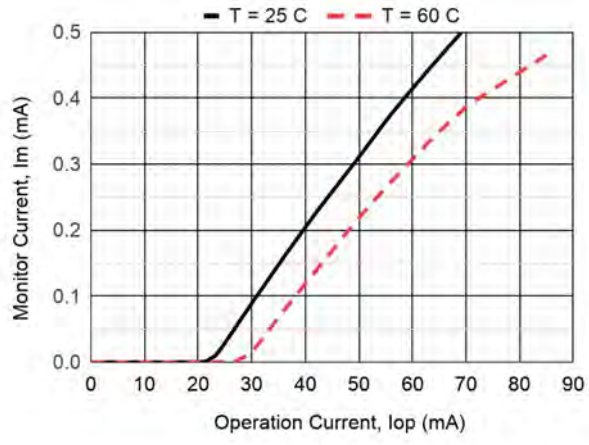
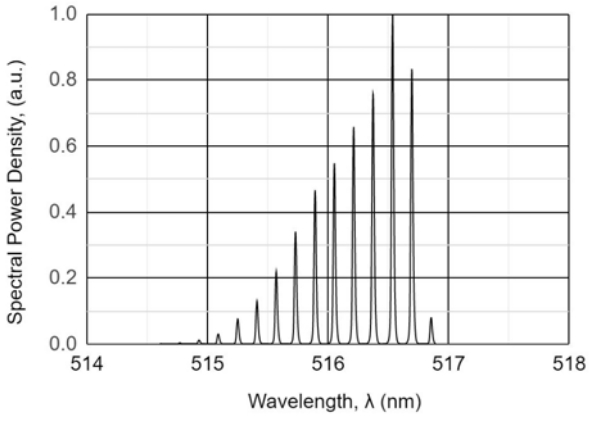
LDS-520-FP-10









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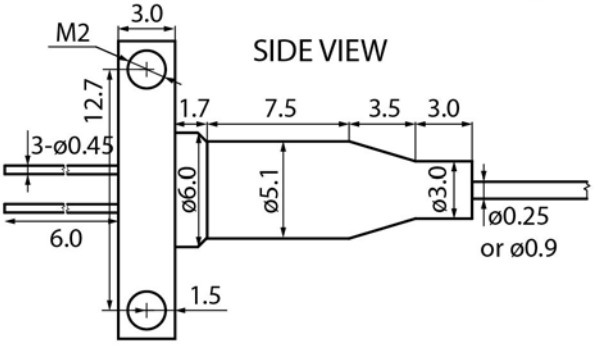
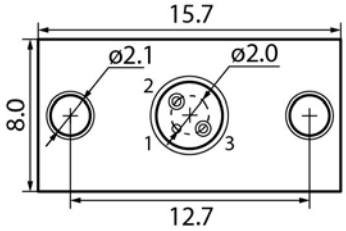
LDS-520-FP-10

PACKAGE B

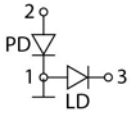


SIDE VIEW



BACK VIEW

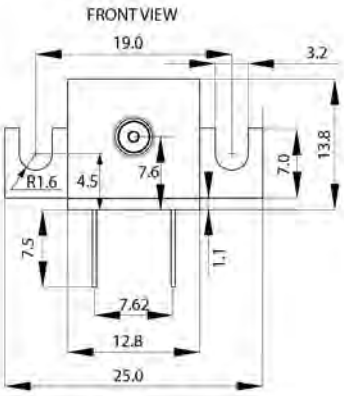
PINOUT #3

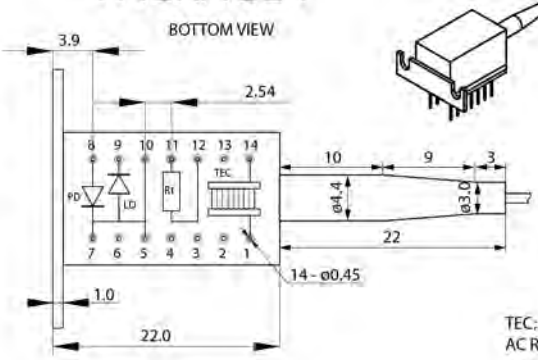


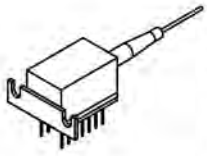
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T







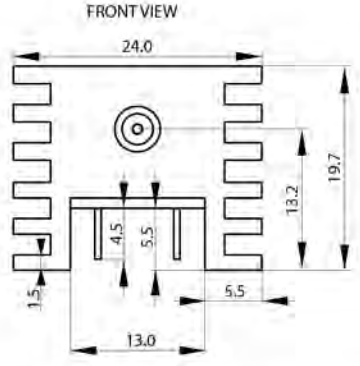
PINOUT #2, #3

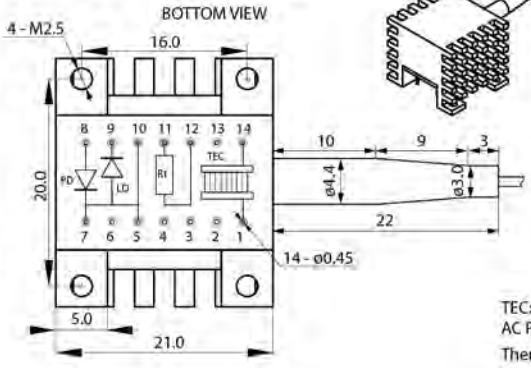
1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.PD Cathode, LD Anode
8.PD Anode
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

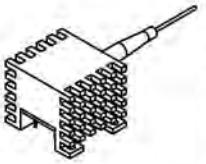
TEC: I_{max}=1.4A, U_{max}=3.9 V, Q_{max}=3.3 W,
AC R = 2.0 Ohm, ΔT_{max} = 69 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

PACKAGE E







PINOUT #2, #3

1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.PD Cathode, LD Anode
8.PD Anode
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

TEC: I_{max}=1.4A, U_{max}=3.9 V, Q_{max}=3.3 W,
AC R = 2.0 Ohm, ΔT_{max} = 69 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

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LDS-520-FP-10

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LASERSCOM
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LDS-520-FP-20

OVERVIEW

LDS-520-FP-20 is the laser diode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Wavelength: 520 nm
- Cavity type: Fabry-Perot
- Optical power: 20 mW in CW mode in single-mode fiber Nufern S405-XP
- Package types: coaxial with bracket, 14 pins DIL
- Built-in monitor photodiode

APPLICATIONS

- Spectroscopy
- Biomedicine
- Sensorics

ORDERING INFORMATION

LDS-520-FP-20-X-3-X-X-X-X

Case type

B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SM03: SM, Nufern S405-XP, furcation tubing ∅0.9 mm
MM105: MM, 105/125, furcation tubing ∅0.9 mm
Other type on request

Connector type

FU: FC/UPC
FA: FC/APC
N: no connector
Other type: on request

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C)

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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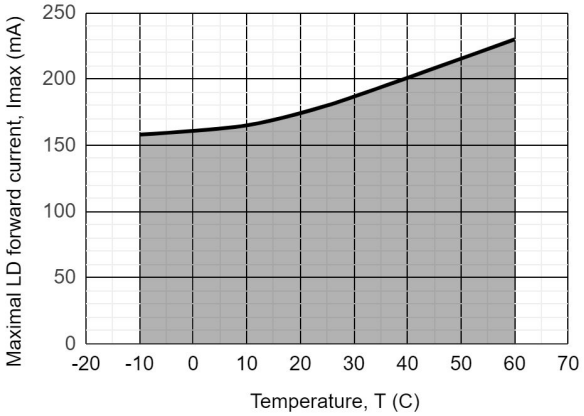
LDS-520-FP-20

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current*	Imax	180	mA	CW, T = 25°C
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	30	V	
Operating temperature**	T_{OP}	-10 - +60	°C	Package B
Operating temperature**	T_{OP}	-40 - +60	°C	Package T, E (Tst = 25°C)
Storage temperature	T_{stg}	-40 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 5 seconds

*Maximal laser diode forward current depends on the operating temperature. Please, refer to the figure below.



**Operating temperature is defined by the case temperature. It is recommended to ensure sufficient heat dissipation so that the module's maximum operating temperature is not exceeded.

Operating temperature for the DIL-14-pins case (T or E) with TEC is defined for internal temperature stabilization at Tst = 25°C that corresponds to thermistor resistance Rt = 10 kOhm.

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LDS-520-FP-20

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Optical power (CW)	P_{cw}	20			mW	CW, I_{op} = 180 mA, SM03
Mean wavelength	λ	515	520	530	nm	CW, I_{op} = 180 mA
Spectral width	Δλ		1	3	nm	CW, I_{op} = 180 mA
Wavelength-temperature coefficient	dλ/dT		0.03		nm/°C	CW, I_{op} = 180 mA
Threshold current	I_{th}		65	80	mA	
Slope efficiency	S_e	0.17	0.22		mW/mA	CW, SM03
Operating voltage	V_{op}		6.5	7.5	V	CW, I_{op} = 180mA
Monitor current	I_m	0.1	0.5	1.0	mA	CW, I_{op} = 180mA, V_r = 5 V

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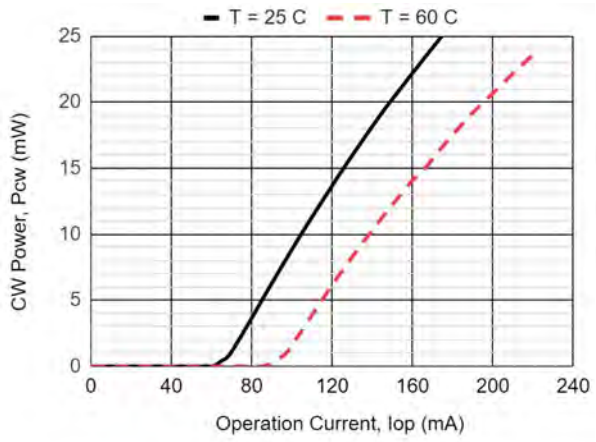
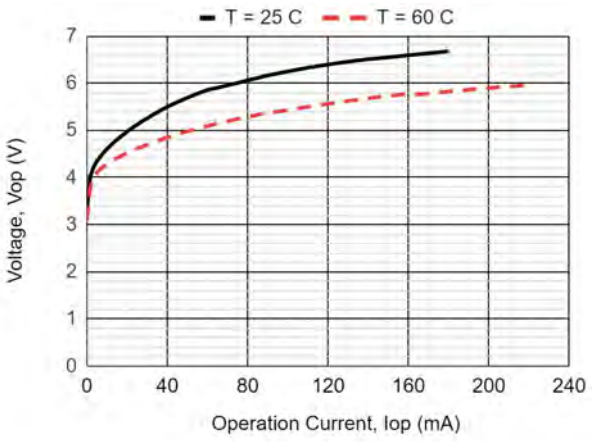
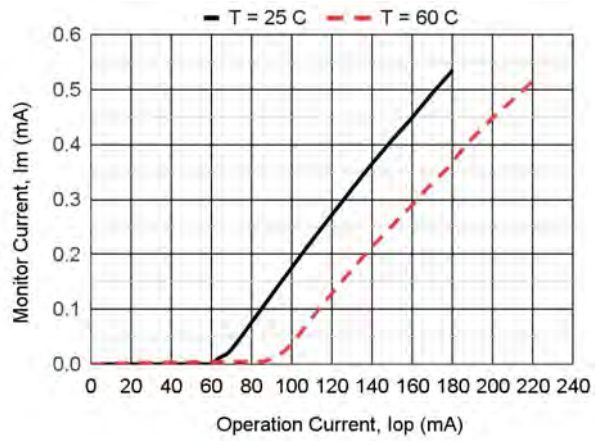
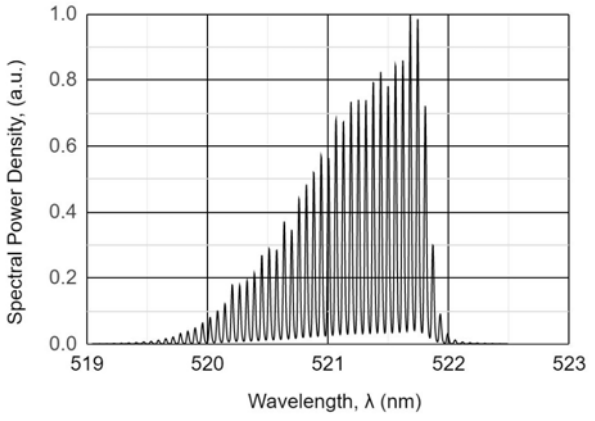
LDS-520-FP-20









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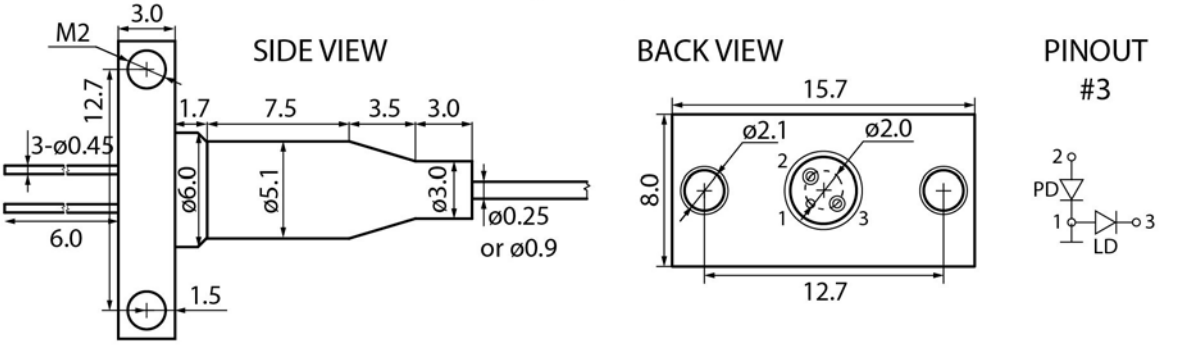
LDS-520-FP-20

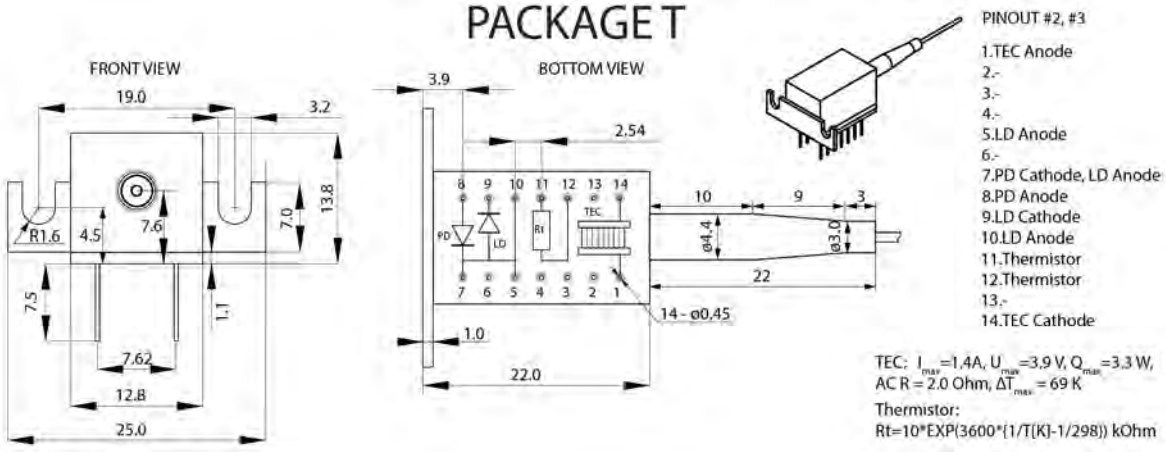
PACKAGE B



Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T



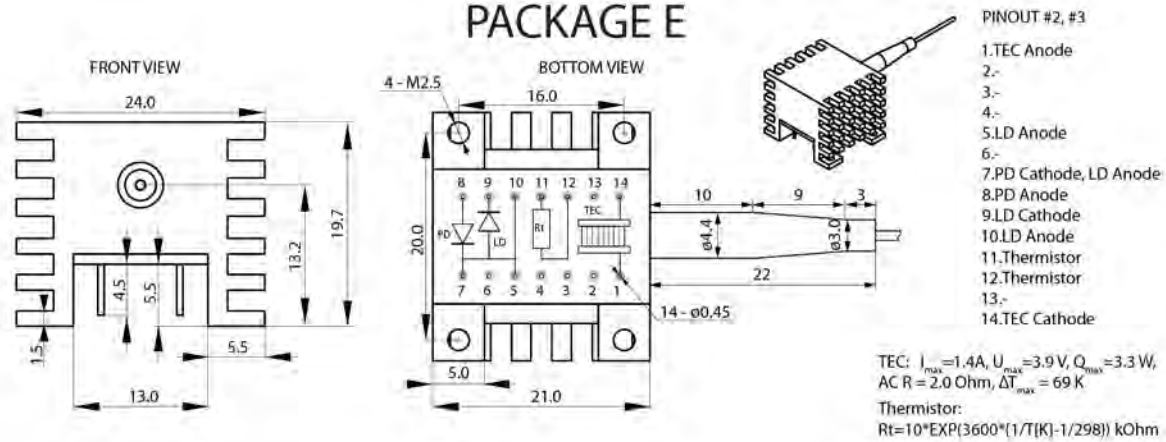
PINOUT #2, #3

1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.PD Cathode, LD Anode
8.PD Anode
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

TEC: I_{max}=1.4A, U_{max}=3.9 V, Q_{max}=3.3 W,
AC R = 2.0 Ohm, ΔT_{max} = 69 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

PACKAGE E



PINOUT #2, #3

1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.PD Cathode, LD Anode
8.PD Anode
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

TEC: I_{max}=1.4A, U_{max}=3.9 V, Q_{max}=3.3 W,
AC R = 2.0 Ohm, ΔT_{max} = 69 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

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LDS-520-FP-20

Characteristics, data, materials and structures specified in this datasheet are subject to change without notice. Please refer to the latest specification before use of the products.

Safety and handling cautions

1. Avoid smashing and burning of the module. Avoid storing and using the module in conditions where water, organic solvents or aggressive acids or bases may contact the module or where there is a possibility of exposure to corrosive gases, explosive gases, dust, salinity or other harsh conditions. The module should be disposed as special industrial waste.
2. Exceeding absolute maximum ratings even for a short time can cause permanent damage of the module.
3. The module is sensitive to and can be broken by ESD (static electricity).

Conflict Minerals Policy Statement

LasersCom LLC achieves business objectives and customer needs with social responsibility. We do not support or contribute to the violence and human rights violations associated with the mining of conflict minerals coming from Conflict Regions according to US "Dodd-Frank Act". When possible, our suppliers' conflict mineral statements are reviewed. We do not directly purchase Conflict Minerals from any source and do not knowingly procure any parts and products containing Conflict Minerals from Conflict Regions.

RoHS Compliance Statement

Restriction of Hazardous Substances (RoHS) directive (Directive 2011/65/EC amended with Directive (EU) 2015/863) is the directive aimed at reducing the harmful environmental impact of waste electrical equipment by restricting the use of known dangerous substances. Based on information received from our supply sources, LasersCom LLC hereby states that the banned substances listed in the RoHS directive are not found in the parts and materials used above the threshold level listed other than exceptions approved by the European Commission.

REACH Compliance Statement

Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) is a European Union regulation 1907/2006/EC that addresses the production and use of chemical substances, and their potential impacts on human health and the environment. Based on information received from our supply sources, LasersCom LLC hereby states compliance of the parts and materials used in manufacturing to REACH regulation. LasersCom LLC does not manufacture or import any substances or preparations as defined under REACH.

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LDS-520-FP-50

OVERVIEW

LDS-520-FP-50 is the laser diode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Wavelength: 520 nm
- Cavity type: Fabry-Perot
- Optical power: 50 mW in CW mode in single-mode fiber Nufern S405-XP
- Package types: coaxial with bracket, 14 pins DIL

APPLICATIONS

- Spectroscopy
- Biomedicine
- Laser systems

ORDERING INFORMATION

LDS-520-FP-50 -X-21-X-X-X-X

Case type

B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SM03: SM, Nufern S405-XP, furcation tubing ∅0.9 mm
Other type on request

Connector type

FU: FC/UPC
FA: FC/APC
N: no connector
Other type: on request

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C)

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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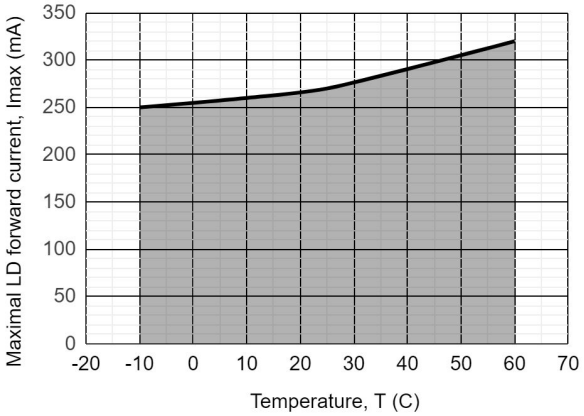
LDS-520-FP-50

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current*	Imax	270	mA	CW, T = 25°C
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	30	V	
Operating temperature**	T_{OP}	-10 - +60	°C	Package B
Operating temperature**	T_{OP}	-40 - +60	°C	Package T, E (Tst = 25°C)
Storage temperature	T_{stg}	-40 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 5 seconds

*Maximal laser diode forward current depends on the operating temperature. Please, refer to the figure below.



**Operating temperature is defined by the case temperature. It is recommended to ensure sufficient heat dissipation so that the module's maximum operating temperature is not exceeded.

Operating temperature for the DIL-14-pins case (T or E) with TEC is defined for internal temperature stabilization at Tst = 25°C that corresponds to thermistor resistance Rt = 10 kOhm.

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LDS-520-FP-50

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Optical power (CW)	P_{cw}	50			mW	CW, I_{op} = 270 mA, SM03
Mean wavelength	λ	515	520	530	nm	CW, I_{op} = 270 mA
Spectral width	Δλ		1	3	nm	CW, I_{op} = 270 mA
Wavelength-temperature coefficient	dλ/dT		0.03		nm/°C	CW, I_{op} = 270 mA
Threshold current	I_{th}		50	95	mA	
Slope efficiency	S_e	0.22	0.25		mW/mA	CW, SM03
Operating voltage	V_{op}		7.0	8.0	V	CW, I_{op} = 270 mA

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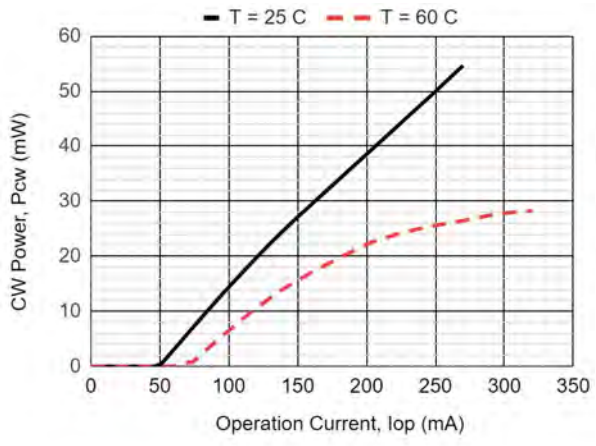
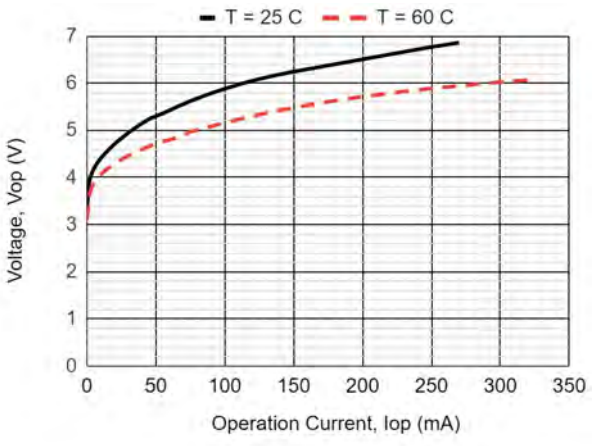
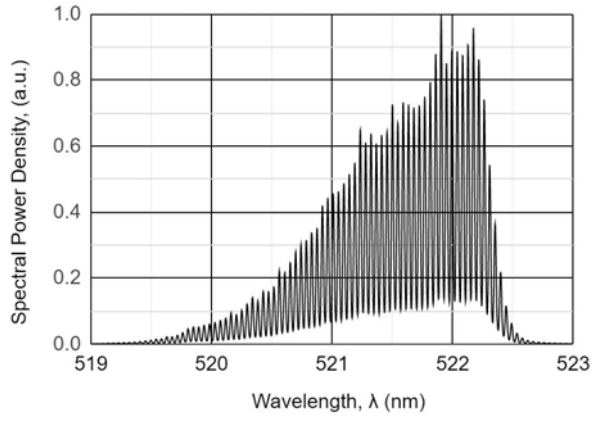
LDS-520-FP-50







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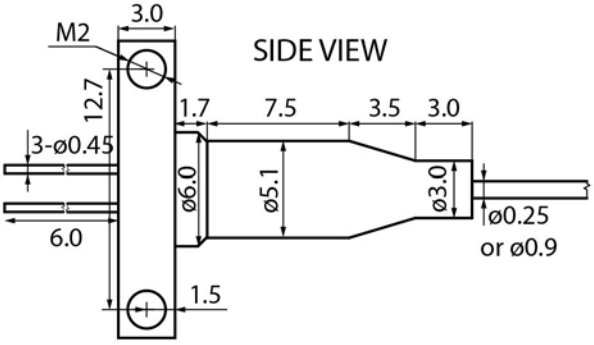
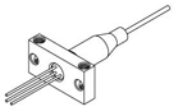
LDS-520-FP-50

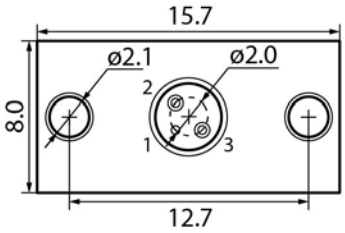
PACKAGE B



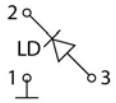
SIDE VIEW



BACK VIEW



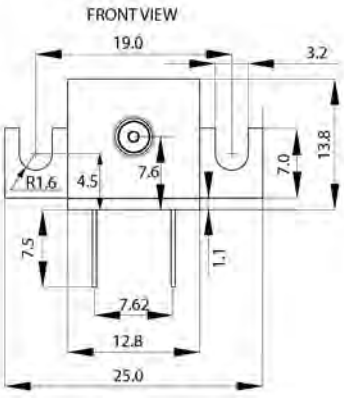
PINOUT
#21

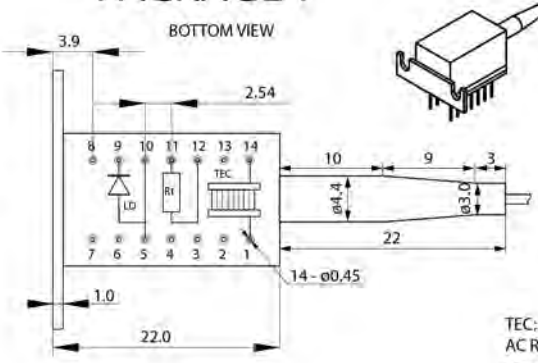


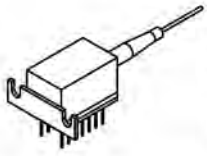
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T







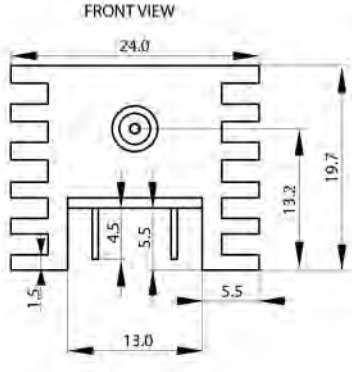
PINOUT #4, #18, #21, #31

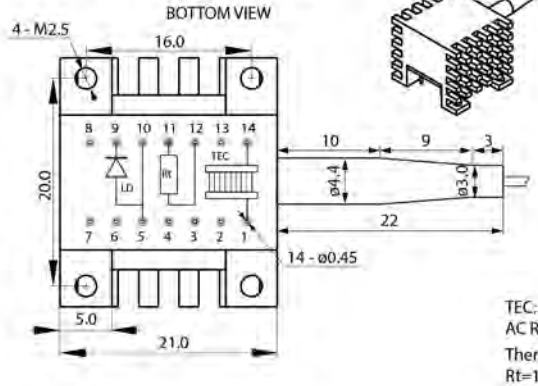
1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.-
8.-
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

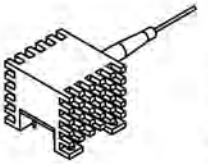
TEC: I_{max}=1.4A, U_{max}=3.9 V, Q_{max}=3.3 W,
AC R = 2.0 Ohm, ΔT_{max} = 69 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

PACKAGE E







PINOUT #4, #18, #21, #31

1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.-
8.-
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

TEC: I_{max}=1.4A, U_{max}=3.9 V, Q_{max}=3.3 W,
AC R = 2.0 Ohm, ΔT_{max} = 69 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

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LDS-520-FP-50

Characteristics, data, materials and structures specified in this datasheet are subject to change without notice. Please refer to the latest specification before use of the products.

Safety and handling cautions

1. Avoid smashing and burning of the module. Avoid storing and using the module in conditions where water, organic solvents or aggressive acids or bases may contact the module or where there is a possibility of exposure to corrosive gases, explosive gases, dust, salinity or other harsh conditions. The module should be disposed as special industrial waste.
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LDS-638-FP-2

OVERVIEW

LDS-638-FP-2 is the laser diode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Wavelength: 638 nm
- Cavity type: Fabry-Perot
- Optical power: 2 mW in CW mode in single-mode fiber Nufern 630-HP
- Package types: coaxial with bracket, 14 pins DIL
- Built-in monitor photodiode

APPLICATIONS

- Laser Module
- Spectroscopy
- Biomedicine

ORDERING INFORMATION

LDS-638-FP-2-X-3-X-X-X-X

Case type

B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SM04: SM, Nufern 630-HP, furcation tubing ∅0.9 mm
SMP04: PM, Fujikura SM63, PANDA type, furcation tubing ∅0.9 mm
SM1: G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm
MM5: MM, 50/125, OM2, furcation tubing ∅0.9 mm
MM6: MM, 62.5/125, OM1, furcation tubing ∅0.9 mm
Other type on request

Connector type

FU: FC/UPC (SM04, SMP04, SM1, MM5, MM6)
FA: FC/APC (SM04, SMP04, SM1)
N: no connector
Other type: on request

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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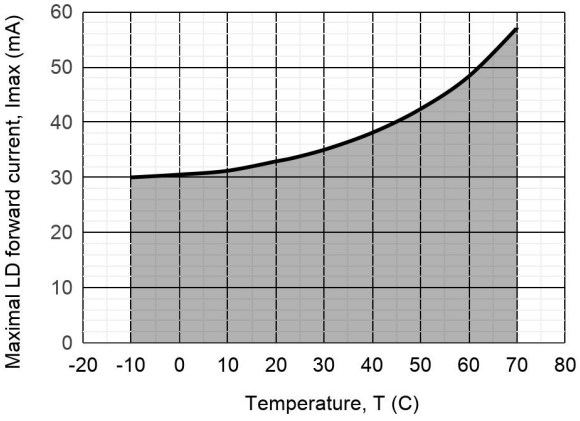
LDS-638-FP-2

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current*	Imax	33	mA	CW, T = 25°C
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	30	V	
Operating temperature**	T_{OP}	-10 - +70	°C	Package B
Operating temperature**	T_{OP}	-40 - +60	°C	Package T, E (Tst = 25°C)
Storage temperature	T_{stg}	-40 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 5 seconds

*Maximal laser diode forward current depends on the operating temperature. Please, refer to the figure below.



**Operating temperature is defined by the case temperature. It is recommended to ensure sufficient heat dissipation so that the module's maximum operating temperature is not exceeded.

Operating temperature for the DIL-14-pins case (T or E) with TEC is defined for internal temperature stabilization at Tst = 25°C that corresponds to thermistor resistance Rt = 10 kOhm.

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LDS-638-FP-2

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Optical power (CW)	P_{cw}	2			mW	CW, I_{op} = 33 mA, SM04
Mean wavelength	λ	630	638	645	nm	CW, I_{op} = 33 mA
Spectral width	Δλ		1	3	nm	CW, I_{op} = 33 mA
Wavelength-temperature coefficient	dλ/dT		0.20		nm/°C	CW, I_{op} = 33 mA
Threshold current	I_{th}		17	25	mA	
Slope efficiency	S_e	0.12	0.17		mW/mA	CW, SM04
Operating voltage	V_{op}		2.3	2.5	V	CW, I_{op} = 33 mA
Monitor current	I_m	0.1	0.4	0.8	mA	CW, I_{op} = 33 mA, V_r = 5 V
Polarization extinction ratio	PER	14			dB	CW, SMP04
Front-to-rear tracking error	E_r		0.5	1.0	dB	CW, P_{cw} = 1 mW, SM04, T = -10 ~ +50°C

Tracking error E_r = max |10 lg [P(T)/P(25°C)]]|, I_m= const, T = T_{min} ~ T_{max}

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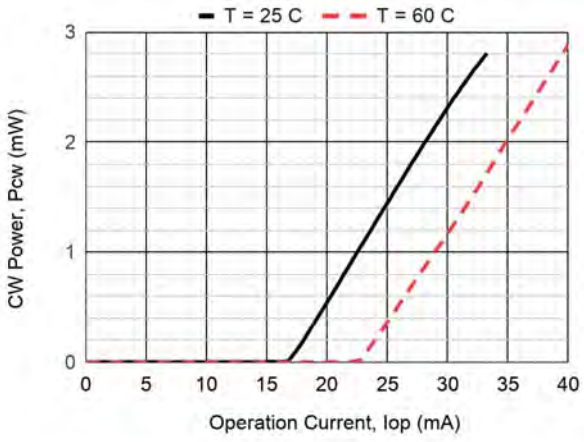
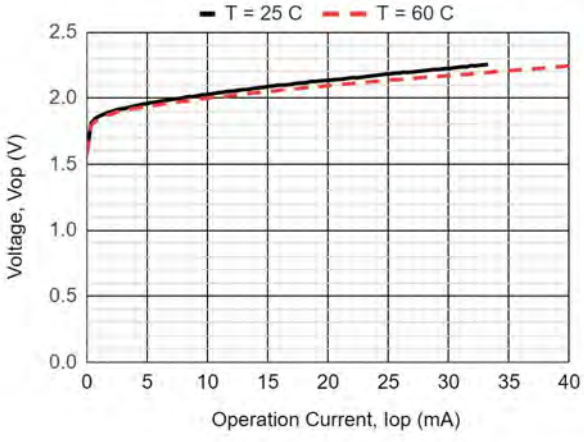
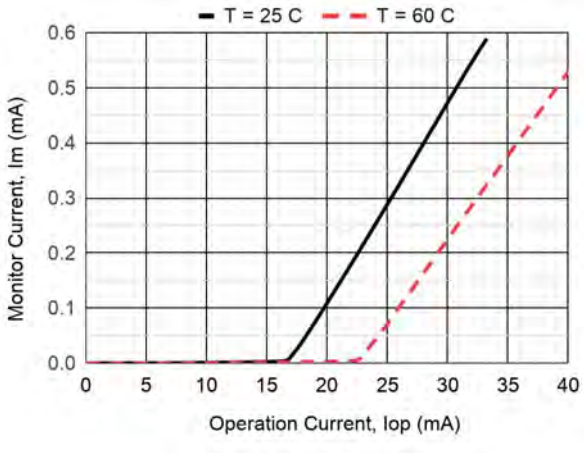
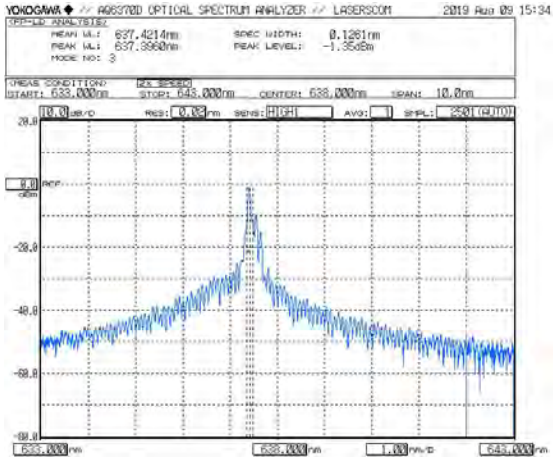
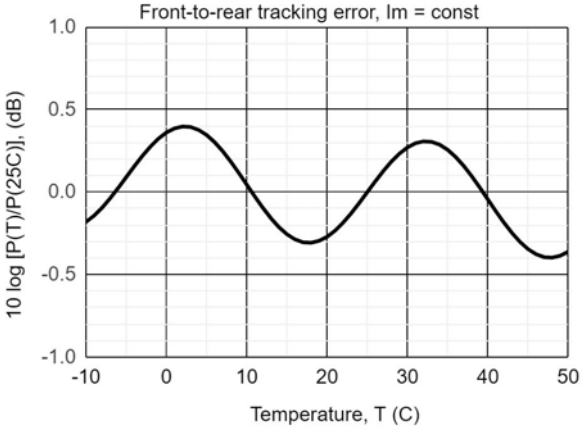
LDS-638-FP-2











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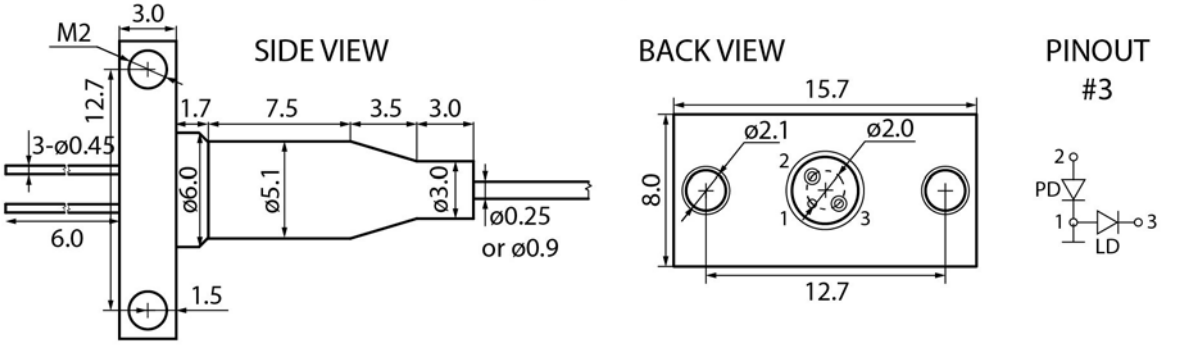
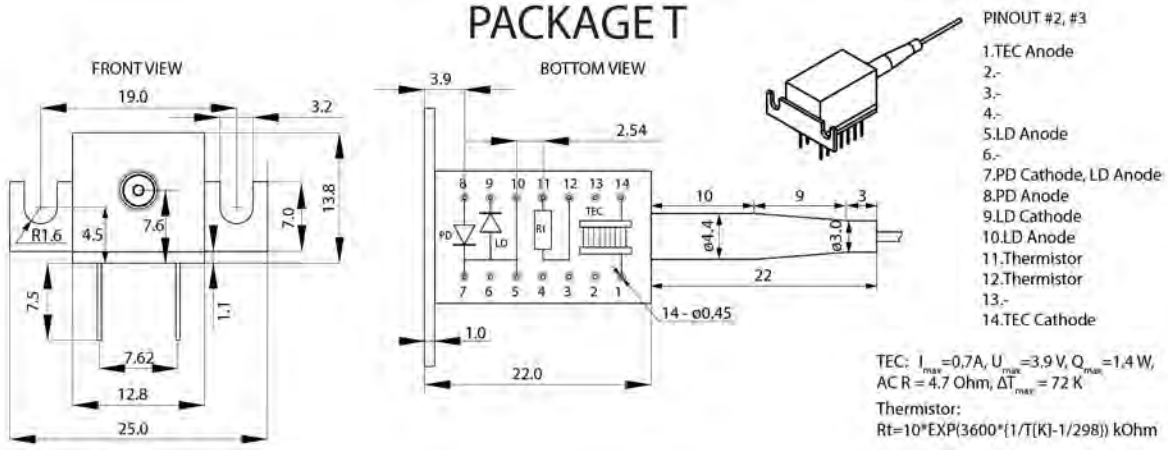
PACKAGE B



Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T



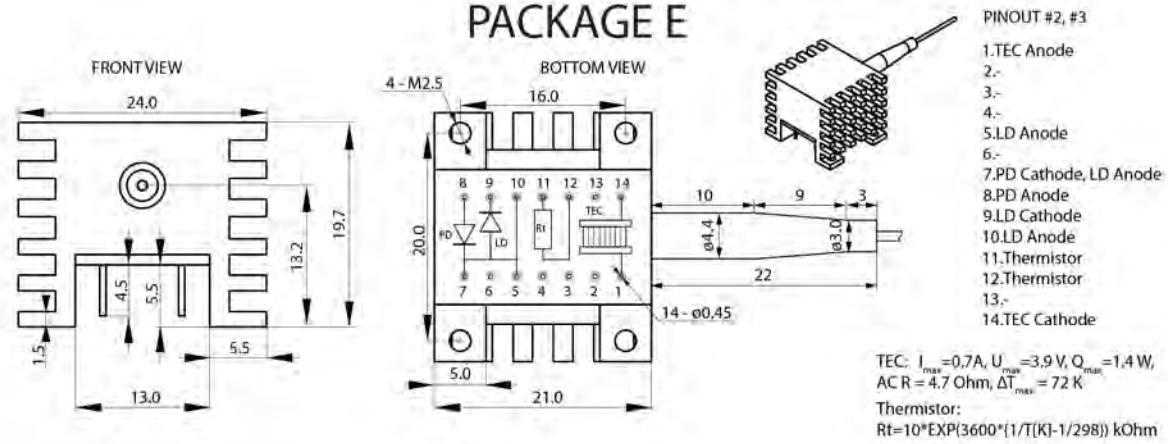
PINOUT #2, #3

1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.PD Cathode, LD Anode
8.PD Anode
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

TEC: I_{max}=0,7A, U_{max}=3.9 V, Q_{max}=1,4 W,
AC R = 4.7 Ohm, ΔT_{max} = 72 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

PACKAGE E



PINOUT #2, #3

1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.PD Cathode, LD Anode
8.PD Anode
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

TEC: I_{max}=0,7A, U_{max}=3.9 V, Q_{max}=1,4 W,
AC R = 4.7 Ohm, ΔT_{max} = 72 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

More information about packages on https://laserscom.com/en/packages

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LDS-638-FP-2

Characteristics, data, materials and structures specified in this datasheet are subject to change without notice. Please refer to the latest specification before use of the products.

Safety and handling cautions

1. Avoid smashing and burning of the module. Avoid storing and using the module in conditions where water, organic solvents or aggressive acids or bases may contact the module or where there is a possibility of exposure to corrosive gases, explosive gases, dust, salinity or other harsh conditions. The module should be disposed as special industrial waste.
2. Exceeding absolute maximum ratings even for a short time can cause permanent damage of the module.
3. The module is sensitive to and can be broken by ESD (static electricity).

Conflict Minerals Policy Statement

LasersCom LLC achieves business objectives and customer needs with social responsibility. We do not support or contribute to the violence and human rights violations associated with the mining of conflict minerals coming from Conflict Regions according to US "Dodd-Frank Act". When possible, our suppliers' conflict mineral statements are reviewed. We do not directly purchase Conflict Minerals from any source and do not knowingly procure any parts and products containing Conflict Minerals from Conflict Regions.

RoHS Compliance Statement

Restriction of Hazardous Substances (RoHS) directive (Directive 2011/65/EC amended with Directive (EU) 2015/863) is the directive aimed at reducing the harmful environmental impact of waste electrical equipment by restricting the use of known dangerous substances. Based on information received from our supply sources, LasersCom LLC hereby states that the banned substances listed in the RoHS directive are not found in the parts and materials used above the threshold level listed other than exceptions approved by the European Commission.

REACH Compliance Statement

Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) is a European Union regulation 1907/2006/EC that addresses the production and use of chemical substances, and their potential impacts on human health and the environment. Based on information received from our supply sources, LasersCom LLC hereby states compliance of the parts and materials used in manufacturing to REACH regulation. LasersCom LLC does not manufacture or import any substances or preparations as defined under REACH.

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LDS-639-FP-5

OVERVIEW

LDS-639-FP-5 is the laser diode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Wavelength: 639 nm
- Cavity type: Fabry-Perot
- Optical power: 5 mW in CW mode in single-mode fiber Nufern 630-HP
- Package types: coaxial with bracket, 14 pin DIL
- Built-in monitor photodiode

APPLICATIONS

- Biomedicine
- Laser systems

ORDERING INFORMATION

LDS-639-FP-5-X-3-X-X-X-X

Case type

B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SM04: SM, Nufern 630-HP, furcation tubing ∅0.9 mm
SMP04: PM, Fujikura SM63, PANDA type, furcation tubing ∅0.9 mm
SM1: G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm
MM5: MM, 50/125, OM2, furcation tubing ∅0.9 mm
MM6: MM, 62.5/125, OM1, furcation tubing ∅0.9 mm
Other type on request

Connector type

FU: FC/UPC (SM04, SMP04, SM1, MM5, MM6)
FA: FC/APC (SM04, SMP04, SM1)
N: no connector
Other type: on request

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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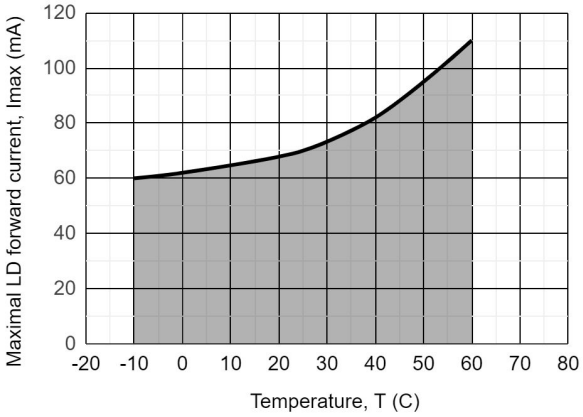
LDS-639-FP-5

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current*	Imax	70	mA	CW, T = 25°C
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	30	V	
Operating temperature**	T_{OP}	-10 - +60	°C	Package B
Operating temperature**	T_{OP}	-40 - +60	°C	Package T, E (Tst = 25°C)
Storage temperature	T_{stg}	-40 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 5 seconds

*Maximal laser diode forward current depends on the operating temperature. Please, refer to the figure below.



**Operating temperature is defined by the case temperature. It is recommended to ensure sufficient heat dissipation so that the module's maximum operating temperature is not exceeded.

Operating temperature for the DIL-14-pins case (T or E) with TEC is defined for internal temperature stabilization at Tst = 25°C that corresponds to thermistor resistance Rt = 10 kOhm.

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LDS-639-FP-5

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Optical power (CW)	P_{cw}	5			mW	CW, I_{op} = 70 mA, SM04
Mean wavelength	λ	635	639	643	nm	CW, I_{op} = 70 mA
Spectral width	Δλ		1	3	nm	CW, I_{op} = 70 mA
Wavelength-temperature coefficient	dλ/dT		0.20		nm/°C	CW, I_{op} = 70 mA
Threshold current	I_{th}		50	60	mA	
Slope efficiency	S_e	0.20	0.40		mW/mA	CW, SM04
Operating voltage	V_{op}		2.4	2.6	V	CW, I_{op} = 70 mA
Monitor current	I_m	0.10	0.30	0.70	mA	CW, I_{op} = 70 mA, V_r = 5 V
Polarization extinction ratio	PER	17			dB	CW, SMP04
Front-to-rear tracking error	E_r		0.5	1.0	dB	CW, P_{cw} = 3 mW, SM04, T = -10 ~ +50°C

Tracking error E_r = max |10 lg [P(T)/P(25°C)]|, I_m= const, T = T_{min} ~ T_{max}
Pulse mode: pulse width 10 μs, duty cycle = 1%

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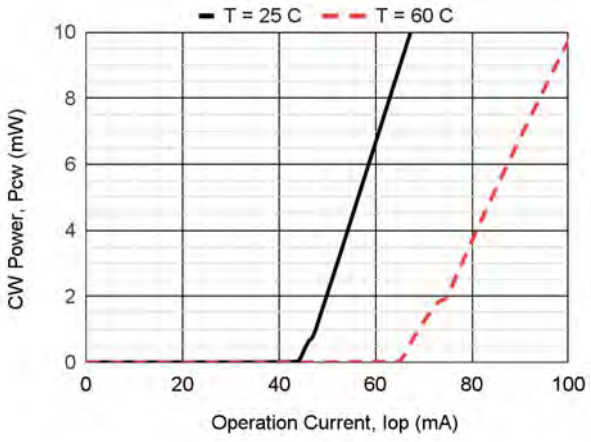
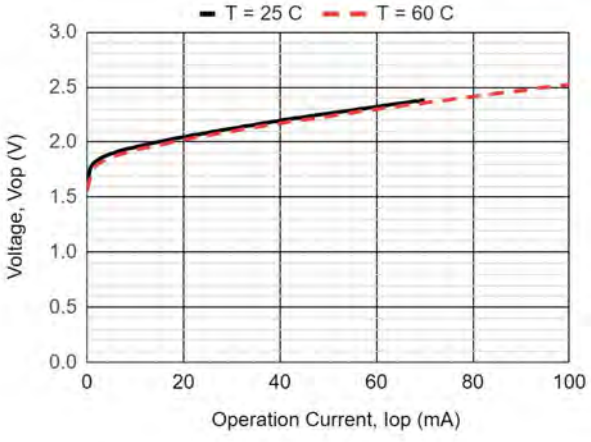
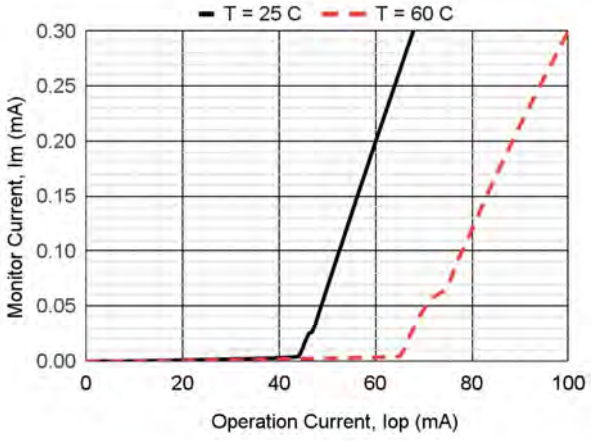
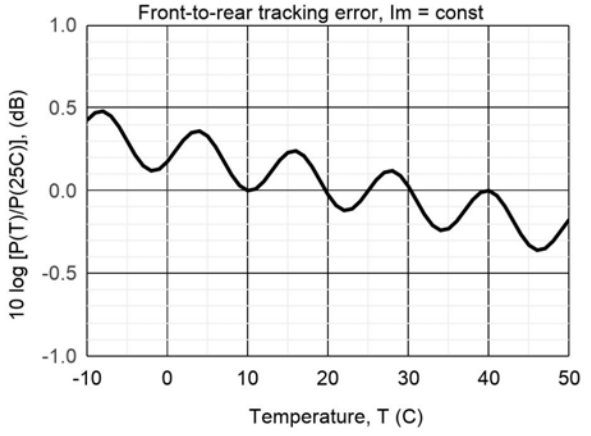
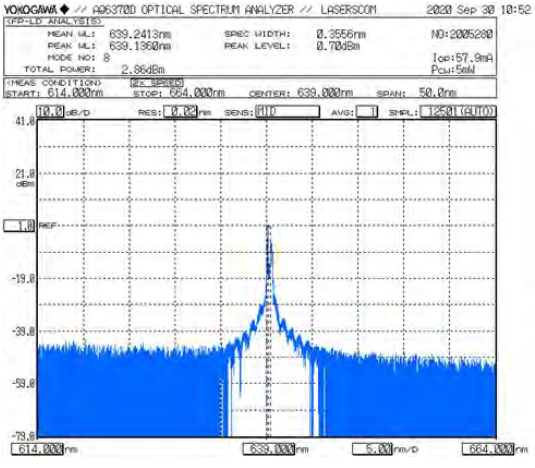
LDS-639-FP-5











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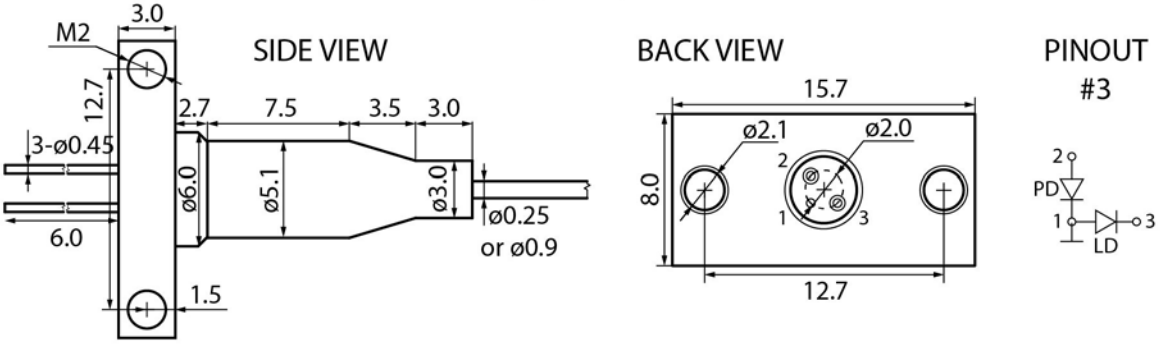
LDS-639-FP-5

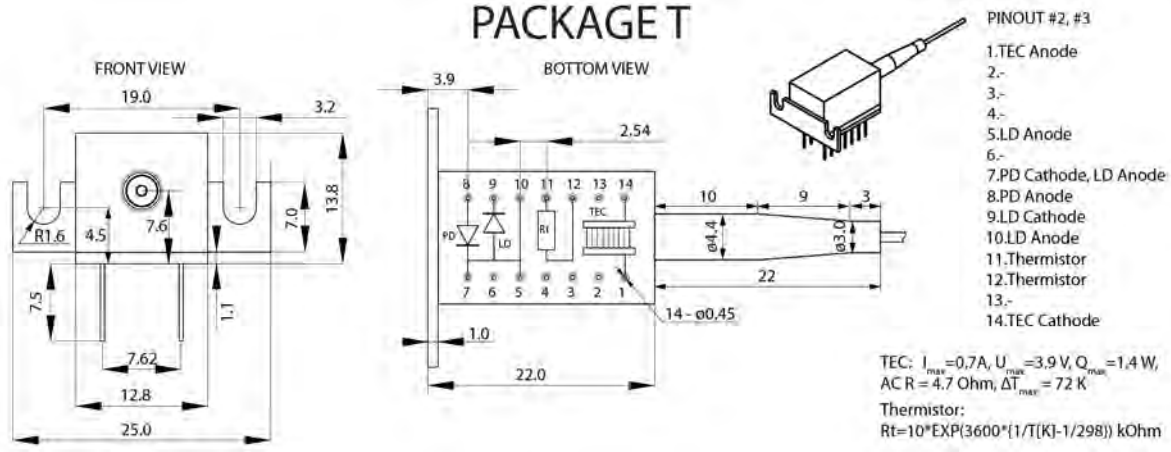
PACKAGE B



Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T



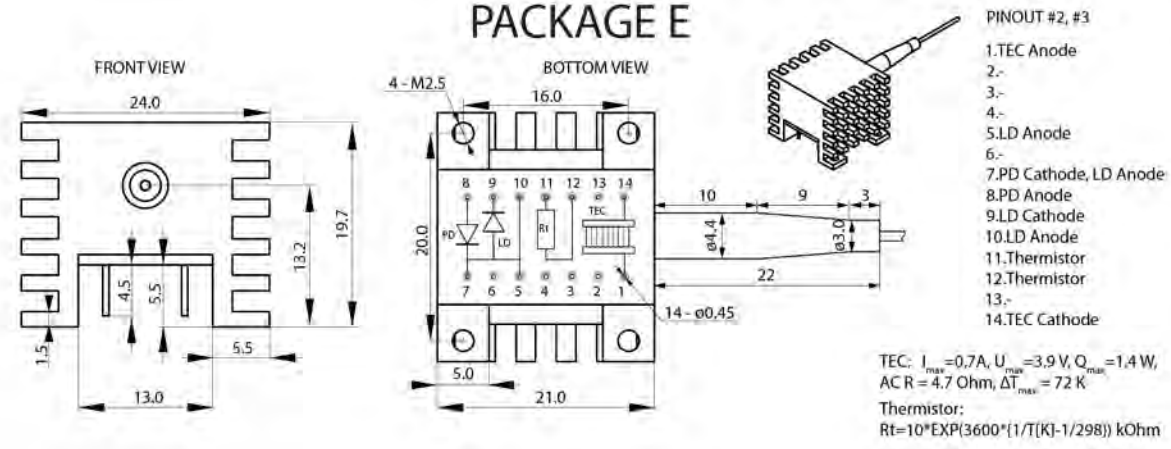
PINOUT #2, #3

1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.PD Cathode, LD Anode
8.PD Anode
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

TEC: I_{max}=0,7A, U_{max}=3.9 V, Q_{max}=1,4 W,
AC R = 4.7 Ohm, ΔT_{max} = 72 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

PACKAGE E



PINOUT #2, #3

1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.PD Cathode, LD Anode
8.PD Anode
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

TEC: I_{max}=0,7A, U_{max}=3.9 V, Q_{max}=1,4 W,
AC R = 4.7 Ohm, ΔT_{max} = 72 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

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LDS-639-FP-5

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Safety and handling cautions

1. Avoid smashing and burning of the module. Avoid storing and using the module in conditions where water, organic solvents or aggressive acids or bases may contact the module or where there is a possibility of exposure to corrosive gases, explosive gases, dust, salinity or other harsh conditions. The module should be disposed as special industrial waste.
2. Exceeding absolute maximum ratings even for a short time can cause permanent damage of the module.
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LDS-639-FP-60

OVERVIEW

LDS-639-FP-60 is the AlGaInP laser diode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Wavelength: 639 nm
- Cavity type: Fabry-Perot
- Optical power: 60 mW in CW mode in single-mode fiber Nufern 630-HP
- Package types: coaxial with bracket, 14 pins DIL
- Built-in monitor photodiode

APPLICATIONS

- Laser Module
- Spectroscopy
- Biomedical

ORDERING INFORMATION

LDS-639-FP-60-X-3-X-X-X-X

Case type

B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SM04: SM, Nufern 630-HP, furcation tubing ∅0.9 mm
SMP04: PM, Fujikura SM63, PANDA type, furcation tubing ∅0.9 mm
SM1: G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm
MM5: MM, 50/125, OM2, furcation tubing ∅0.9 mm
MM6: MM, 62.5/125, OM1, furcation tubing ∅0.9 mm
Other type on request

Connector type

FU: FC/UPC (SM04, SMP04, SM1, MM5, MM6)
FA: FC/APC (SM04, SMP04, SM1)
N: no connector
Other type: on request

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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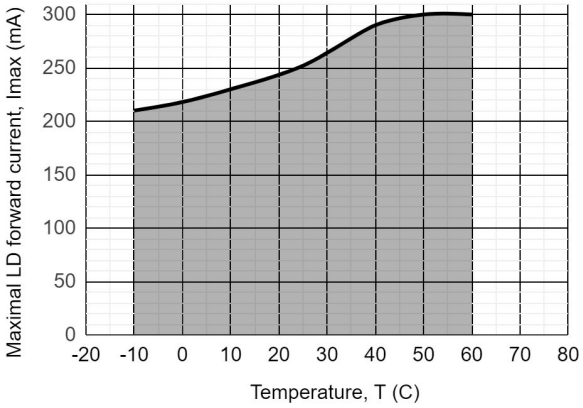
LDS-639-FP-60

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current*	Imax	250	mA	CW, T = 25°C
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	30	V	
Operating temperature**	T_{OP}	-10 - +60	°C	Package B
Operating temperature**	T_{OP}	-40 - +60	°C	Package T, E (Tst = 25°C)
Storage temperature	T_{stg}	-40 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 5 seconds

*Maximal laser diode forward current depends on the operating temperature. Please, refer to the figure below.



**Operating temperature is defined by the case temperature. It is recommended to ensure sufficient heat dissipation so that the module's maximum operating temperature is not exceeded.

Operating temperature for the DIL-14-pins case (T or E) with TEC is defined for internal temperature stabilization at Tst = 25°C that corresponds to thermistor resistance Rt = 10 kOhm.

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LDS-639-FP-60

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Optical power (CW)	P_{cw}	60			mW	CW, I_{op} = 250 mA, SM04
Mean wavelength	λ	633	639	643	nm	CW, I_{op} = 250 mA
Spectral width	Δλ		1	3	nm	CW, I_{op} = 250 mA
Wavelength-temperature coefficient	dλ/dT		0.17		nm/°C	CW, I_{op} = 250 mA
Threshold current	I_{th}		60	80	mA	
Slope efficiency	S_e	0.30	0.40		mW/mA	CW, SM04
Operating voltage	V_{op}		2.8	3.3	V	CW, I_{op} = 250 mA
Monitor current	I_m	0.3	1.0	2.0	mA	CW, I_{op} = 250 mA, V_r = 5 V
Polarization extinction ratio	PER	17			dB	CW, SMP04
Front-to-rear tracking error	E_r		0.6	1.2	dB	CW, P_{cw} = 3 mW, SM04, T = -10 ~ +50°C

Tracking error E_r = max |10 lg [P(T)/P(25°C)]]|, I_m= const, T = T_{min} ~ T_{max}
Pulse mode: pulse width 10 μs, duty cycle = 1%

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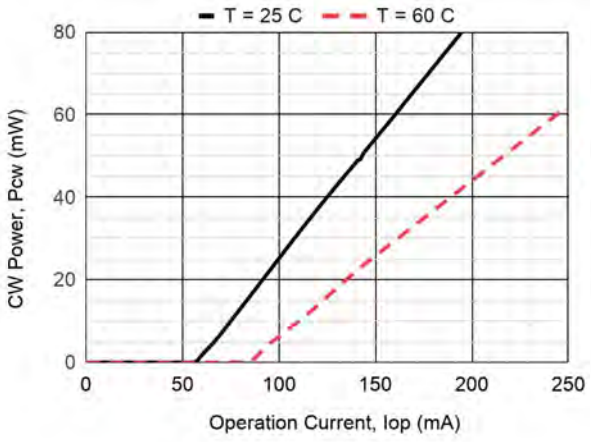
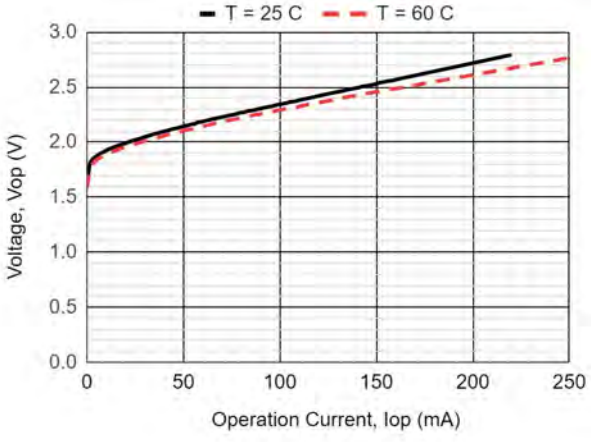
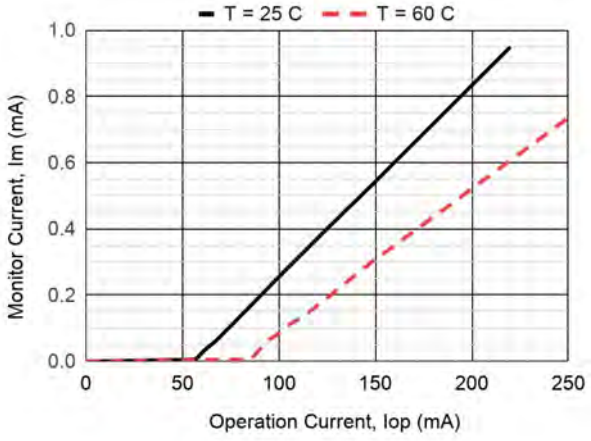
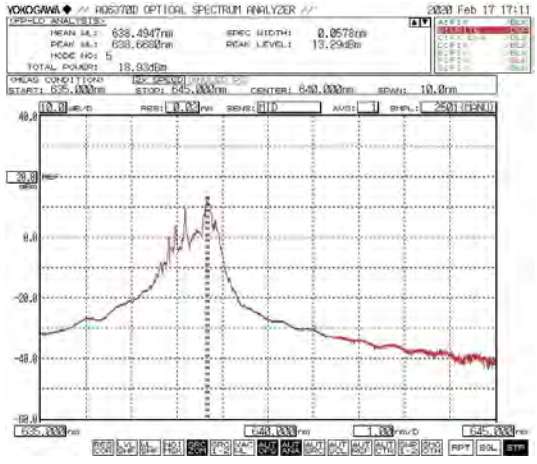
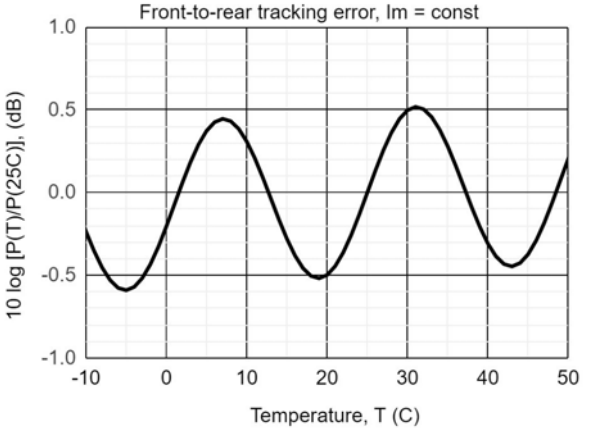
LDS-639-FP-60











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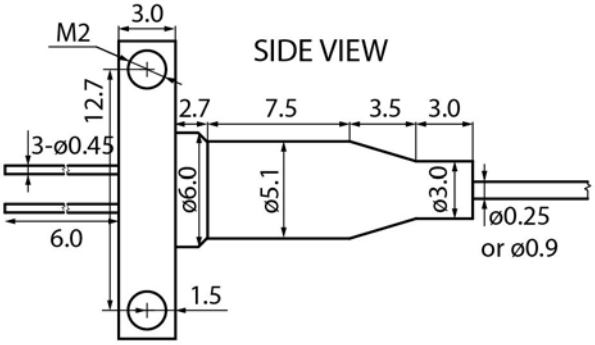
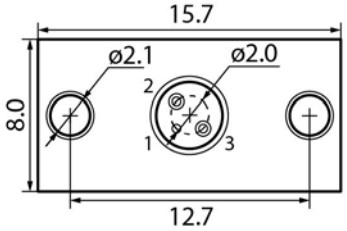
LDS-639-FP-60

PACKAGE B

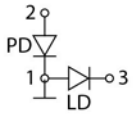


SIDE VIEW



BACK VIEW

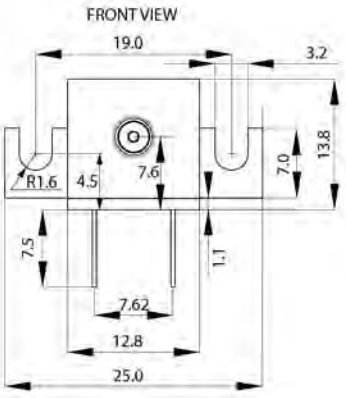
PINOUT #3

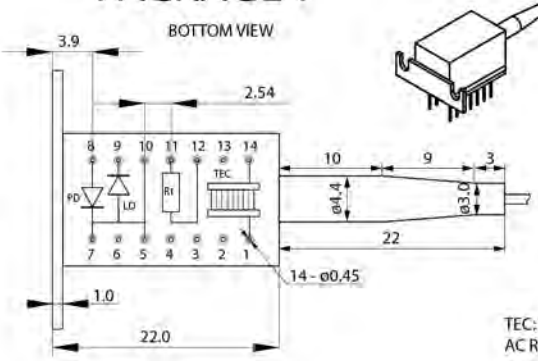


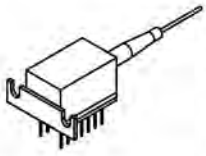
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T







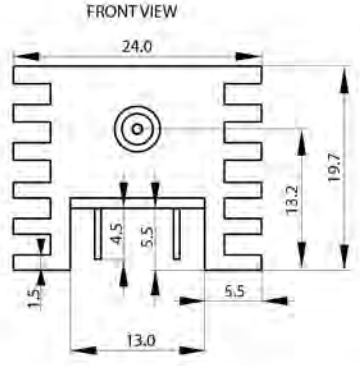
PINOUT #2, #3

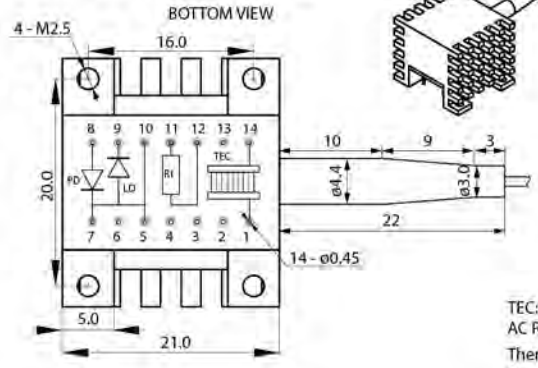
1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.PD Cathode, LD Anode
8.PD Anode
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

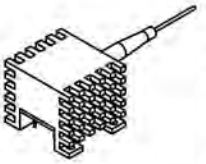
TEC: I_{max}=1.4A, U_{max}=3.9 V, Q_{max}=3.3 W,
AC R = 2.0 Ohm, ΔT_{max} = 69 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

PACKAGE E







PINOUT #2, #3

1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.PD Cathode, LD Anode
8.PD Anode
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

TEC: I_{max}=1.4A, U_{max}=3.9 V, Q_{max}=3.3 W,
AC R = 2.0 Ohm, ΔT_{max} = 69 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

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LDS-639-FP-60

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Safety and handling cautions

1. Avoid smashing and burning of the module. Avoid storing and using the module in conditions where water, organic solvents or aggressive acids or bases may contact the module or where there is a possibility of exposure to corrosive gases, explosive gases, dust, salinity or other harsh conditions. The module should be disposed as special industrial waste.
2. Exceeding absolute maximum ratings even for a short time can cause permanent damage of the module.
3. The module is sensitive to and can be broken by ESD (static electricity).

Conflict Minerals Policy Statement

LasersCom LLC achieves business objectives and customer needs with social responsibility. We do not support or contribute to the violence and human rights violations associated with the mining of conflict minerals coming from Conflict Regions according to US "Dodd-Frank Act". When possible, our suppliers' conflict mineral statements are reviewed. We do not directly purchase Conflict Minerals from any source and do not knowingly procure any parts and products containing Conflict Minerals from Conflict Regions.

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LDS-655-FP-1.5

OVERVIEW

LDS-655-FP-1.5 is the laser diode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Wavelength: 655 nm
- Cavity type: Fabry-Perot
- Optical power: 1.5 mW in CW mode in single-mode fiber Nufern 630-HP
- Package types: compact coaxial, coaxial with bracket, 14 pins DIL
- Built-in monitor photodiode

APPLICATIONS

- Biomedicine
- Laser systems

ORDERING INFORMATION

LDS-655-FP-1.5-X-3-X-X-X-X

Case type

U: compact coaxial
B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SM04: SM, Nufern 630-HP, furcation tubing ∅0.9 mm
SMP04: PM, Fujikura SM63, PANDA type, furcation tubing ∅0.9 mm
SM1: G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm
MM5: MM, 50/125, OM2, furcation tubing ∅0.9 mm
MM6: MM, 62.5/125, OM1, furcation tubing ∅0.9 mm
Other type on request

Connector type

FU: FC/UPC (SM04, SMP04, SM1, MM5, MM6)
FA: FC/APC (SM04, SMP04, SM1)
N: no connector
Other type: on request

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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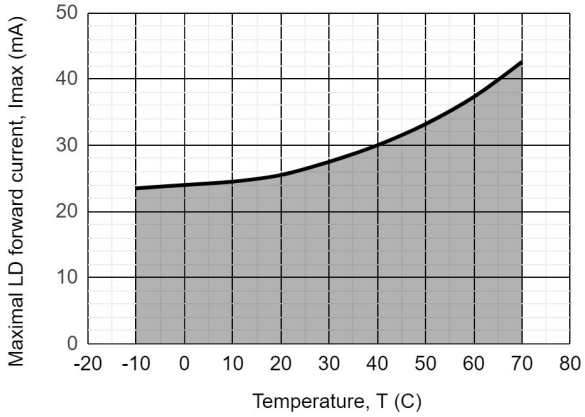
LDS-655-FP-1.5

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current*	Imax	26	mA	CW, T = 25°C
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	30	V	
Operating temperature**	T_{OP}	-10 - +70	°C	Package B
Operating temperature**	T_{OP}	-40 - +60	°C	Package T, E (Tst = 25°C)
Storage temperature	T_{stg}	-40 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 5 seconds

*Maximal laser diode forward current depends on the operating temperature. Please, refer to the figure below.



**Operating temperature is defined by the case temperature. It is recommended to ensure sufficient heat dissipation so that the module's maximum operating temperature is not exceeded.

Operating temperature for the DIL-14-pins case (T or E) with TEC is defined for internal temperature stabilization at Tst = 25°C that corresponds to thermistor resistance Rt = 10 kOhm.

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LDS-655-FP-1.5

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Optical power (CW)	P_{cw}	1.5			mW	CW, I_{op} = 26 mA, SM04
Mean wavelength	λ	650	655	660	nm	CW, I_{op} = 26 mA
Spectral width	Δλ		1	3	nm	CW, I_{op} = 26 mA
Wavelength-temperature coefficient	dλ/dT		0.19		nm/°C	CW, I_{op} = 26 mA
Threshold current	I_{th}		20	22	mA	
Slope efficiency	S_e	0.21	0.29		mW/mA	CW, SM04
Operating voltage	V_{op}		2.1	2.6	V	CW, I_{op} = 26 mA
Monitor current	I_m	0.05	0.20	0.50	mA	CW, I_{op} = 26 mA, V_r = 5 V
Polarization extinction ratio	PER	17			dB	CW, SMP04
Front-to-rear tracking error	E_r		0.3	0.8	dB	CW, P_{cw} = 3 mW, SM04, T = -10 ~ +50°C

Tracking error E_r = max |10 lg [P(T)/P(25°C)]]|, I_m= const, T = T_{min} ~ T_{max}
Pulse mode: pulse width 10 μs, duty cycle = 1%

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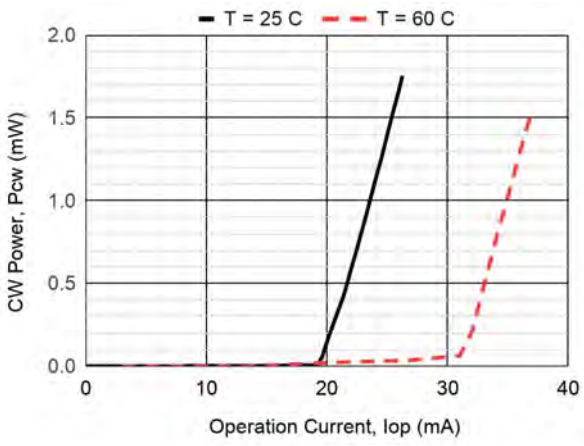
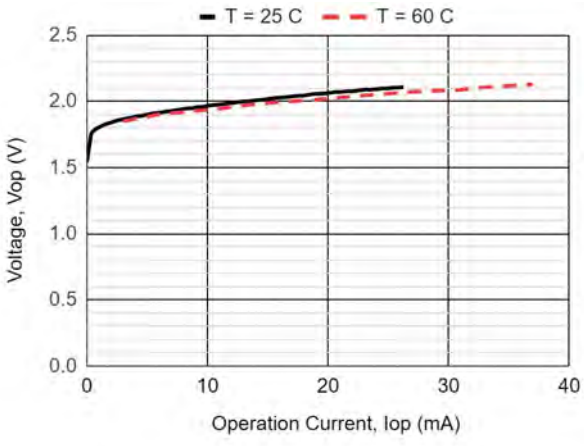
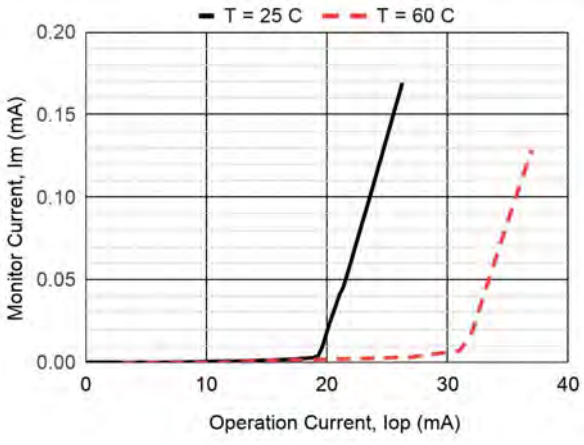
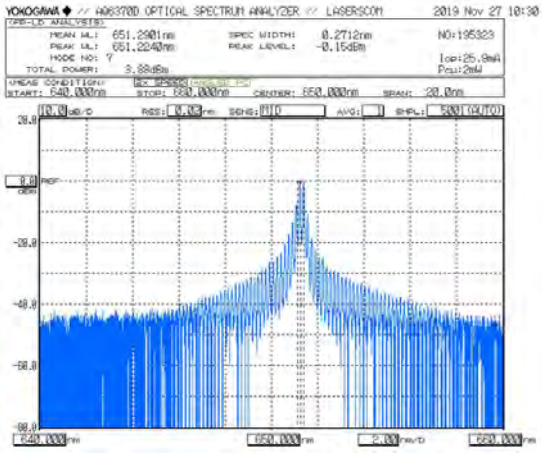
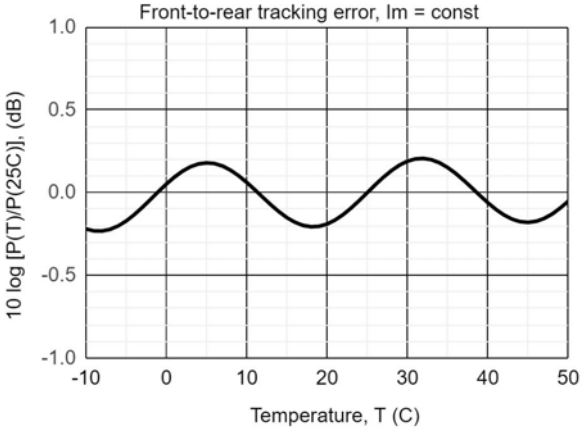
LDS-655-FP-1.5











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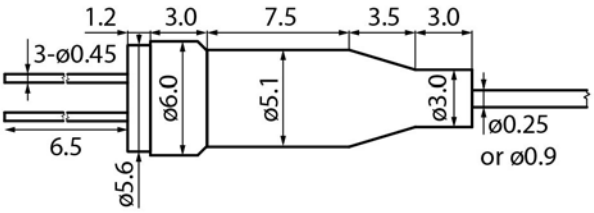
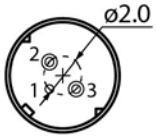
LDS-655-FP-1.5

PACKAGE U

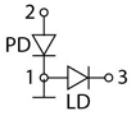
SIDE VIEW



BACK VIEW



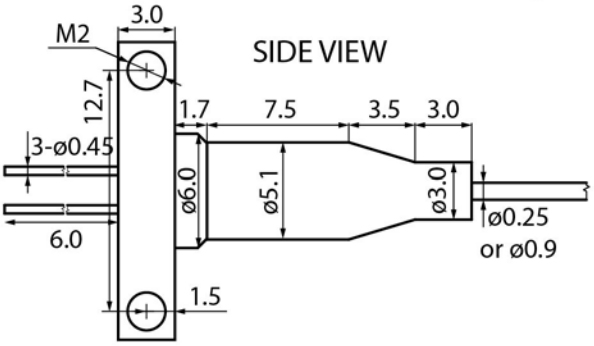
PINOUT #3



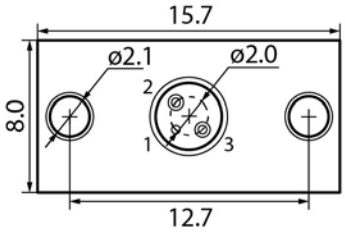
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

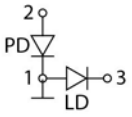
PACKAGE B



BACK VIEW



PINOUT #3

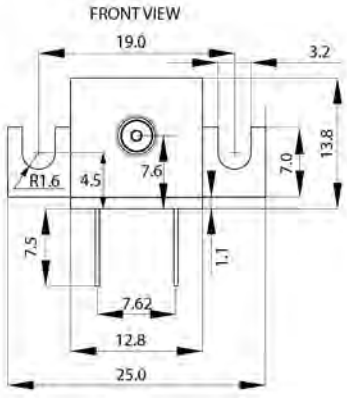


Connector FC/UPC, FC/APC, no connector, or by request

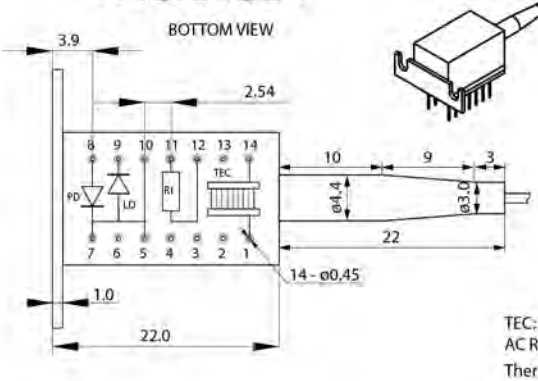
Fiber length 500+/-50, 1000+/-100, or by request

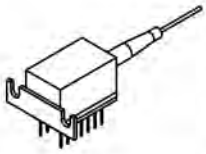
PACKAGE T

FRONT VIEW



BOTTOM VIEW





PINOUT #2, #3

1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.PD Cathode, LD Anode
8.PD Anode
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

TEC: I_{max}=0,7A, U_{max}=3.9 V, Q_{max}=1,4 W,
AC R = 4.7 Ohm, ΔT_{max} = 72 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

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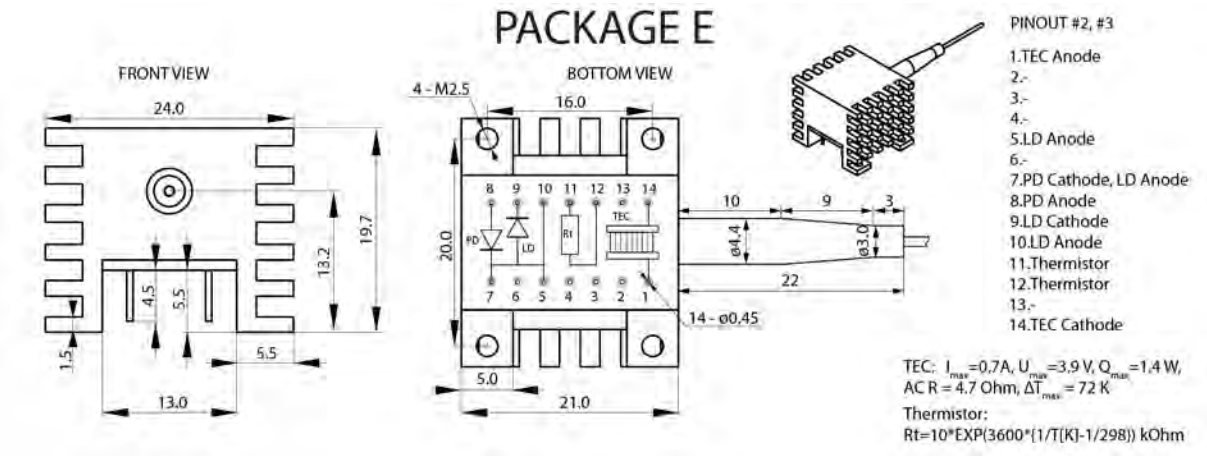

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Coupling Light to Your Success

LDS-655-FP-1.5

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Safety and handling cautions

1. Avoid smashing and burning of the module. Avoid storing and using the module in conditions where water, organic solvents or aggressive acids or bases may contact the module or where there is a possibility of exposure to corrosive gases, explosive gases, dust, salinity or other harsh conditions. The module should be disposed as special industrial waste.
2. Exceeding absolute maximum ratings even for a short time can cause permanent damage of the module.
3. The module is sensitive to and can be broken by ESD (static electricity).

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LDS-660-FP-15

OVERVIEW

LDS-660-FP-15 is the laser diode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Wavelength: 660 nm
- Cavity type: Fabry-Perot
- Optical power: 15 mW in CW mode in single-mode fiber Nufern 630-HP
- Package types: coaxial with bracket, 14 pin DIL
- Built-in monitor photodiode

APPLICATIONS

- Biomedicine
- Laser systems

ORDERING INFORMATION

LDS-660-FP-15-X-3-X-X-X-X

Case type

B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SM04: SM, Nufern 630-HP, furcation tubing ∅0.9 mm
SMP04: PM, Fujikura SM63, PANDA type, furcation tubing ∅0.9 mm
SM1: G.657.A1, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm
MM5: MM, 50/125, OM2, furcation tubing ∅0.9 mm
MM6: MM, 62.5/125, OM1, furcation tubing ∅0.9 mm
Other type on request

Connector type

FU: FC/UPC (SM04, SMP04, SM1, MM5, MM6)
FA: FC/APC (SM04, SMP04, SM1)
N: no connector
Other type: on request

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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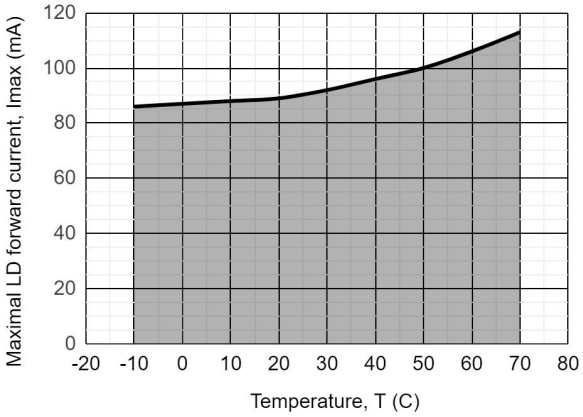
LDS-660-FP-15

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current*	Imax	90	mA	CW, T = 25°C
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	30	V	
Operating temperature**	T_{OP}	-10 - +70	°C	Package B
Operating temperature**	T_{OP}	-40 - +60	°C	Package T, E (Tst = 25°C)
Storage temperature	T_{stg}	-40 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 5 seconds

*Maximal laser diode forward current depends on the operating temperature. Please, refer to the figure below.



**Operating temperature is defined by the case temperature. It is recommended to ensure sufficient heat dissipation so that the module's maximum operating temperature is not exceeded.

Operating temperature for the DIL-14-pins case (T or E) with TEC is defined for internal temperature stabilization at Tst = 25°C that corresponds to thermistor resistance Rt = 10 kOhm.

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LDS-660-FP-15

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Optical power (CW)	P_{cw}	15			mW	CW, I_{op} = 90 mA, SM04
Mean wavelength	λ	657	662	667	nm	CW, I_{op} = 90 mA
Spectral width	Δλ		1	3	nm	CW, I_{op} = 90 mA
Wavelength-temperature coefficient	dλ/dT		0.24		nm/°C	CW, I_{op} = 90 mA
Threshold current	I_{th}		40	60	mA	
Slope efficiency	S_e	0.30	0.34		mW/mA	CW, SM04
Operating voltage	V_{op}		2.5	3.0	V	CW, I_{op} = 90 mA
Monitor current	I_m	0.1	0.4	0.7	mA	CW, I_{op} = 90 mA, V_r = 5 V
Polarization extinction ratio	PER	17			dB	CW, SMP04
Front-to-rear tracking error	E_r		0.8	1.2	dB	CW, P_{cw} = 3 mW, SM04, T = -10 ~ +50°C

Tracking error E_r = max |10 lg [P(T)/P(25°C)]|, I_m= const, T = T_{min} ~ T_{max}
Pulse mode: pulse width 10 μs, duty cycle = 1%

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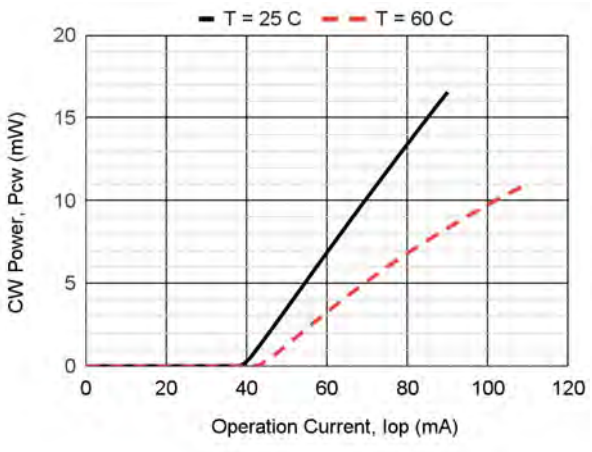
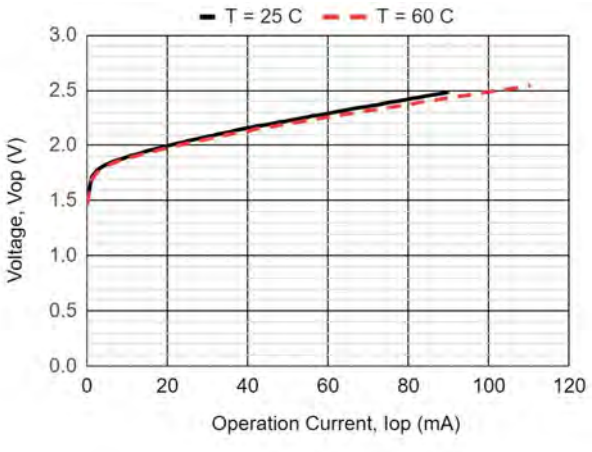
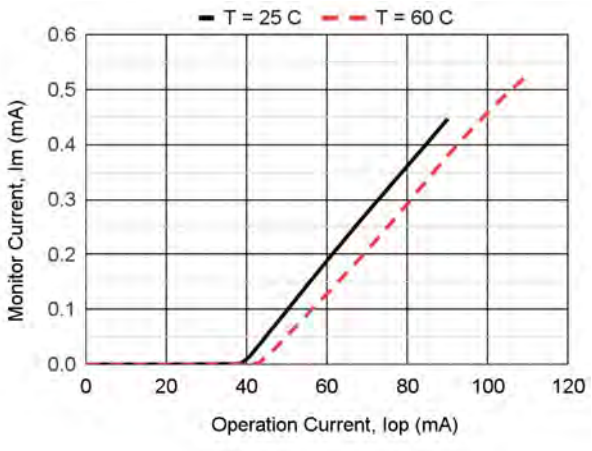
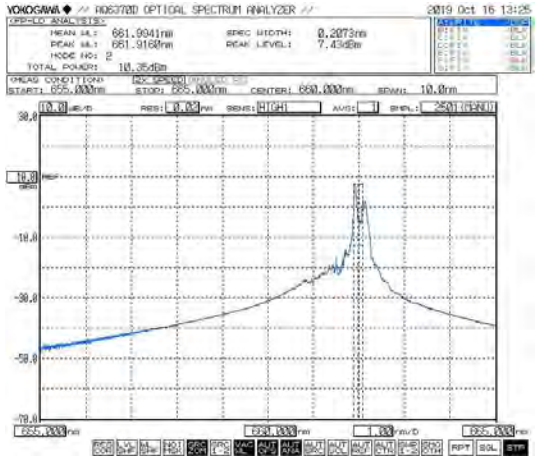
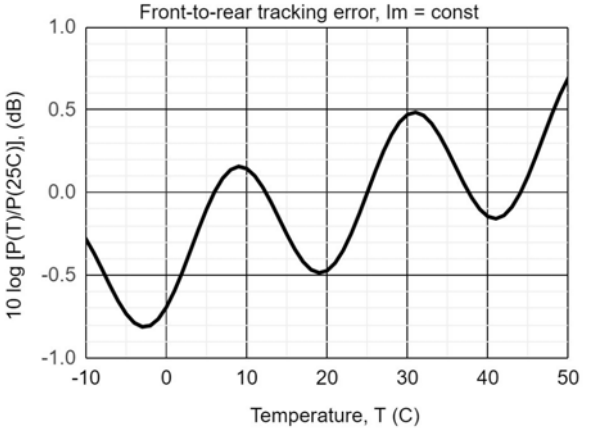
LDS-660-FP-15











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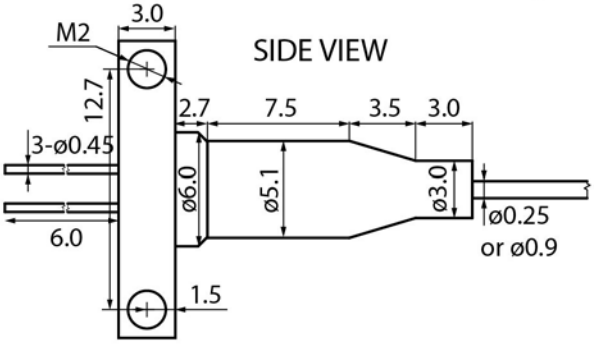
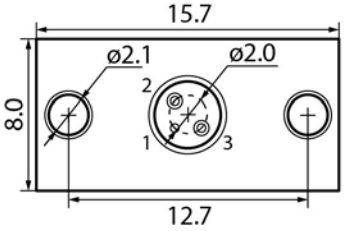
LDS-660-FP-15

PACKAGE B

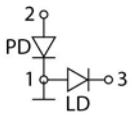


SIDE VIEW



BACK VIEW

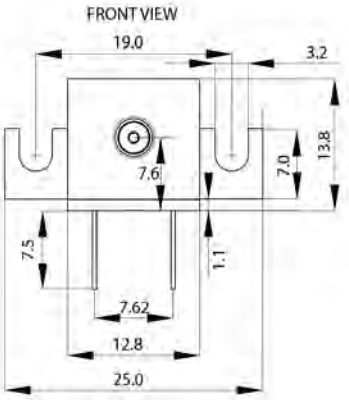
PINOUT #3

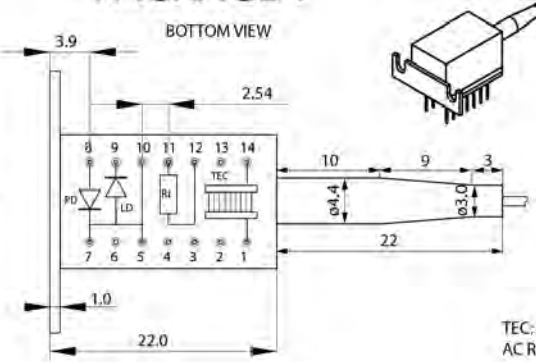


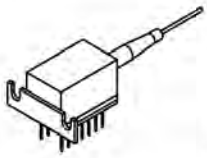
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T







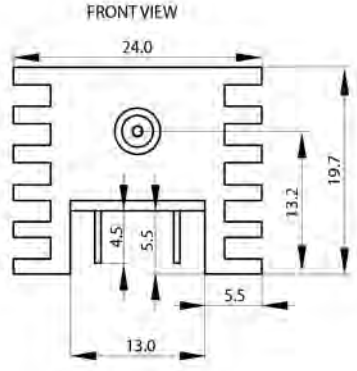
PINOUT #2, #3

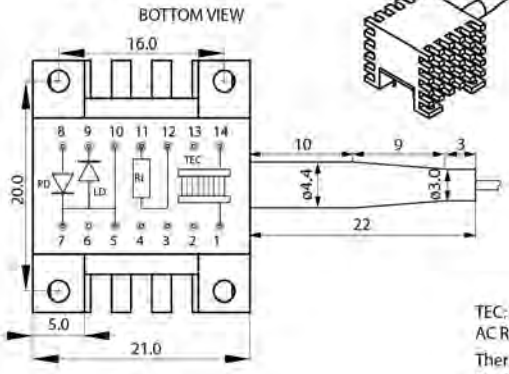
1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.PD Cathode, LD Anode
8.PD Anode
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

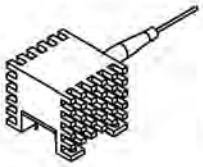
TEC: I_{max}=0,7A, U_{max}=3.9 V, Q_{max}=1,4 W,
AC R = 4.7 Ohm, ΔT_{max} = 72 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

PACKAGE E







PINOUT #2, #3

1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.PD Cathode, LD Anode
8.PD Anode
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

TEC: I_{max}=0,7A, U_{max}=3.9 V, Q_{max}=1,4 W,
AC R = 4.7 Ohm, ΔT_{max} = 72 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

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LDS-660-FP-15

Characteristics, data, materials and structures specified in this datasheet are subject to change without notice. Please refer to the latest specification before use of the products.

Safety and handling cautions

1. Avoid smashing and burning of the module. Avoid storing and using the module in conditions where water, organic solvents or aggressive acids or bases may contact the module or where there is a possibility of exposure to corrosive gases, explosive gases, dust, salinity or other harsh conditions. The module should be disposed as special industrial waste.
2. Exceeding absolute maximum ratings even for a short time can cause permanent damage of the module.
3. The module is sensitive to and can be broken by ESD (static electricity).

Conflict Minerals Policy Statement

LasersCom LLC achieves business objectives and customer needs with social responsibility. We do not support or contribute to the violence and human rights violations associated with the mining of conflict minerals coming from Conflict Regions according to US "Dodd-Frank Act". When possible, our suppliers' conflict mineral statements are reviewed. We do not directly purchase Conflict Minerals from any source and do not knowingly procure any parts and products containing Conflict Minerals from Conflict Regions.

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REACH Compliance Statement

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LDS-660-FP-50

OVERVIEW

LDS-660-FP-50 is the laser diode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Wavelength: 660 nm
- Cavity type: Fabry-Perot
- Optical power: up to 50 mW in CW mode in single-mode fiber Nufern 630-HP
- Package types: coaxial with bracket, 14 pin DIL

APPLICATIONS

- Biomedicine
- Laser systems

ORDERING INFORMATION

LDS-660-FP-50-X-18-X-X-X-X

Case type

B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SM04: SM, Nufern 630-HP, furcation tubing ∅0.9 mm
SMP04: PM, Fujikura SM63, PANDA type, furcation tubing ∅0.9 mm
SM1: G.657.A1, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm
MM5: MM, 50/125, OM2, furcation tubing ∅0.9 mm
MM6: MM, 62.5/125, OM1, furcation tubing ∅0.9 mm
Other type on request

Connector type

FU: FC/UPC (SM04, SMP04, SM1, MM5, MM6)
FA: FC/APC (SM04, SMP04, SM1)
N: no connector
Other type: on request

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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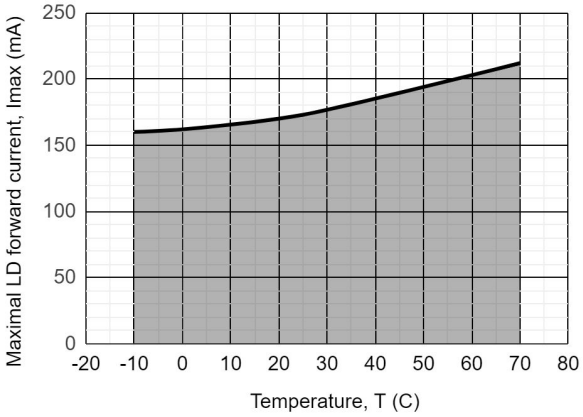
LDS-660-FP-50

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current*	Imax	170	mA	CW, T = 25°C
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	30	V	
Operating temperature**	T_{OP}	-10 - +70	°C	Package B
Operating temperature**	T_{OP}	-40 - +60	°C	Package T, E (Tst = 25°C)
Storage temperature	T_{stg}	-40 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 5 seconds

*Maximal laser diode forward current depends on the operating temperature. Please, refer to the figure below.



**Operating temperature is defined by the case temperature. It is recommended to ensure sufficient heat dissipation so that the module's maximum operating temperature is not exceeded.

Operating temperature for the DIL-14-pins case (T or E) with TEC is defined for internal temperature stabilization at Tst = 25°C that corresponds to thermistor resistance Rt = 10 kOhm.

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LDS-660-FP-50

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Optical power (CW)	P_{cw}	50			mW	CW, I_{op} = 170 mA, SM04
Mean wavelength	λ	655	660	665	nm	CW, I_{op} = 170 mA
Spectral width	Δλ		1	3	nm	CW, I_{op} = 170 mA
Wavelength-temperature coefficient	dλ/dT		0.18		nm/°C	CW, I_{op} = 170 mA
Threshold current	I_{th}		60	75	mA	
Slope efficiency	S_e	0.45	0.55		mW/mA	CW, SM04
Operating voltage	V_{op}		2.5	3.3	V	CW, I_{op} = 170 mA
Monitor current	I_m				mA	CW, I_{op} = 170 mA, V_r = 5 V
Polarization extinction ratio	PER	20			dB	CW, SMP04

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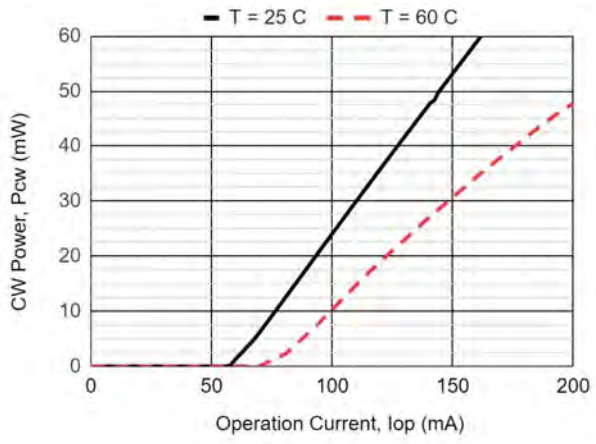
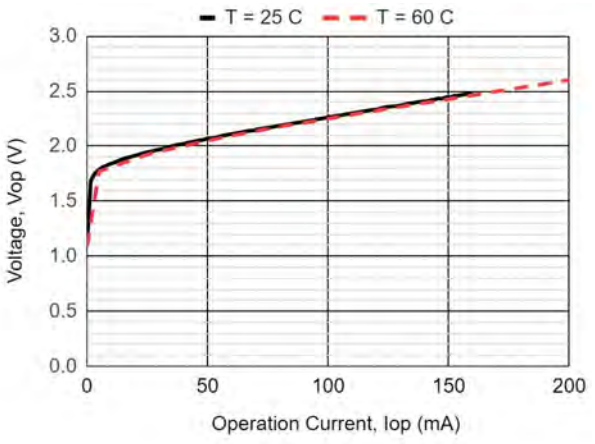
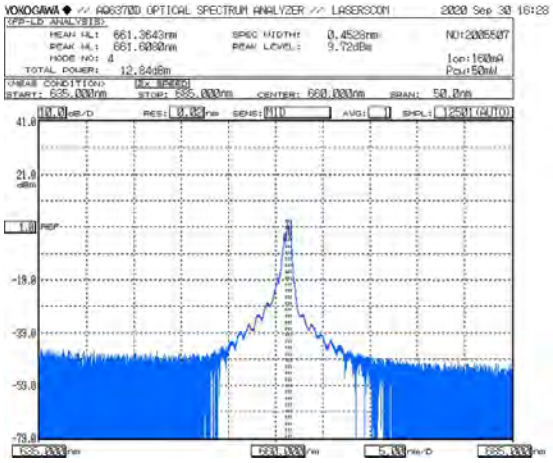
LDS-660-FP-50







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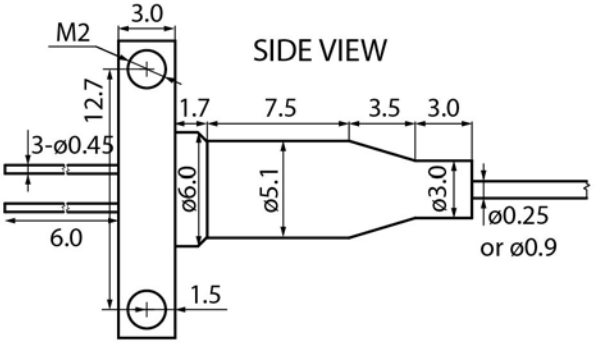
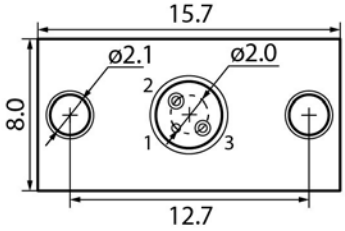
LDS-660-FP-50

PACKAGE B

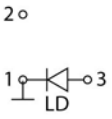


SIDE VIEW



BACK VIEW

PINOUT
#18

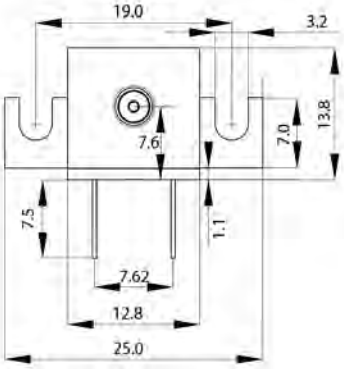


Connector FC/UPC, FC/APC, no connector, or by request

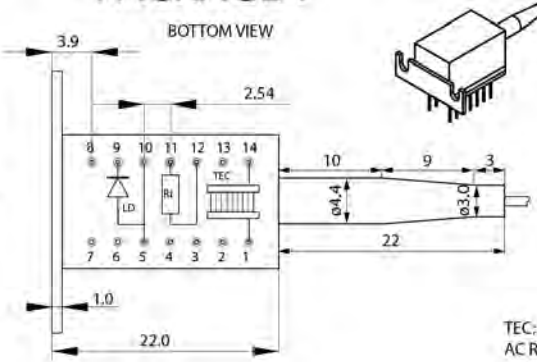
Fiber length 500+/-50, 1000+/-100, or by request

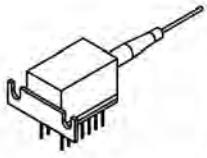
PACKAGE T

FRONT VIEW



BOTTOM VIEW





PINOUT #4, #18, #21, #31

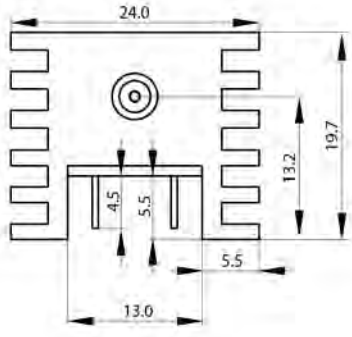
1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.-
8.-
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

TEC: I_{max}=1.4A, U_{max}=3.9 V, Q_{max}=3.3 W,
AC R = 2.0 Ohm, ΔT_{max} = 69 K

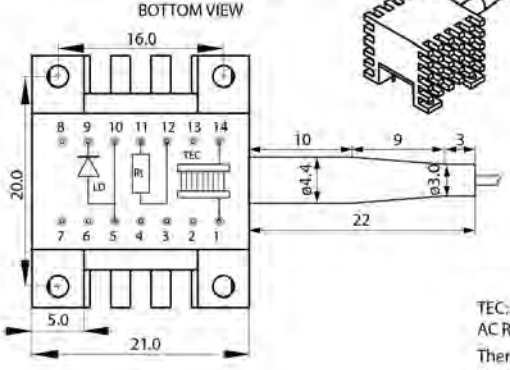
Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

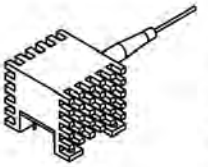
PACKAGE E

FRONT VIEW



BOTTOM VIEW





PINOUT #4, #18, #21, #31

1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.-
8.-
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

TEC: I_{max}=1.4A, U_{max}=3.9 V, Q_{max}=3.3 W,
AC R = 2.0 Ohm, ΔT_{max} = 69 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

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LDS-660-FP-50

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Safety and handling cautions

1. Avoid smashing and burning of the module. Avoid storing and using the module in conditions where water, organic solvents or aggressive acids or bases may contact the module or where there is a possibility of exposure to corrosive gases, explosive gases, dust, salinity or other harsh conditions. The module should be disposed as special industrial waste.
2. Exceeding absolute maximum ratings even for a short time can cause permanent damage of the module.
3. The module is sensitive to and can be broken by ESD (static electricity).

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LDS-670-FP-3

OVERVIEW

LDS-670-FP-3 is the laser diode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Wavelength: 670 nm
- Cavity type: Fabry-Perot
- Optical power: up to 3 mW in CW mode in single-mode fiber Nufern 630-HP
- Package types: coaxial with bracket, 14 pin DIL
- Built-in monitor photodiode

APPLICATIONS

- Laser systems

ORDERING INFORMATION

LDS-670-FP-3-X-3-X-X-X-X

Case type

B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SM04: SM, Nufern 630-HP, furcation tubing ∅0.9 mm
SMP04: PM, Fujikura SM63, PANDA type, furcation tubing ∅0.9 mm
SM1: G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm
MM5: MM, 50/125, OM2, furcation tubing ∅0.9 mm
MM6: MM, 62.5/125, OM1, furcation tubing ∅0.9 mm
Other type on request

Connector type

FU: FC/UPC (SM04, SMP04, SM1, MM5, MM6)
FA: FC/APC (SM04, SMP04, SM1)
N: no connector
Other type: on request

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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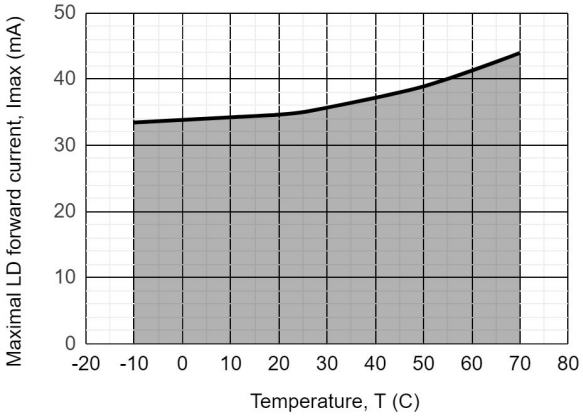
LDS-670-FP-3

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current*	Imax	35	mA	CW, T = 25°C
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	30	V	
Operating temperature**	T_{OP}	-10 - +70	°C	Package B
Operating temperature**	T_{OP}	-40 - +60	°C	Package T, E (Tst = 25°C)
Storage temperature	T_{stg}	-40 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 5 seconds

*Maximal laser diode forward current depends on the operating temperature. Please, refer to the figure below.



**Operating temperature is defined by the case temperature. It is recommended to ensure sufficient heat dissipation so that the module's maximum operating temperature is not exceeded.

Operating temperature for the DIL-14-pins case (T or E) with TEC is defined for internal temperature stabilization at Tst = 25°C that corresponds to thermistor resistance Rt = 10 kOhm.

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LDS-670-FP-3

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Optical power (CW)	P_{cw}	3			mW	CW, I_{op} = 35 mA, SM04
Mean wavelength	λ	660	670	680	nm	CW, I_{op} = 35 mA
Spectral width	Δλ		1	3	nm	CW, I_{op} = 35 mA
Wavelength-temperature coefficient	dλ/dT		0.15		nm/°C	CW, I_{op} = 35 mA
Threshold current	I_{th}		18	25	mA	
Slope efficiency	S_e	0.18	0.21		mW/mA	CW, SM04
Operating voltage	V_{op}		2.1	2.6	V	CW, I_{op} = 35 mA
Monitor current	I_m	0.05	0.20	0.50	mA	CW, I_{op} = 35 mA, V_r = 5 V
Polarization extinction ratio	PER	17			dB	CW, SMP04
Front-to-rear tracking error	E_r		0.3	0.5	dB	CW, P_{cw} = 1 mW, SM04, T = -10 ~ +50°C

Tracking error E_r = max |10 lg [P(T)/P(25°C)]|, I_m= const, T = T_{min} ~ T_{max}
Pulse mode: pulse width 10 μs, duty cycle = 1%

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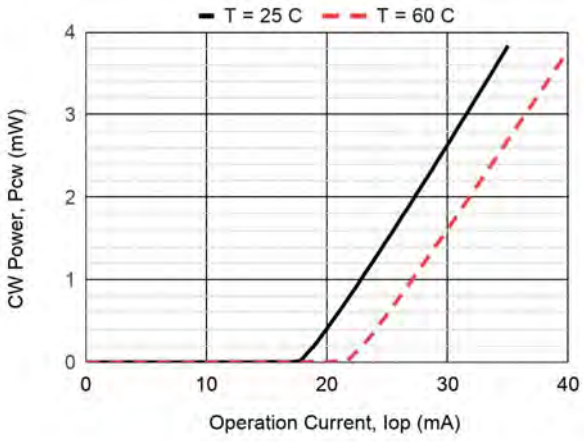
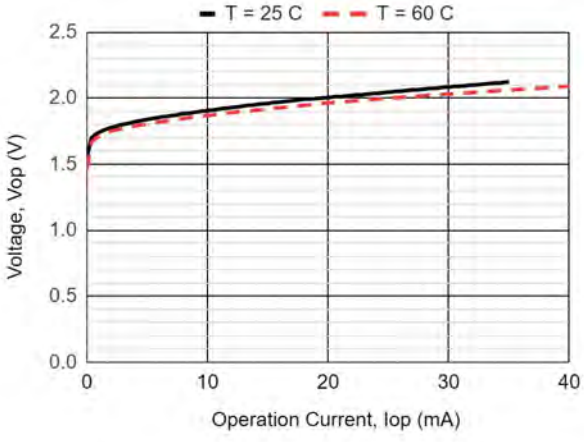
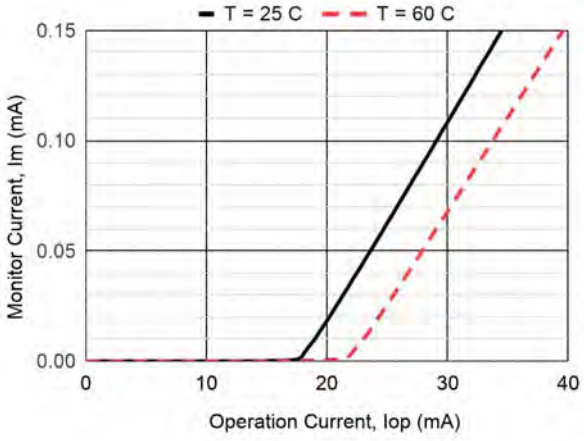
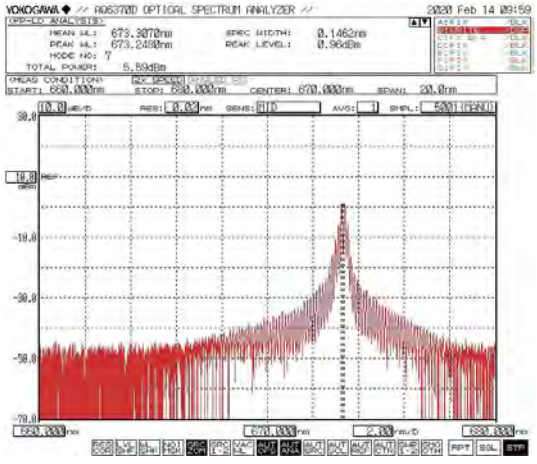
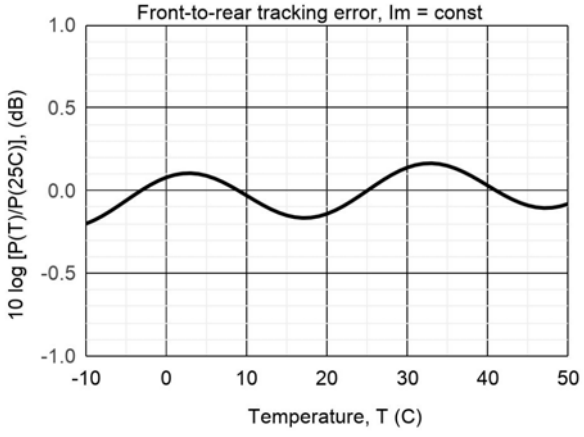
LDS-670-FP-3











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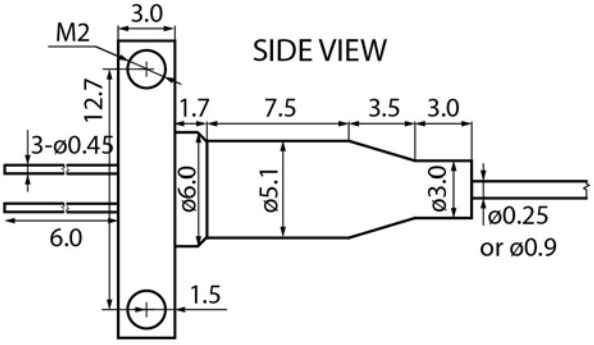
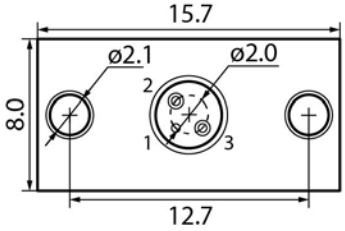
LDS-670-FP-3

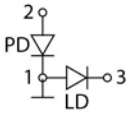
PACKAGE B



SIDE VIEW



BACK VIEW

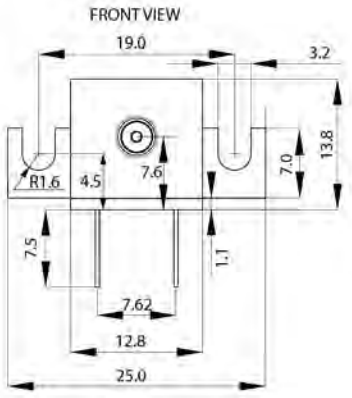


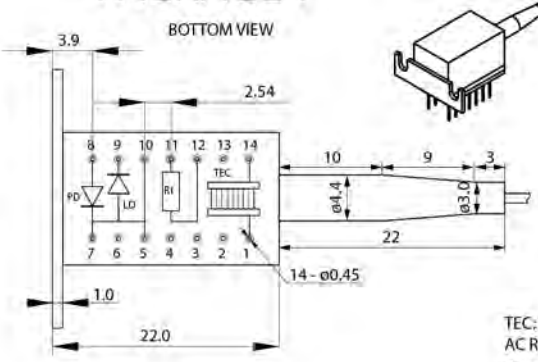
PINOUT #3

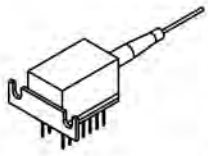
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T







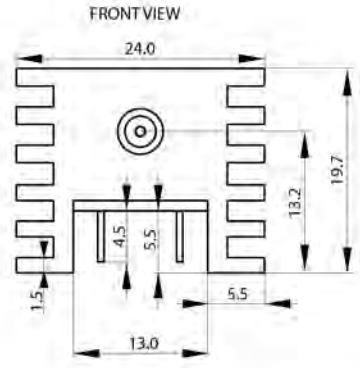
PINOUT #2, #3

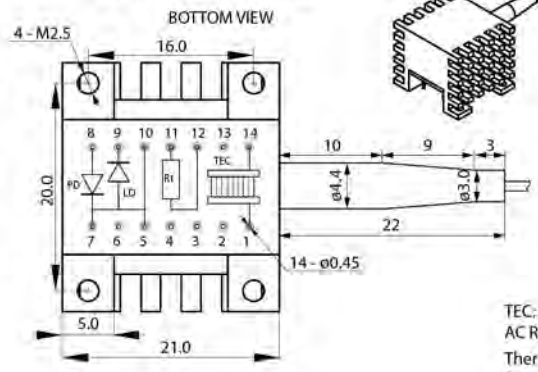
1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.PD Cathode, LD Anode
8.PD Anode
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

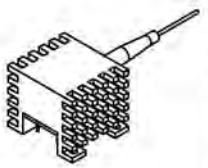
TEC: I_{max}=0,7A, U_{max}=3.9 V, Q_{max}=1,4 W,
AC R = 4.7 Ohm, ΔT_{max} = 72 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

PACKAGE E







PINOUT #2, #3

1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.PD Cathode, LD Anode
8.PD Anode
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

TEC: I_{max}=0,7A, U_{max}=3.9 V, Q_{max}=1,4 W,
AC R = 4.7 Ohm, ΔT_{max} = 72 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

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LDS-670-FP-3

Characteristics, data, materials and structures specified in this datasheet are subject to change without notice. Please refer to the latest specification before use of the products.

Safety and handling cautions

1. Avoid smashing and burning of the module. Avoid storing and using the module in conditions where water, organic solvents or aggressive acids or bases may contact the module or where there is a possibility of exposure to corrosive gases, explosive gases, dust, salinity or other harsh conditions. The module should be disposed as special industrial waste.
2. Exceeding absolute maximum ratings even for a short time can cause permanent damage of the module.
3. The module is sensitive to and can be broken by ESD (static electricity).

Conflict Minerals Policy Statement

LasersCom LLC achieves business objectives and customer needs with social responsibility. We do not support or contribute to the violence and human rights violations associated with the mining of conflict minerals coming from Conflict Regions according to US "Dodd-Frank Act". When possible, our suppliers' conflict mineral statements are reviewed. We do not directly purchase Conflict Minerals from any source and do not knowingly procure any parts and products containing Conflict Minerals from Conflict Regions.

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LDS-685-FP-20

OVERVIEW

LDS-685-FP-20 is the laser diode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Wavelength: 685 nm
- Cavity type: Fabry-Perot
- Optical power: up to 20 mW in CW mode in single-mode fiber Nufern 630-HP
- Package types: coaxial with bracket, 14 pin DIL
- Built-in monitor photodiode

APPLICATIONS

- Biomedicine
- Laser systems

ORDERING INFORMATION

LDS-685-FP-20-X-3-X-X-X-X

Case type

B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SM04: SM, Nufern 630-HP, furcation tubing ∅0.9 mm
SMP04: PM, Fujikura SM63, PANDA type, furcation tubing ∅0.9 mm
SM1: G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm
MM5: MM, 50/125, OM2, furcation tubing ∅0.9 mm
MM6: MM, 62.5/125, OM1, furcation tubing ∅0.9 mm
Other type on request

Connector type

FU: FC/UPC (SM04, SMP04, SM1, MM5, MM6)
FA: FC/APC (SM04, SMP04, SM1)
N: no connector
Other type: on request

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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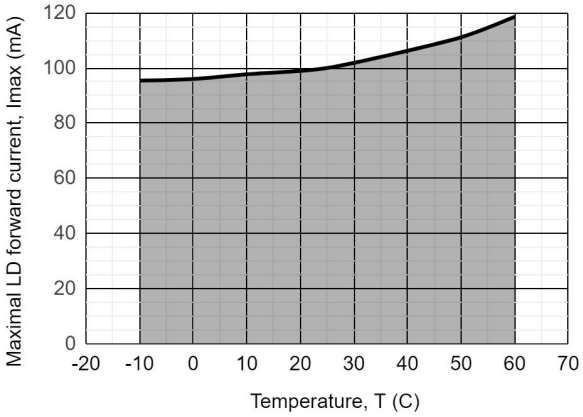
LDS-685-FP-20

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current*	Imax	100	mA	CW, T = 25°C
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	30	V	
Operating temperature**	T_{OP}	-10 - +60	°C	Package B
Operating temperature**	T_{OP}	-40 - +60	°C	Package T, E (Tst = 25°C)
Storage temperature	T_{stg}	-40 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 5 seconds

*Maximal laser diode forward current depends on the operating temperature. Please, refer to the figure below.



**Operating temperature is defined by the case temperature. It is recommended to ensure sufficient heat dissipation so that the module's maximum operating temperature is not exceeded.

Operating temperature for the DIL-14-pins case (T or E) with TEC is defined for internal temperature stabilization at Tst = 25°C that corresponds to thermistor resistance Rt = 10 kOhm.

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LDS-685-FP-20

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Optical power (CW)	P_{cw}	20			mW	CW, I_{op} = 100 mA, SM04
Mean wavelength	λ	670	685	700	nm	CW, I_{op} = 100 mA
Spectral width	Δλ		1	3	nm	CW, I_{op} = 100 mA
Wavelength-temperature coefficient	dλ/dT		0.18		nm/°C	CW, I_{op} = 100 mA
Threshold current	I_{th}		30	50	mA	
Slope efficiency	S_e	0.26	0.29		mW/mA	CW, SM04
Operating voltage	V_{op}		2.6	3.0	V	CW, I_{op} = 100 mA
Monitor current	I_m	0.1	0.5	1.0	mA	CW, I_{op} = 100 mA, V_r = 5 V
Polarization extinction ratio	PER	17			dB	CW, SMP04
Front-to-rear tracking error	E_r		0.4	0.8	dB	CW, P_{cw} = 3 mW, SM04, T = -10 ~ +50°C

Tracking error E_r = max |10 lg [P(T)/P(25°C)]|, I_m= const, T = T_{min} ~ T_{max}
Pulse mode: pulse width 10 μs, duty cycle = 1%

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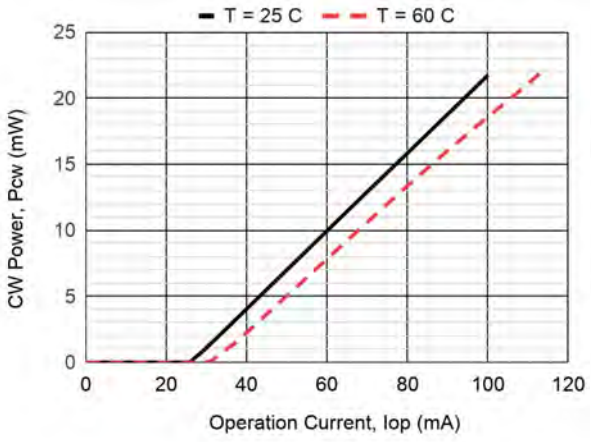
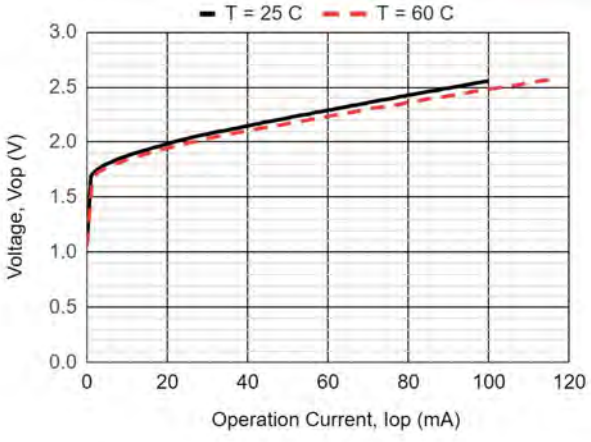
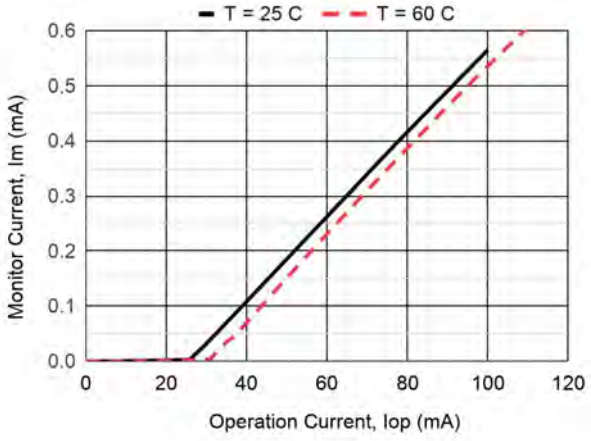
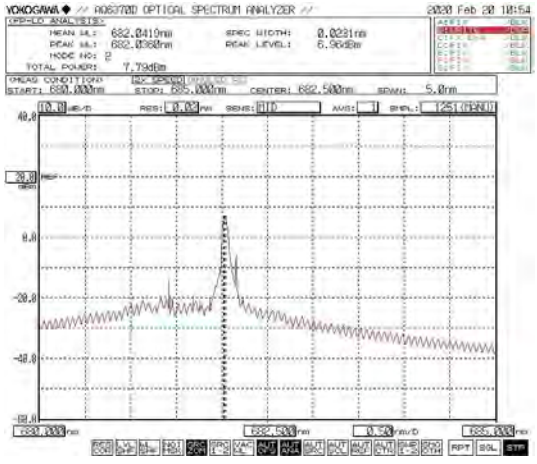
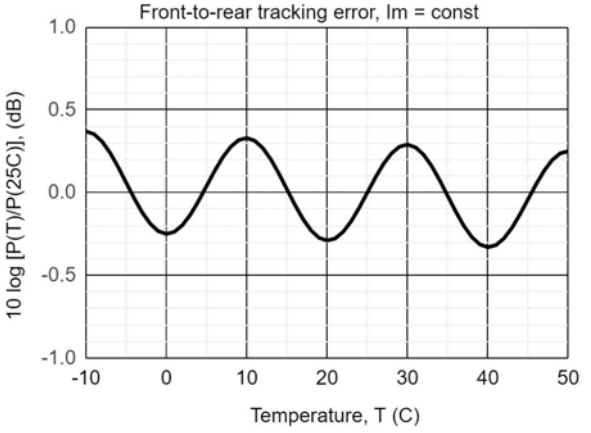
LDS-685-FP-20











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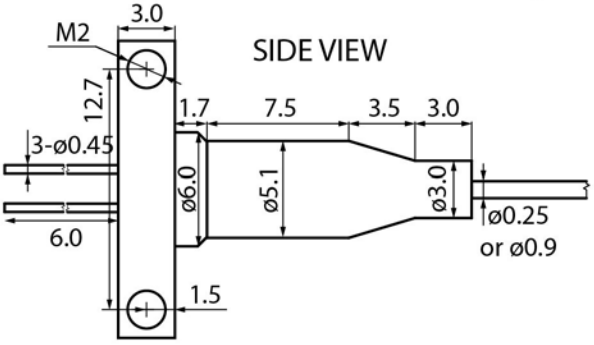
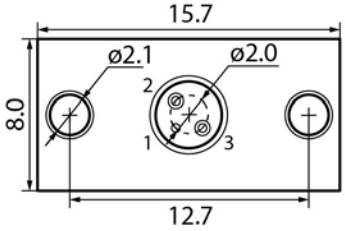
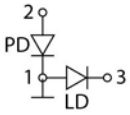
LDS-685-FP-20

PACKAGE B



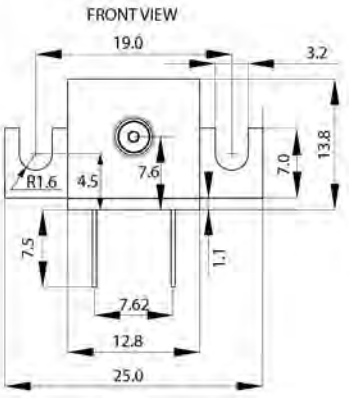


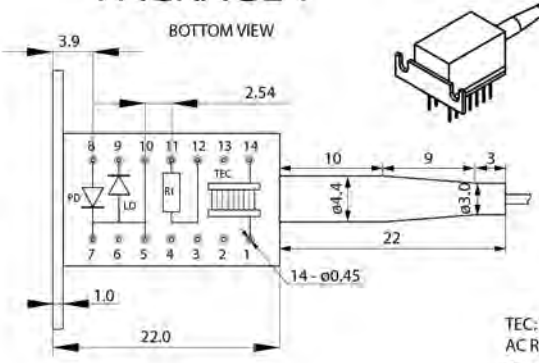


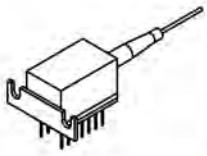
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T







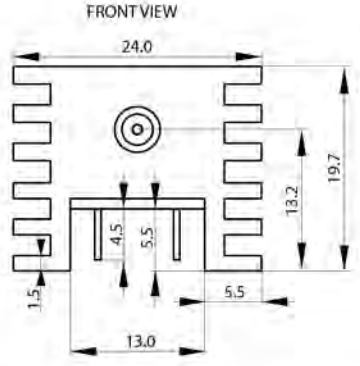
PINOUT #2, #3

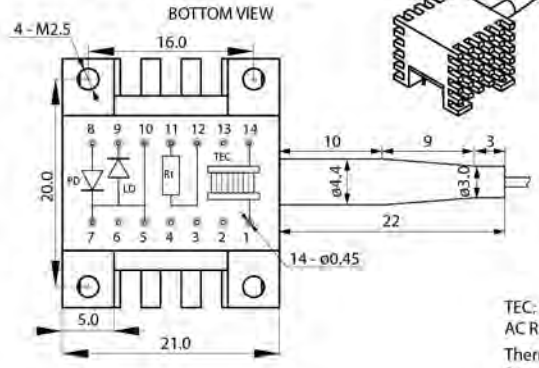
1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.PD Cathode, LD Anode
8.PD Anode
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

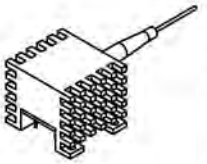
TEC: I_{max}=0,7A, U_{max}=3.9 V, Q_{max}=1,4 W,
AC R = 4.7 Ohm, ΔT_{max} = 72 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

PACKAGE E







PINOUT #2, #3

1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.PD Cathode, LD Anode
8.PD Anode
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

TEC: I_{max}=0,7A, U_{max}=3.9 V, Q_{max}=1,4 W,
AC R = 4.7 Ohm, ΔT_{max} = 72 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

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LDS-685-FP-20

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Safety and handling cautions

1. Avoid smashing and burning of the module. Avoid storing and using the module in conditions where water, organic solvents or aggressive acids or bases may contact the module or where there is a possibility of exposure to corrosive gases, explosive gases, dust, salinity or other harsh conditions. The module should be disposed as special industrial waste.
2. Exceeding absolute maximum ratings even for a short time can cause permanent damage of the module.
3. The module is sensitive to and can be broken by ESD (static electricity).

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LDS-705-FP-15

OVERVIEW

LDS-705-FP-15 is the InGaAsP laser diode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Wavelength: 705 nm
- Cavity type: Fabry-Perot
- Optical power: up to 15 mW in CW mode in single-mode fiber 630-HP
- Package types: coaxial with bracket, 14 pin DIL
- Built-in monitor photodiode

APPLICATIONS

- Laser systems

ORDERING INFORMATION

LDS-705-FP-15-X-3-X-X-X-X

Case type

B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SM04: SM, Nufern 630-HP, furcation tubing ∅0.9 mm
SMP04: PM, Fujikura SM63, PANDA type, furcation tubing ∅0.9 mm
SM1: G.657.A1, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm
MM5: MM, 50/125, OM2, furcation tubing ∅0.9 mm
MM6: MM, 62.5/125, OM1, furcation tubing ∅0.9 mm
Other type on request

Connector type

FU: FC/UPC (SM04, SMP04, SM1, MM5, MM6)
FA: FC/APC (SM04, SMP04, SM1)
N: no connector
Other type: on request

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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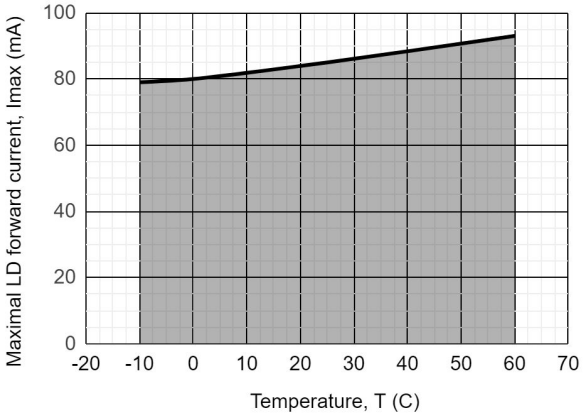
LDS-705-FP-15

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current*	Imax	85	mA	CW, T = 25°C
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	30	V	
Operating temperature**	T_{OP}	-10 - +60	°C	Package B
Operating temperature**	T_{OP}	-40 - +60	°C	Package T, E (Tst = 25°C)
Storage temperature	T_{stg}	-40 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 5 seconds

*Maximal laser diode forward current depends on the operating temperature. Please, refer to the figure below.



**Operating temperature is defined by the case temperature. It is recommended to ensure sufficient heat dissipation so that the module's maximum operating temperature is not exceeded.

Operating temperature for the DIL-14-pins case (T or E) with TEC is defined for internal temperature stabilization at Tst = 25°C that corresponds to thermistor resistance Rt = 10 kOhm.

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LDS-705-FP-15

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Optical power (CW)	P_{cw}	15			mW	CW, I_{op} = 80 mA, SM04
Mean wavelength	λ	695	705	715	nm	CW, I_{op} = 80 mA
Spectral width	Δλ		1	3	nm	CW, I_{op} = 80 mA
Wavelength-temperature coefficient	dλ/dT		0.17		nm/°C	CW, I_{op} = 80 mA
Threshold current	I_{th}		30	60	mA	
Slope efficiency	S_e	0.30	0.40		mW/mA	CW, SM04
Operating voltage	V_{op}		2.4	2.7	V	CW, I_{op} = 80 mA
Monitor current	I_m	0.2	0.5	0.8	mA	CW, I_{op} = 80 mA, V_r = 5 V
Polarization extinction ratio	PER	17			dB	CW, SMP04
Front-to-rear tracking error	E_r		0.4	0.8	dB	CW, P_{cw} = 3 mW, SM04, T = -10 ~ +50°C

Tracking error E_r = max |10 lg [P(T)/P(25°C)]|, I_m= const, T = T_{min} ~ T_{max}
Pulse mode: pulse width 10 μs, duty cycle = 1%

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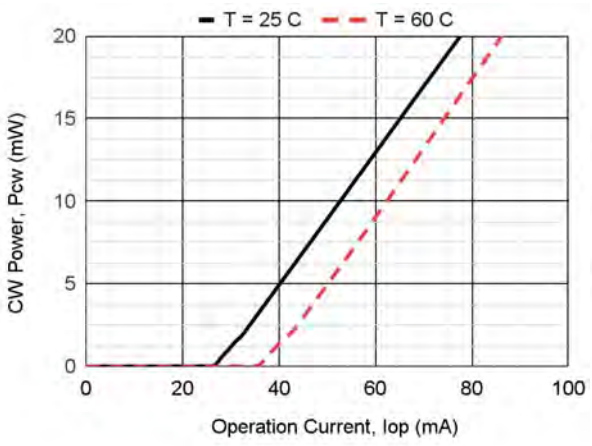
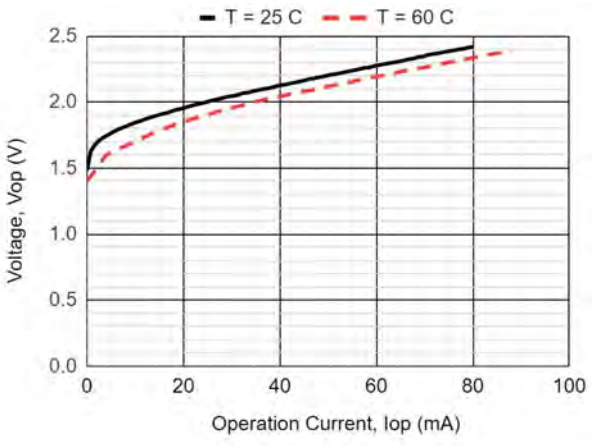
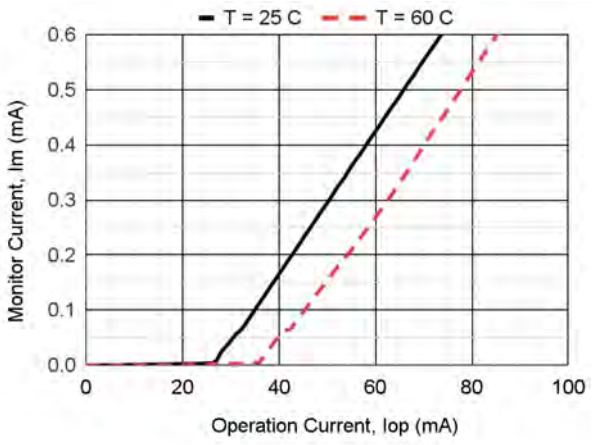
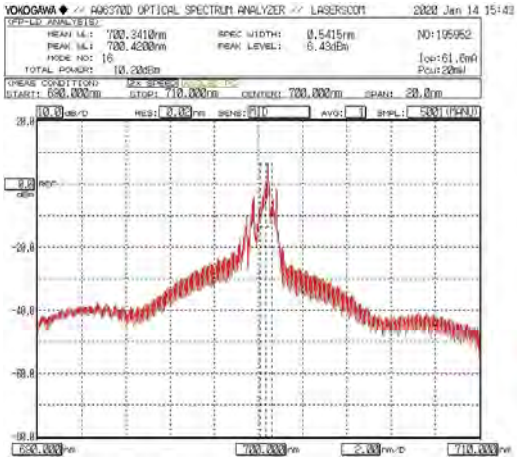
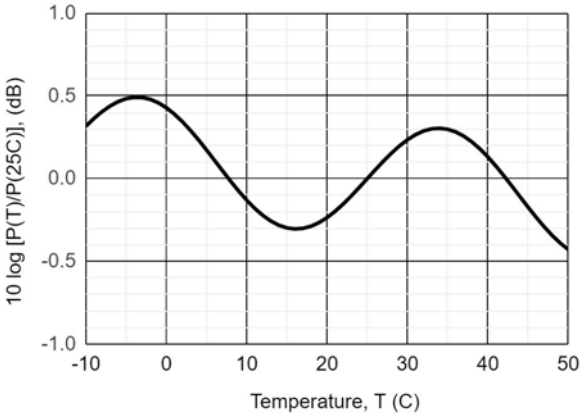
LDS-705-FP-15











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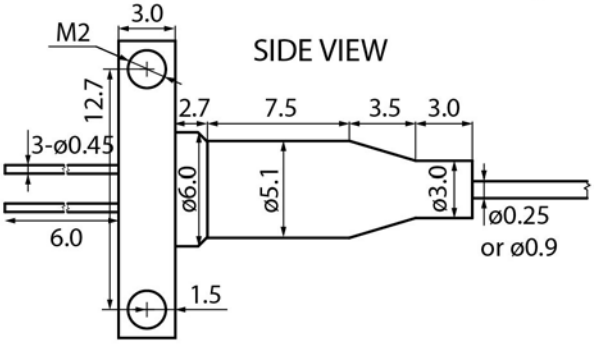
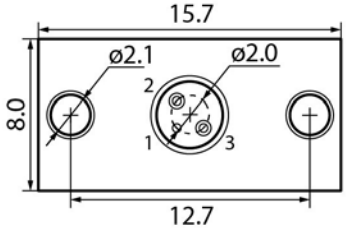
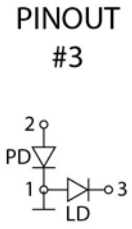
PACKAGE B



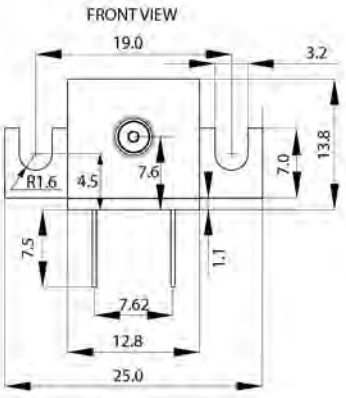


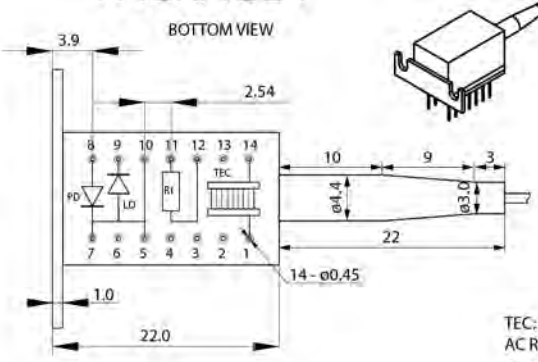


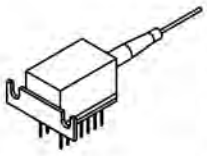
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T







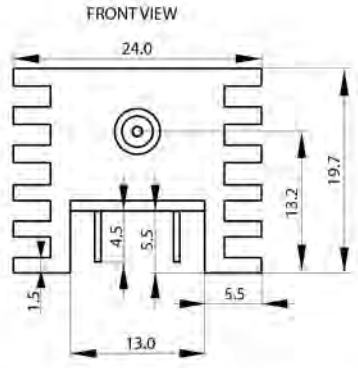
PINOUT #2, #3

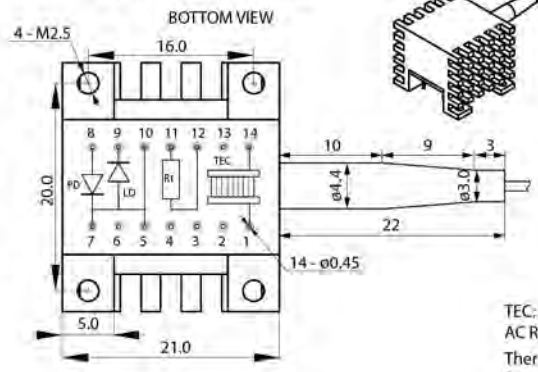
1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.PD Cathode, LD Anode
8.PD Anode
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

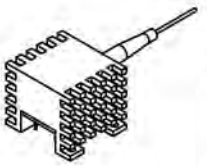
TEC: I_{max}=0,7A, U_{max}=3.9 V, Q_{max}=1,4 W,
AC R = 4.7 Ohm, ΔT_{max} = 72 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

PACKAGE E







PINOUT #2, #3

1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.PD Cathode, LD Anode
8.PD Anode
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

TEC: I_{max}=0,7A, U_{max}=3.9 V, Q_{max}=1,4 W,
AC R = 4.7 Ohm, ΔT_{max} = 72 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

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Characteristics, data, materials and structures specified in this datasheet are subject to change without notice. Please refer to the latest specification before use of the products.

Safety and handling cautions

1. Avoid smashing and burning of the module. Avoid storing and using the module in conditions where water, organic solvents or aggressive acids or bases may contact the module or where there is a possibility of exposure to corrosive gases, explosive gases, dust, salinity or other harsh conditions. The module should be disposed as special industrial waste.
2. Exceeding absolute maximum ratings even for a short time can cause permanent damage of the module.
3. The module is sensitive to and can be broken by ESD (static electricity).

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LasersCom LLC achieves business objectives and customer needs with social responsibility. We do not support or contribute to the violence and human rights violations associated with the mining of conflict minerals coming from Conflict Regions according to US "Dodd-Frank Act". When possible, our suppliers' conflict mineral statements are reviewed. We do not directly purchase Conflict Minerals from any source and do not knowingly procure any parts and products containing Conflict Minerals from Conflict Regions.

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LDS-730-FP-15

OVERVIEW

LDS-730-FP-15 is the InGaAsP laser diode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Wavelength: 730 nm
- Cavity type: Fabry-Perot
- Optical power: up to 15 mW in CW mode in single-mode fiber 630-HP
- Package types: coaxial with bracket, 14 pins DIL
- Built-in monitor photodiode

APPLICATIONS

- Laser systems

ORDERING INFORMATION

LDS-730-FP-15-X-3-X-X-X-X

Case type

B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SM04: SM, Nufern 630-HP, furcation tubing ∅0.9 mm
SMP04: PM, Fujikura SM63, PANDA type, furcation tubing ∅0.9 mm
SM1: G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm
MM5: MM, 50/125, OM2, furcation tubing ∅0.9 mm
MM6: MM, 62.5/125, OM1, furcation tubing ∅1.0 mm
Other type on request

Connector type

FU: FC/UPC (SM04, SMP04, SM1, MM5, MM6)
FA: FC/APC (SM04, SMP04, SM1)
N: no connector
Other type: on request

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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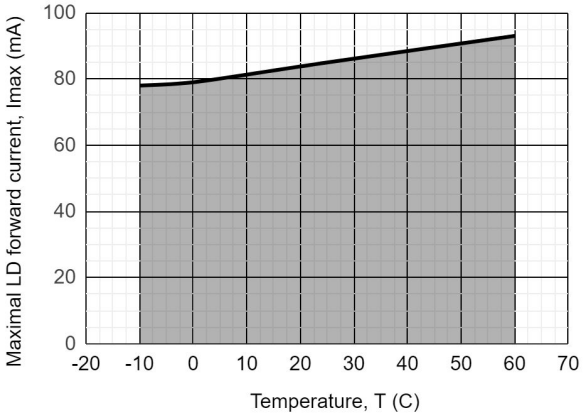
LDS-730-FP-15

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current*	Imax	85	mA	CW, T = 25°C
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	30	V	
Operating temperature**	T_{OP}	-10 - +60	°C	Package B
Operating temperature**	T_{OP}	-40 - +60	°C	Package T, E (Tst = 25°C)
Storage temperature	T_{stg}	-40 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 5 seconds

*Maximal laser diode forward current depends on the operating temperature. Please, refer to the figure below.



**Operating temperature is defined by the case temperature. It is recommended to ensure sufficient heat dissipation so that the module's maximum operating temperature is not exceeded.

Operating temperature for the DIL-14-pins case (T or E) with TEC is defined for internal temperature stabilization at Tst = 25°C that corresponds to thermistor resistance Rt = 10 kOhm.

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LDS-730-FP-15

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Optical power (CW)	P_{cw}	15			mW	CW, I_{op} = 80 mA, SM04
Mean wavelength	λ	720	730	740	nm	CW, I_{op} = 80 mA
Spectral width	Δλ		1	3	nm	CW, I_{op} = 80 mA
Wavelength-temperature coefficient	dλ/dT		0.17		nm/°C	CW, I_{op} = 80 mA
Threshold current	I_{th}		30	60	mA	
Slope efficiency	S_e	0.30	0.40		mW/mA	CW, SM04
Operating voltage	V_{op}		2.4	2.7	V	CW, I_{op} = 80 mA
Monitor current	I_m	0.2	0.5	0.8	mA	CW, I_{op} = 80 mA, V_r = 5 V
Polarization extinction ratio	PER	17			dB	CW, SMP04
Front-to-rear tracking error	E_r		0.4	0.8	dB	CW, P_{cw} = 3 mW, SM04, T = -10 ~ +50°C

Tracking error E_r = max |10 lg [P(T)/P(25°C)]|, I_m= const, T = T_{min} ~ T_{max}
Pulse mode: pulse width 10 μs, duty cycle = 1%

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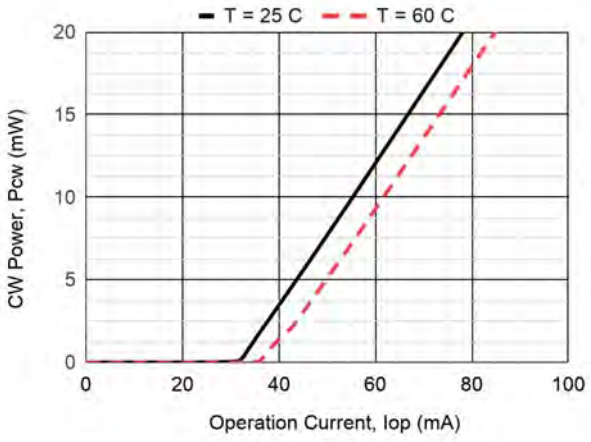
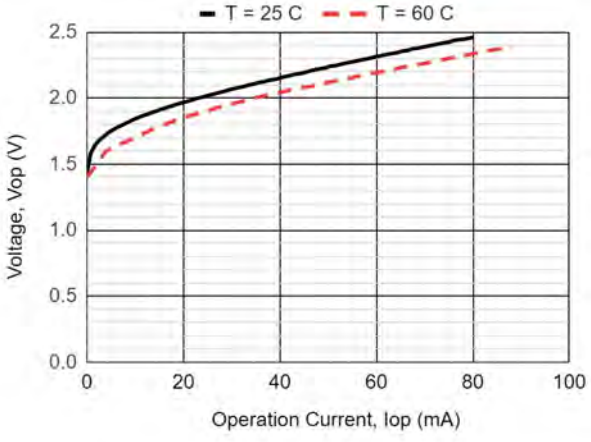
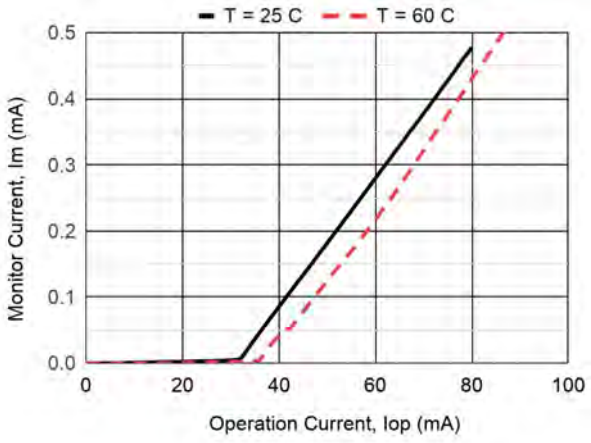
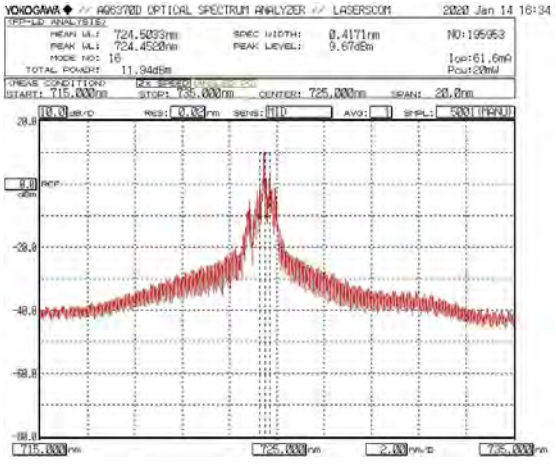
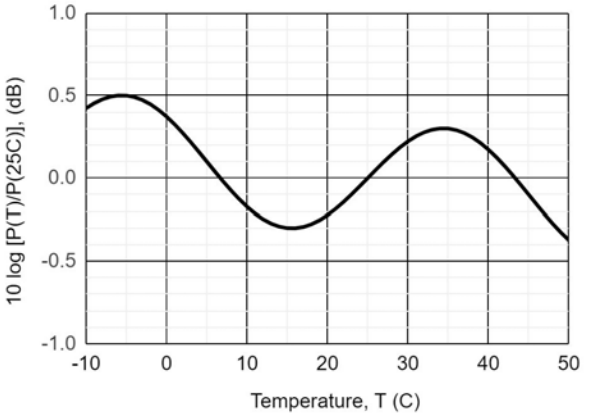
LDS-730-FP-15











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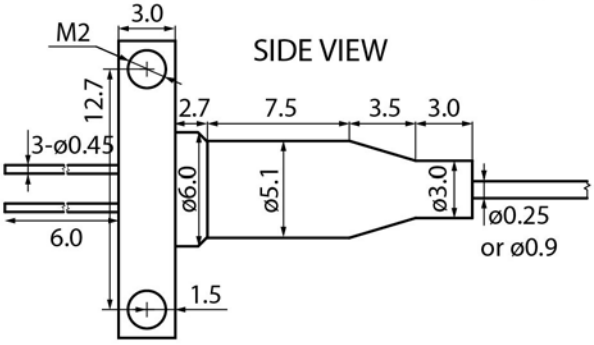
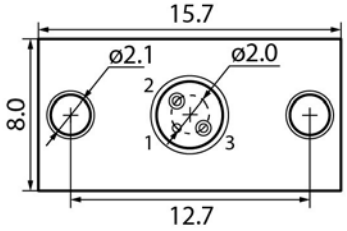
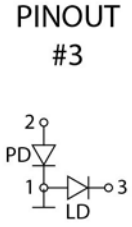
LDS-730-FP-15

PACKAGE B



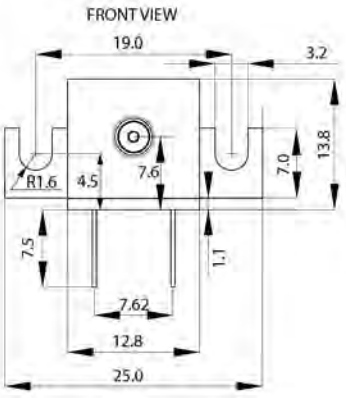


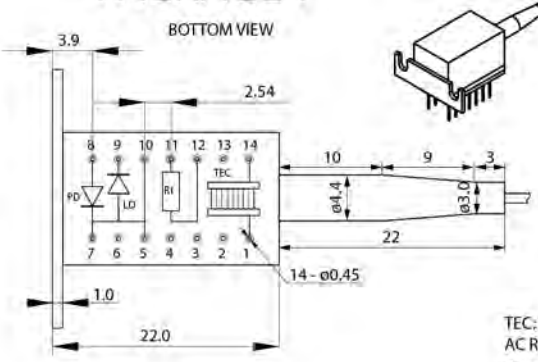


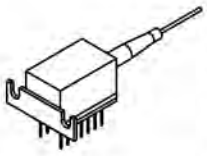
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T







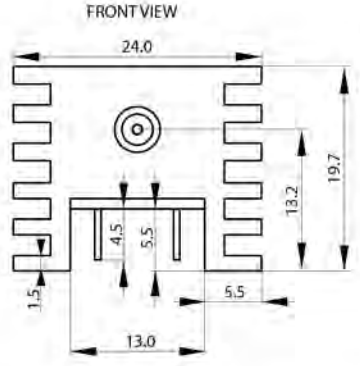
PINOUT #2, #3

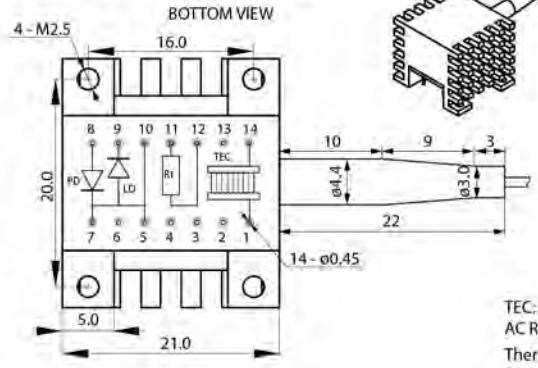
1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.PD Cathode, LD Anode
8.PD Anode
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

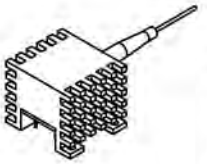
TEC: I_{max}=0,7A, U_{max}=3.9 V, Q_{max}=1,4 W,
AC R = 4.7 Ohm, ΔT_{max} = 72 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

PACKAGE E







PINOUT #2, #3

1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.PD Cathode, LD Anode
8.PD Anode
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

TEC: I_{max}=0,7A, U_{max}=3.9 V, Q_{max}=1,4 W,
AC R = 4.7 Ohm, ΔT_{max} = 72 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

LDS-730-FP-15

Characteristics, data, materials and structures specified in this datasheet are subject to change without notice. Please refer to the latest specification before use of the products.

Safety and handling cautions

1. Avoid smashing and burning of the module. Avoid storing and using the module in conditions where water, organic solvents or aggressive acids or bases may contact the module or where there is a possibility of exposure to corrosive gases, explosive gases, dust, salinity or other harsh conditions. The module should be disposed as special industrial waste.
2. Exceeding absolute maximum ratings even for a short time can cause permanent damage of the module.
3. The module is sensitive to and can be broken by ESD (static electricity).

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LDS-780-FP-30

OVERVIEW

LDS-780-FP-30 is the laser diode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Wavelength: 780 nm
- Cavity type: Fabry-Perot
- Optical power: up to 30 mW in CW mode in single-mode fiber Nufern 780-HP
- Package types: coaxial with bracket, 14 pins DIL
- Built-in monitor photodiode

APPLICATIONS

- Laser systems

ORDERING INFORMATION

LDS-780-FP-30-X-3-X-X-X-X

Case type

B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SM05: SM, Corning HI 780, furcation tubing ∅0.9 mm
SMP04: PM, Fujikura SM63, PANDA type, furcation tubing ∅0.9 mm
SM1: G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm
MM5: MM, 50/125, OM2, furcation tubing ∅0.9 mm
MM6: MM, 62.5/125, OM1, furcation tubing ∅0.9 mm
Other type on request

Connector type

FU: FC/UPC (SM05, SMP04, SM1, MM5, MM6)
FA: FC/APC (SM05, SMP04, SM1)
N: no connector
Other type: on request

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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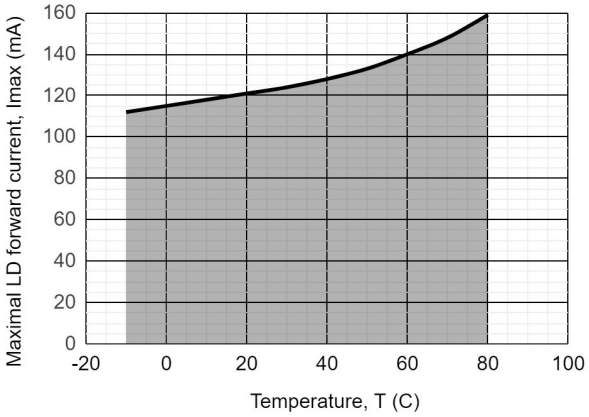
LDS-780-FP-30

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current*	Imax	120	mA	CW, T = 25°C
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	30	V	
Operating temperature**	T_{OP}	-10 - +80	°C	Package B
Operating temperature**	T_{OP}	-40 - +60	°C	Package T, E (Tst = 25°C)
Storage temperature	T_{stg}	-40 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 5 seconds

*Maximal laser diode forward current depends on the operating temperature. Please, refer to the figure below.



**Operating temperature is defined by the case temperature. It is recommended to ensure sufficient heat dissipation so that the module's maximum operating temperature is not exceeded.

Operating temperature for the DIL-14-pins case (T or E) with TEC is defined for internal temperature stabilization at Tst = 25°C that corresponds to thermistor resistance Rt = 10 kOhm.

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LDS-780-FP-30

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Optical power (CW)	P_{cw}	30			mW	CW, I_{op} = 120 mA, SM05
Mean wavelength	λ	770	780	790	nm	CW, I_{op} = 120 mA
Spectral width	Δλ		1	3	nm	CW, I_{op} = 120 mA
Wavelength-temperature coefficient	dλ/dT		0.23		nm/°C	CW, I_{op} = 120 mA
Threshold current	I_{th}		30	50	mA	
Slope efficiency	S_e	0.33	0.44		mW/mA	CW, SM05
Operating voltage	V_{op}		2.1	2.5	V	CW, I_{op} = 120 mA
Monitor current	I_m	0.1	0.3	0.8	mA	CW, I_{op} = 120 mA, V_r = 5 V
Polarization extinction ratio	PER	17			dB	CW, SMP05
Front-to-rear tracking error	E_r		0.3	0.8	dB	CW, P_{cw} = 3 mW, SM05, T = -10 ~ +50°C

Tracking error E_r = max |10 lg [P(T)/P(25°C)]|, I_m= const, T = T_{min} ~ T_{max}
Pulse mode: pulse width 10 μs, duty cycle = 1%

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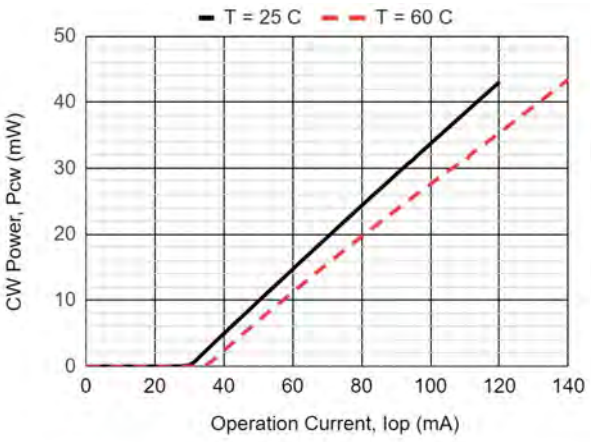
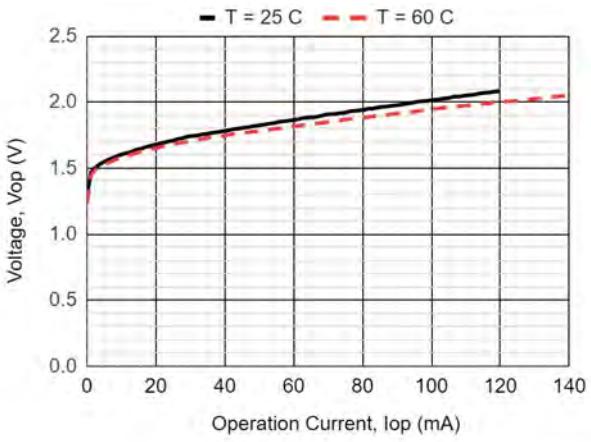
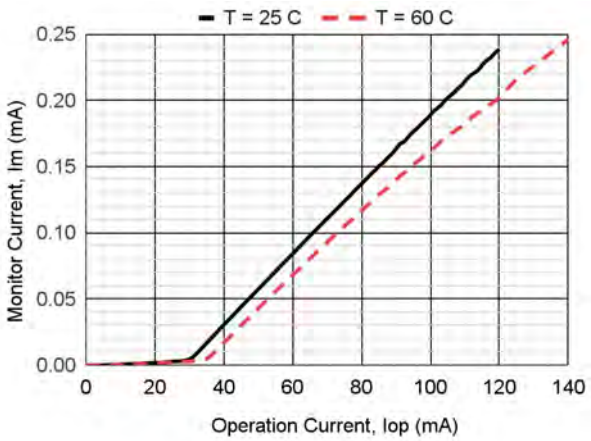
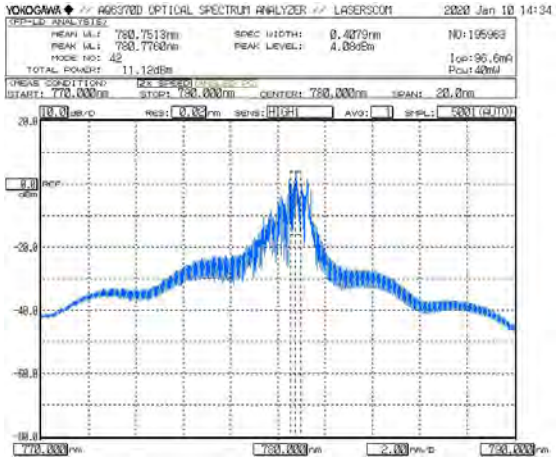
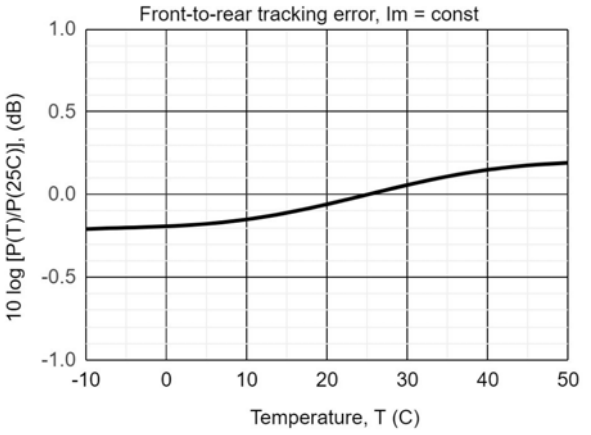
LDS-780-FP-30











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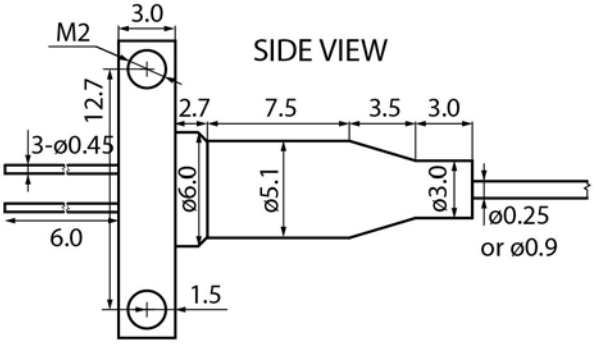
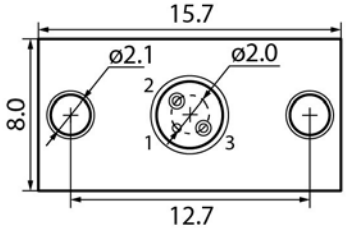
PACKAGE B

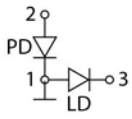


SIDE VIEW



BACK VIEW

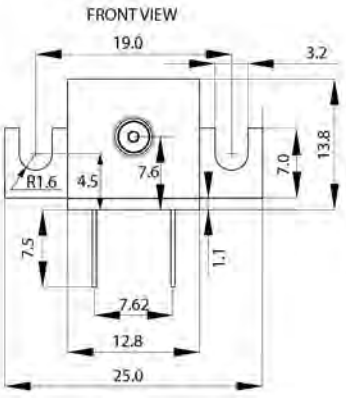
PINOUT #3

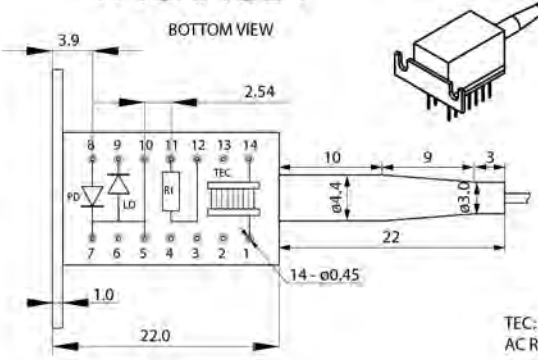


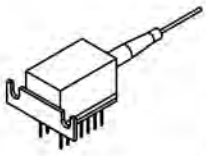
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T







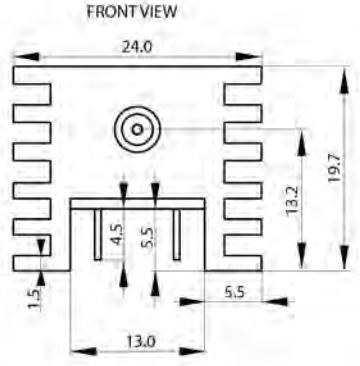
PINOUT #2, #3

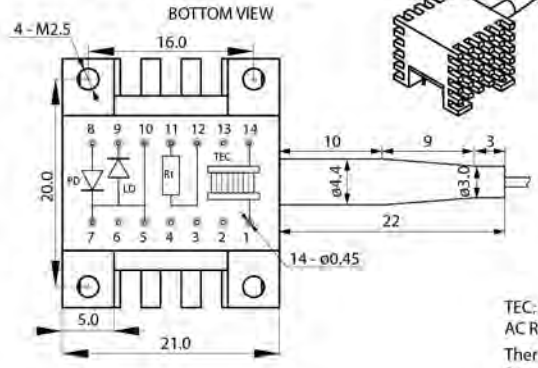
1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.PD Cathode, LD Anode
8.PD Anode
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

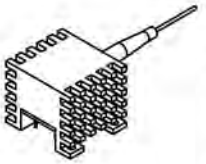
TEC: I_{max}=0,7A, U_{max}=3.9 V, Q_{max}=1,4 W,
AC R = 4.7 Ohm, ΔT_{max} = 72 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

PACKAGE E







PINOUT #2, #3

1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.PD Cathode, LD Anode
8.PD Anode
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

TEC: I_{max}=0,7A, U_{max}=3.9 V, Q_{max}=1,4 W,
AC R = 4.7 Ohm, ΔT_{max} = 72 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

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LDS-780-FP-30

Characteristics, data, materials and structures specified in this datasheet are subject to change without notice. Please refer to the latest specification before use of the products.

Safety and handling cautions

1. Avoid smashing and burning of the module. Avoid storing and using the module in conditions where water, organic solvents or aggressive acids or bases may contact the module or where there is a possibility of exposure to corrosive gases, explosive gases, dust, salinity or other harsh conditions. The module should be disposed as special industrial waste.
2. Exceeding absolute maximum ratings even for a short time can cause permanent damage of the module.
3. The module is sensitive to and can be broken by ESD (static electricity).

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RoHS Compliance Statement

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LDS-785-FP-80

OVERVIEW

LDS-785-FP-80 is the laser diode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Wavelength: 785 nm
- Cavity type: Fabry-Perot
- Optical power: up to 80 mW in CW mode in single-mode fiber Nufern 780-HP
- Package types: coaxial with bracket, 14 pins DIL

APPLICATIONS

- Spectroscopy
- Biomedicine
- Sensorics

ORDERING INFORMATION

LDS-785-FP-80-X-18-X-X-X-X

Case type

B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SM05: SM, Corning HI 780, furcation tubing ∅0.9 mm
SMP04: PM, Fujikura SM63, PANDA type, furcation tubing ∅0.9 mm
SM1: G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm
MM5: MM, 50/125, OM2, furcation tubing ∅0.9 mm
MM6: MM, 62.5/125, OM1, furcation tubing ∅0.9 mm
Other type on request

Connector type

FU: FC/UPC (SM05, SMP04, SM1, MM5, MM6)
FA: FC/APC (SM05, SMP04, SM1)
N: no connector
Other type: on request

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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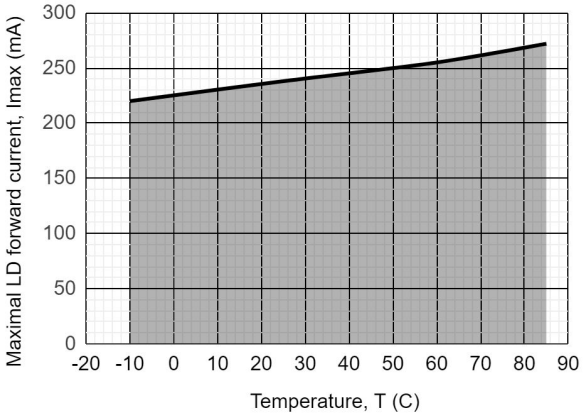
LDS-785-FP-80

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current*	Imax	230	mA	CW, T = 25°C
Laser diode reverse voltage	V_{RL}	1.5	V	
Operating temperature**	T_{OP}	-10 - +85	°C	Package B
Operating temperature**	T_{OP}	-40 - +60	°C	Package T, E (Tst = 25°C)
Storage temperature	T_{stg}	-40 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 5 seconds

*Maximal laser diode forward current depends on the operating temperature. Please, refer to the figure below.



**Operating temperature is defined by the case temperature. It is recommended to ensure sufficient heat dissipation so that the module's maximum operating temperature is not exceeded.

Operating temperature for the DIL-14-pins case (T or E) with TEC is defined for internal temperature stabilization at Tst = 25°C that corresponds to thermistor resistance Rt = 10 kOhm.

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LDS-785-FP-80

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Optical power (CW)	P_{cw}	80			mW	CW, I_{op} = 230 mA, SM05
Mean wavelength	λ	777	783	791	nm	CW, I_{op} = 230 mA
Spectral width	Δλ		1	3	nm	CW, I_{op} = 230 mA
Wavelength-temperature coefficient	dλ/dT		0.25		nm/°C	CW, I_{op} = 230 mA
Threshold current	I_{th}		50	70	mA	
Slope efficiency	S_e	0.44	0.50		mW/mA	CW, SM05
Operating voltage	V_{op}		2.6	3.0	V	CW, I_{op} = 230 mA
Polarization extinction ratio	PER	17			dB	CW, SMP05

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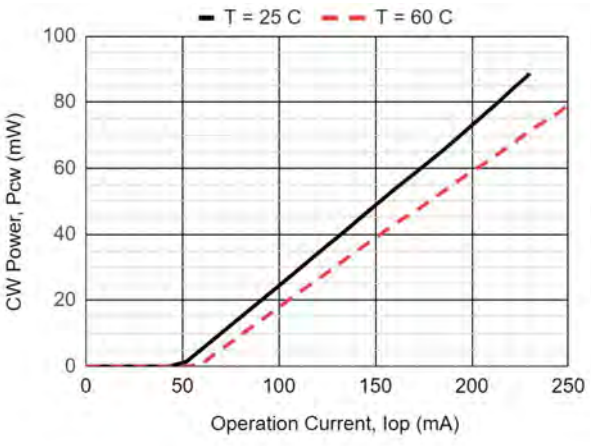
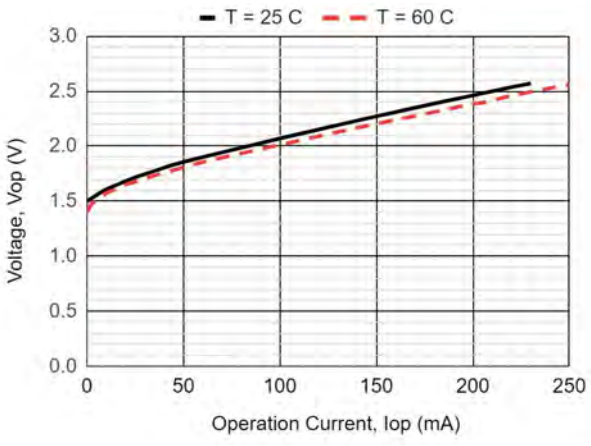
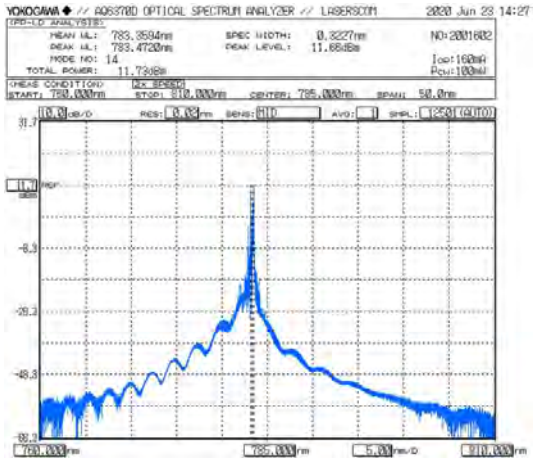
LDS-785-FP-80







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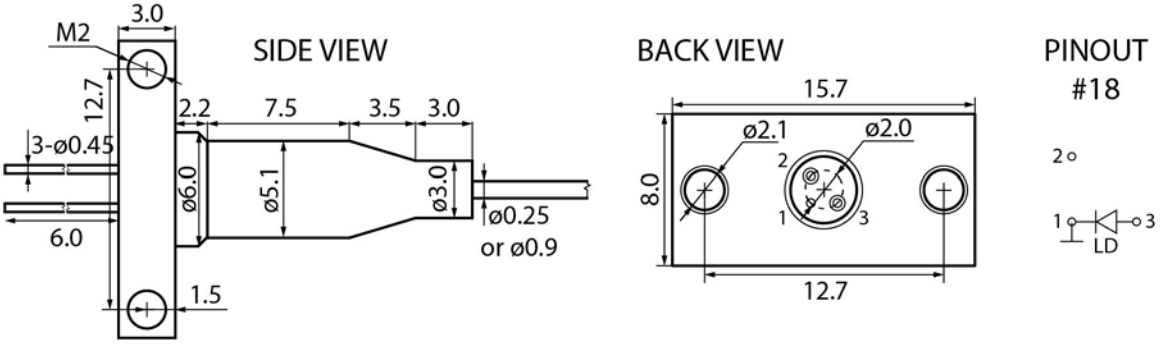
LDS-785-FP-80

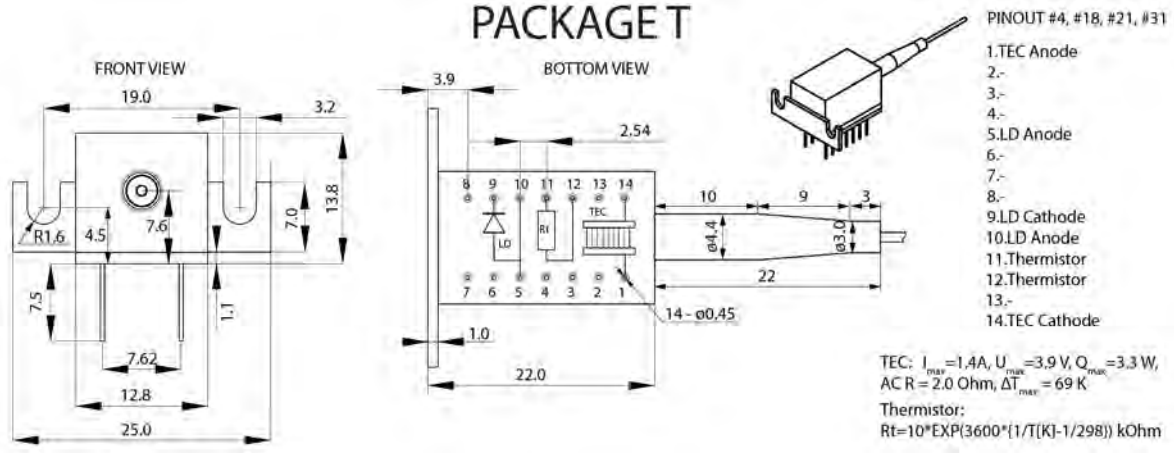
PACKAGE B



Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T



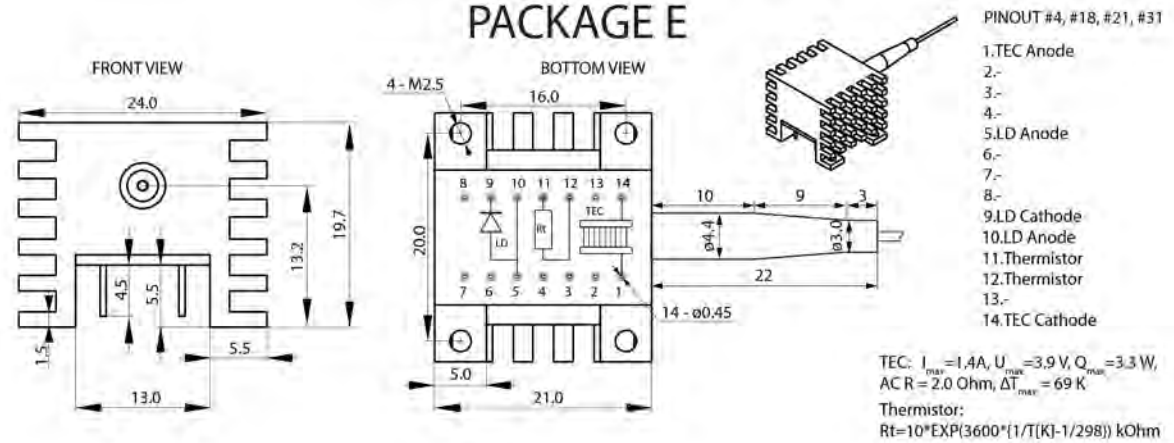
PINOUT #4, #18, #21, #31

1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.-
8.-
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

TEC: I_{max}=1.4A, U_{max}=3.9 V, Q_{max}=3.3 W,
AC R = 2.0 Ohm, ΔT_{max} = 69 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

PACKAGE E



PINOUT #4, #18, #21, #31

1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.-
8.-
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

TEC: I_{max}=1.4A, U_{max}=3.9 V, Q_{max}=3.3 W,
AC R = 2.0 Ohm, ΔT_{max} = 69 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

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LDS-785-FP-80

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LDS-830-FP-20

OVERVIEW

LDS-830-FP-20 is the laser diode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Wavelength: 830 nm
- Cavity type: Fabry-Perot
- Optical power: up to 20 mW in CW mode in single-mode fiber Corning HI-780
- Package types: coaxial with bracket, 14 pin DIL
- Built-in monitor photodiode

APPLICATIONS

- Laser systems

ORDERING INFORMATION

LDS-830-FP-20-X-3-X-X-X-X

Case type

B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SM05: SM, Corning HI-780, furcation tubing ∅0.9 mm
SMP05: PM, Fujikura SM85, PANDA type, furcation tubing ∅0.9 mm
SM1: G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm
SM3: G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm
MM5: MM, 50/125, OM2, furcation tubing ∅0.9 mm
MM6: MM, 62.5/125, OM1, furcation tubing ∅0.9 mm
Other type on request

Connector type

FU: FC/UPC (SM05, SMP05, SM1, SM3, MM5, MM6)
FA: FC/APC (SM05, SMP05, SM1, SM3)
N: no connector
Other type: on request

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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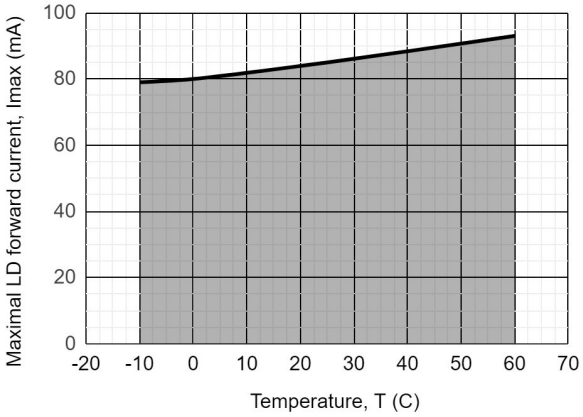
LDS-830-FP-20

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current*	Imax	75	mA	CW, T = 25°C
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	30	V	
Operating temperature**	T_{OP}	-10 - +60	°C	Package B
Operating temperature**	T_{OP}	-40 - +60	°C	Package T, E (Tst = 25°C)
Storage temperature	T_{stg}	-40 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 5 seconds

*Maximal laser diode forward current depends on the operating temperature. Please, refer to the figure below.



**Operating temperature is defined by the case temperature. It is recommended to ensure sufficient heat dissipation so that the module's maximum operating temperature is not exceeded.

Operating temperature for the DIL-14-pins case (T or E) with TEC is defined for internal temperature stabilization at Tst = 25°C that corresponds to thermistor resistance Rt = 10 kOhm.

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LDS-830-FP-20

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Optical power (CW)	P_{cw}	20			mW	CW, I_{op} = 75 mA, SM05
Mean wavelength	λ	820	830	840	nm	CW, I_{op} = 75 mA
Spectral width	Δλ		1	3	nm	CW, I_{op} = 75 mA
Wavelength-temperature coefficient	dλ/dT		0.21		nm/°C	CW, I_{op} = 75 mA
Threshold current	I_{th}		22	30	mA	
Slope efficiency	S_e	0.37	0.41		mW/mA	CW, SM05
Operating voltage	V_{op}		2.0	2.4	V	CW, I_{op} = 75 mA
Monitor current	I_m	0.1	0.3	0.5	mA	CW, I_{op} = 75 mA, V_r = 5 V
Polarization extinction ratio	PER	17			dB	CW, SMP05
Front-to-rear tracking error	E_r		0.2	0.5	dB	CW, P_{cw} = 3 mW, SM05, T = -10 ~ +50°C

Tracking error E_r = max |10 lg [P(T)/P(25°C)]|, I_m= const, T = T_{min} ~ T_{max}
Pulse mode: pulse width 10 μs, duty cycle = 1%

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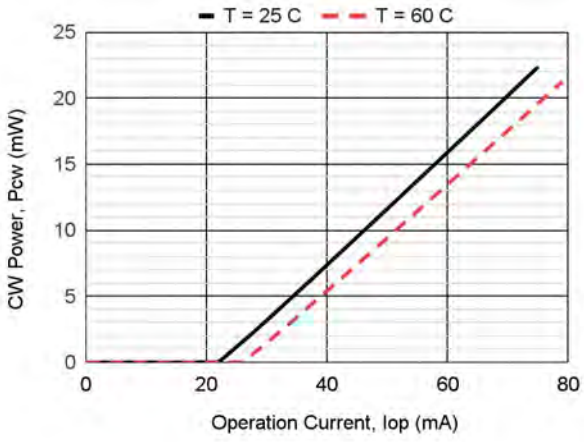
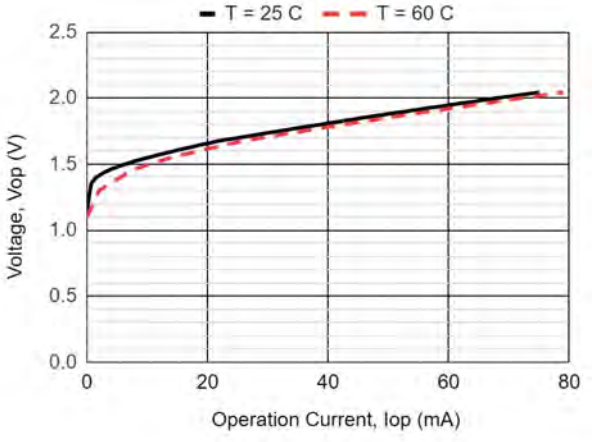
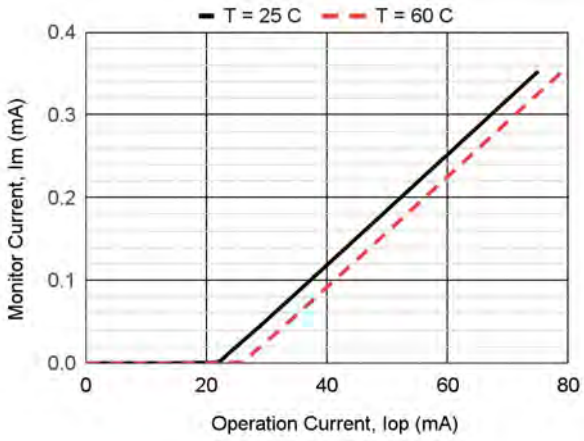
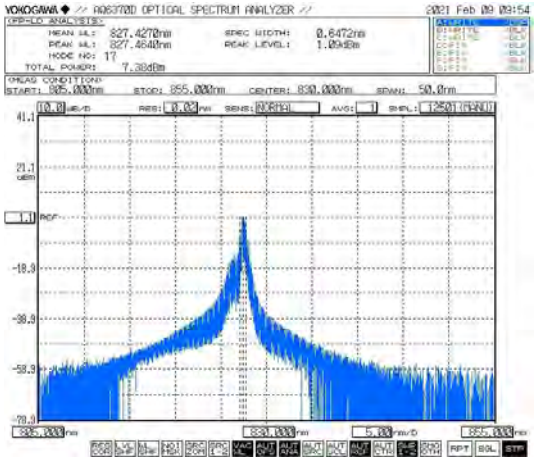
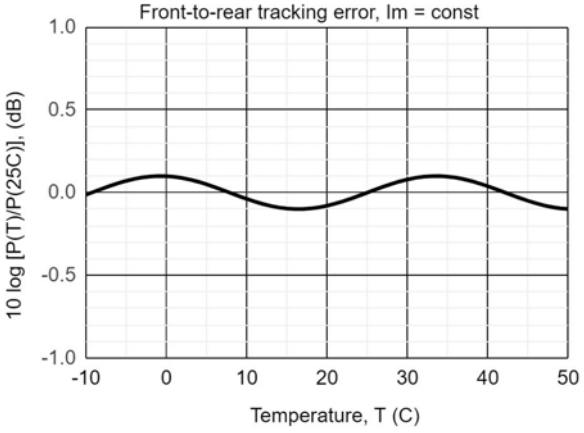
LDS-830-FP-20











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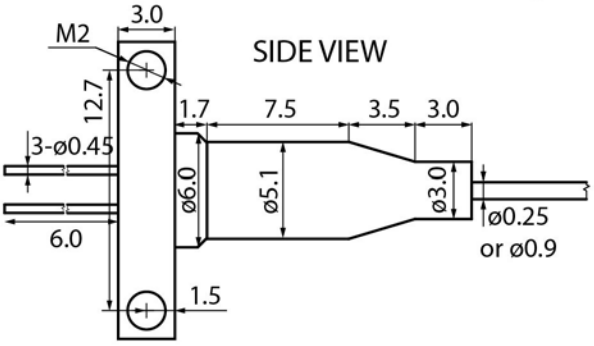
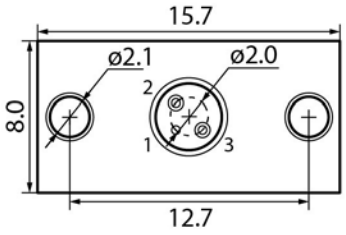
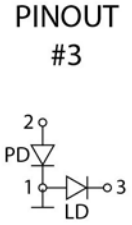
LDS-830-FP-20

PACKAGE B



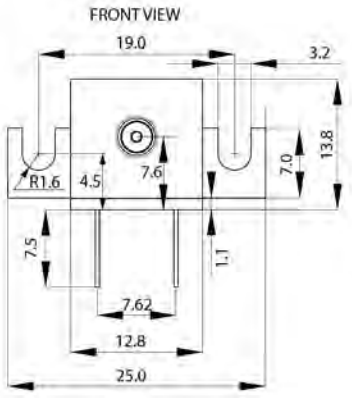


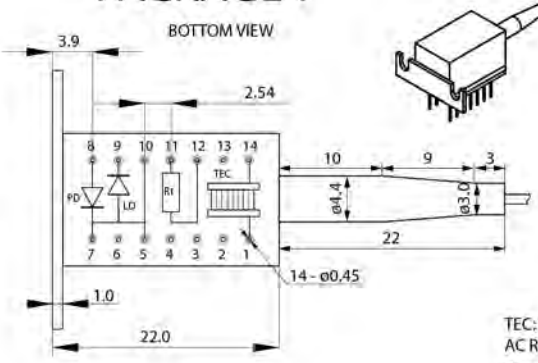


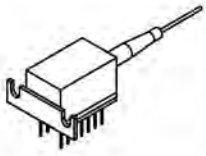
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T







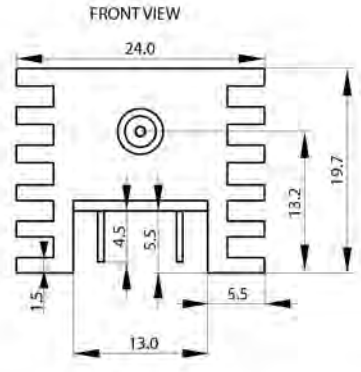
PINOUT #2, #3

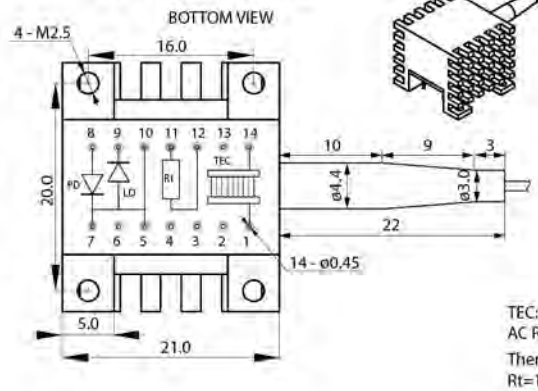
1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.PD Cathode, LD Anode
8.PD Anode
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

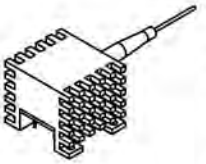
TEC: I_{max}=1.4A, U_{max}=3.9 V, Q_{max}=3.3 W,
AC R = 2.0 Ohm, ΔT_{max} = 69 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

PACKAGE E







PINOUT #2, #3

1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.PD Cathode, LD Anode
8.PD Anode
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

TEC: I_{max}=1.4A, U_{max}=3.9 V, Q_{max}=3.3 W,
AC R = 2.0 Ohm, ΔT_{max} = 69 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

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LDS-830-FP-20

Characteristics, data, materials and structures specified in this datasheet are subject to change without notice. Please refer to the latest specification before use of the products.

Safety and handling cautions

1. Avoid smashing and burning of the module. Avoid storing and using the module in conditions where water, organic solvents or aggressive acids or bases may contact the module or where there is a possibility of exposure to corrosive gases, explosive gases, dust, salinity or other harsh conditions. The module should be disposed as special industrial waste.
2. Exceeding absolute maximum ratings even for a short time can cause permanent damage of the module.
3. The module is sensitive to and can be broken by ESD (static electricity).

Conflict Minerals Policy Statement

LasersCom LLC achieves business objectives and customer needs with social responsibility. We do not support or contribute to the violence and human rights violations associated with the mining of conflict minerals coming from Conflict Regions according to US "Dodd-Frank Act". When possible, our suppliers' conflict mineral statements are reviewed. We do not directly purchase Conflict Minerals from any source and do not knowingly procure any parts and products containing Conflict Minerals from Conflict Regions.

RoHS Compliance Statement

Restriction of Hazardous Substances (RoHS) directive (Directive 2011/65/EC amended with Directive (EU) 2015/863) is the directive aimed at reducing the harmful environmental impact of waste electrical equipment by restricting the use of known dangerous substances. Based on information received from our supply sources, LasersCom LLC hereby states that the banned substances listed in the RoHS directive are not found in the parts and materials used above the threshold level listed other than exceptions approved by the European Commission.

REACH Compliance Statement

Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) is a European Union regulation 1907/2006/EC that addresses the production and use of chemical substances, and their potential impacts on human health and the environment. Based on information received from our supply sources, LasersCom LLC hereby states compliance of the parts and materials used in manufacturing to REACH regulation. LasersCom LLC does not manufacture or import any substances or preparations as defined under REACH.

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LDS-830-FP-50

OVERVIEW

LDS-830-FP-50 is the laser diode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Wavelength: 830 nm
- Cavity type: Fabry-Perot
- Optical power: up to 50 mW in CW mode in single-mode fiber Corning HI-780
- Package types: coaxial with bracket, 14 pin DIL
- Built-in monitor photodiode

APPLICATIONS

- Laser systems

ORDERING INFORMATION

LDS-830-FP-50-X-3-X-X-X-X

Case type

B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SM05: SM, Corning HI-780, furcation tubing ∅0.9 mm
SMP05: PM, Fujikura SM85, PANDA type, furcation tubing ∅0.9 mm
SM1: G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm
SM3: G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm
MM5: MM, 50/125, OM2, furcation tubing ∅0.9 mm
MM6: MM, 62.5/125, OM1, furcation tubing ∅0.9 mm
Other type on request

Connector type

FU: FC/UPC (SM05, SMP05, SM1, SM3, MM5, MM6)
FA: FC/APC (SM05, SMP05, SM1, SM3)
N: no connector
Other type: on request

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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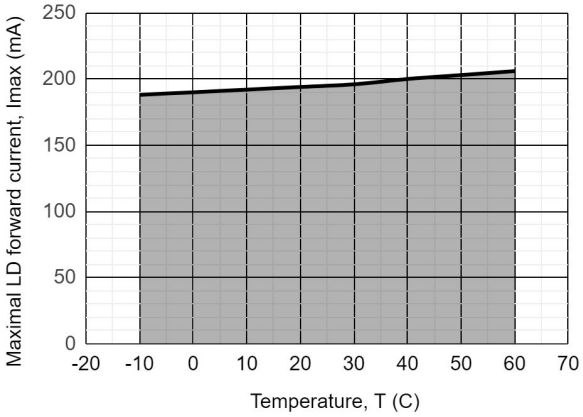
LDS-830-FP-50

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current*	Imax	195	mA	CW, T = 25°C
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	30	V	
Operating temperature**	T_{OP}	-10 - +60	°C	Package B
Operating temperature**	T_{OP}	-40 - +60	°C	Package T, E (Tst = 25°C)
Storage temperature	T_{stg}	-40 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 5 seconds

*Maximal laser diode forward current depends on the operating temperature. Please, refer to the figure below.



**Operating temperature is defined by the case temperature. It is recommended to ensure sufficient heat dissipation so that the module's maximum operating temperature is not exceeded.

Operating temperature for the DIL-14-pins case (T or E) with TEC is defined for internal temperature stabilization at Tst = 25°C that corresponds to thermistor resistance Rt = 10 kOhm.

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LDS-830-FP-50

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Optical power (CW)	P_{cw}	50			mW	CW, I_{op} = 190 mA, SM05
Mean wavelength	λ	815	830	840	nm	CW, I_{op} = 190 mA
Spectral width	Δλ		1	3	nm	CW, I_{op} = 190 mA
Wavelength-temperature coefficient	dλ/dT		0.14		nm/°C	CW, I_{op} = 190 mA
Threshold current	I_{th}		80	100	mA	
Slope efficiency	S_e	0.45	0.50		mW/mA	CW, SM05
Operating voltage	V_{op}		2.3	2.6	V	CW, I_{op} = 190 mA
Monitor current	I_m	0.1	0.4	1.0	mA	CW, I_{op} = 190 mA, V_r = 5 V
Polarization extinction ratio	PER	17			dB	CW, SMP05
Front-to-rear tracking error	E_r		0.2	0.8	dB	CW, P_{cw} = 3 mW, SM05, T = -10 ~ +50°C

Tracking error E_r = max |10 lg [P(T)/P(25°C)]|, I_m= const, T = T_{min} ~ T_{max}
Pulse mode: pulse width 10 μs, duty cycle = 1%

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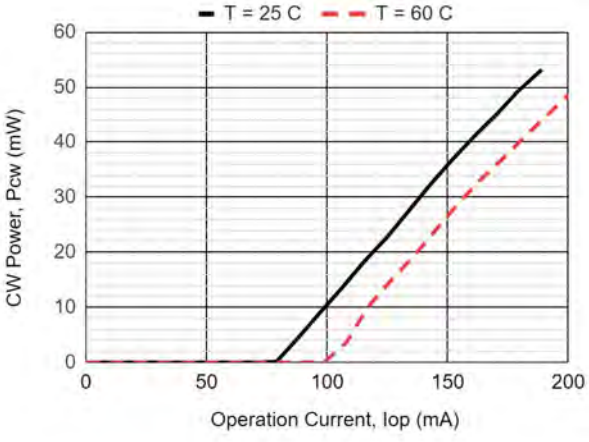
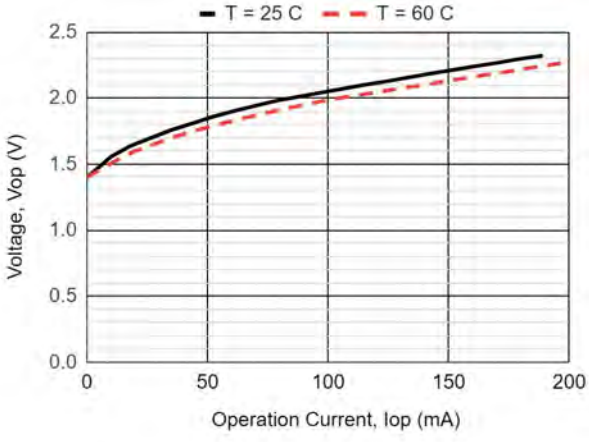
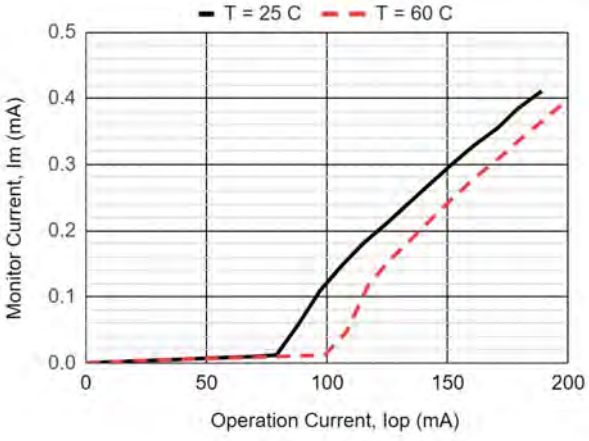
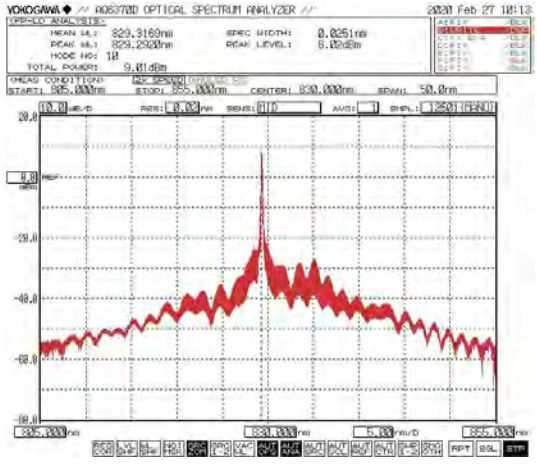
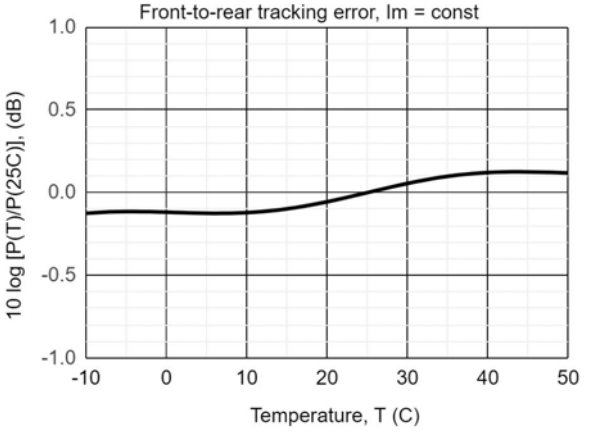
LDS-830-FP-50











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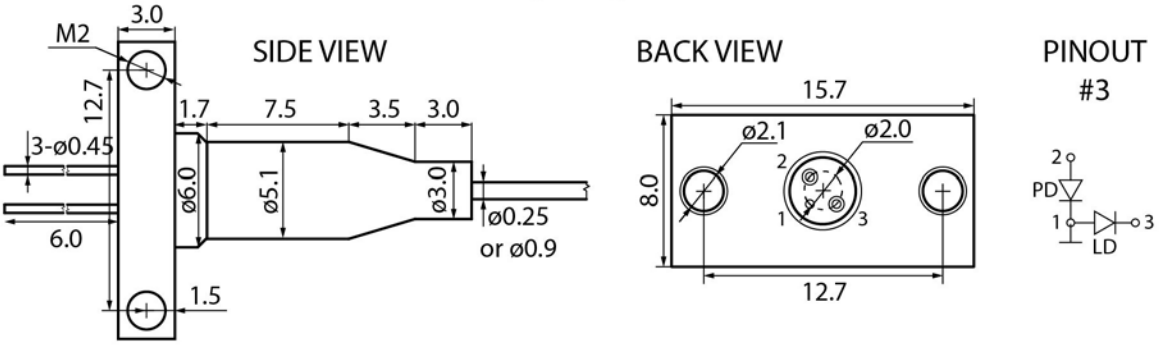
LDS-830-FP-50

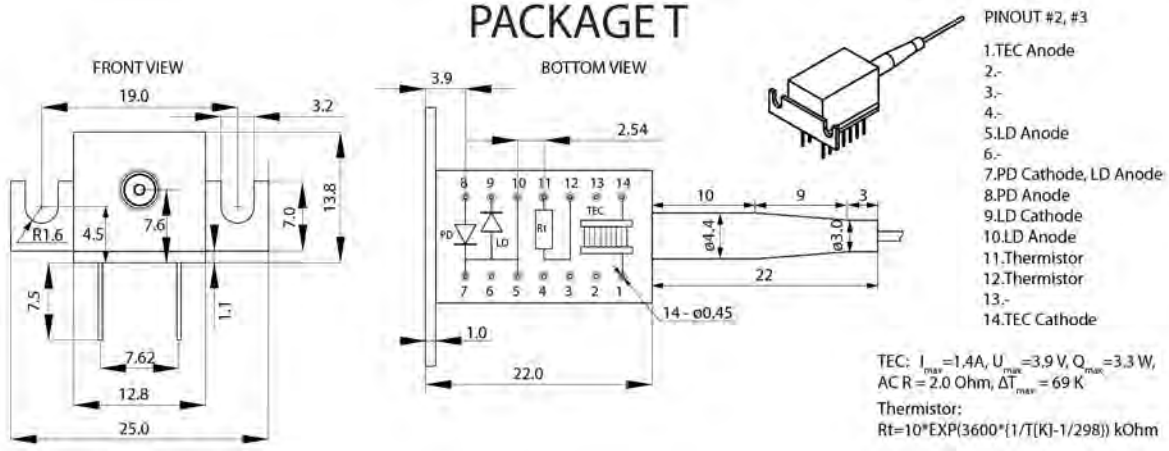
PACKAGE B



Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T



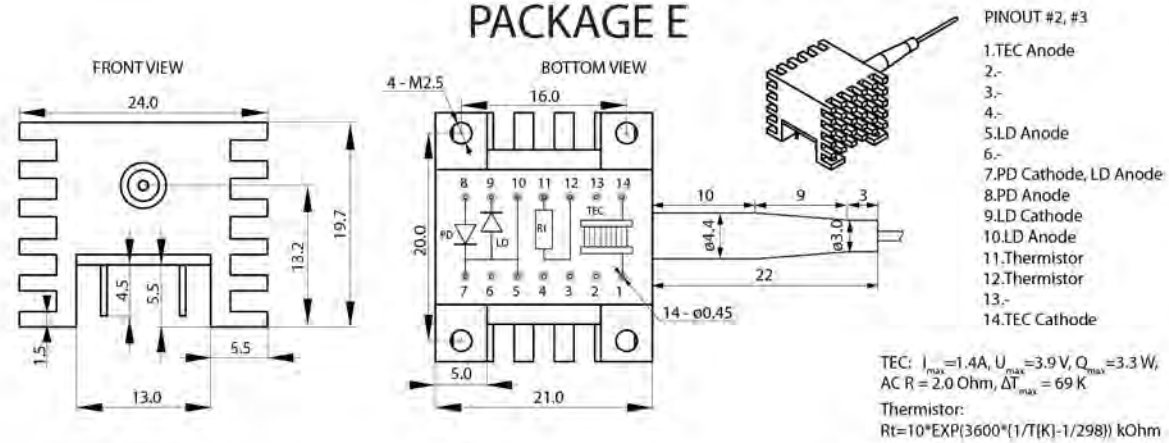
PINOUT #2, #3

1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.PD Cathode, LD Anode
8.PD Anode
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

TEC: I_{max}=1.4A, U_{max}=3.9 V, Q_{max}=3.3 W,
AC R = 2.0 Ohm, ΔT_{max} = 69 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

PACKAGE E



PINOUT #2, #3

1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.PD Cathode, LD Anode
8.PD Anode
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

TEC: I_{max}=1.4A, U_{max}=3.9 V, Q_{max}=3.3 W,
AC R = 2.0 Ohm, ΔT_{max} = 69 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

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LDS-830-FP-50

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Safety and handling cautions

1. Avoid smashing and burning of the module. Avoid storing and using the module in conditions where water, organic solvents or aggressive acids or bases may contact the module or where there is a possibility of exposure to corrosive gases, explosive gases, dust, salinity or other harsh conditions. The module should be disposed as special industrial waste.
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LDS-850-FP-50

OVERVIEW

LDS-850-FP-50 is the laser diode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Wavelength: 850 nm
- Cavity type: Fabry-Perot
- Optical power: up to 50 mW in CW mode in single-mode fiber Corning Hi-780
- Package types: coaxial with bracket, 14 pin DIL
- Built-in monitor photodiode

APPLICATIONS

- Laser systems

ORDERING INFORMATION

LDS-850-FP-50-X-3-X-X-X-X

Case type

B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SM05: SM, Corning Hi-780, furcation tubing ∅0.9 mm
SMP05: PM, Fujikura SM85, PANDA type, furcation tubing ∅0.9 mm
SM1: G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm
SM3: G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm
MM5: MM, 50/125, OM2, furcation tubing ∅0.9 mm
MM6: MM, 62.5/125, OM1, furcation tubing ∅0.9 mm
Other type on request

Connector type

FU: FC/UPC (SM05, SMP05, SM1, SM3, MM5, MM6)
FA: FC/APC (SM05, SMP05, SM1, SM3)
N: no connector
Other type: on request

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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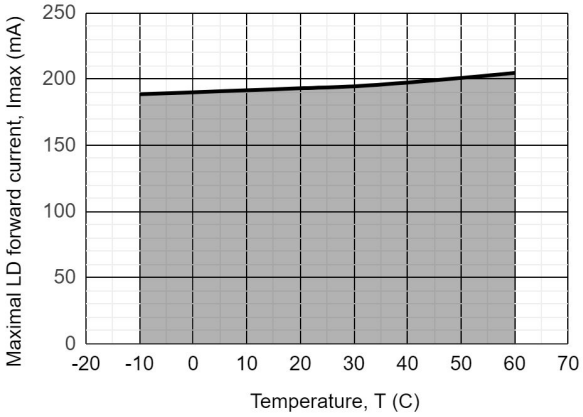
LDS-850-FP-50

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current*	Imax	190	mA	CW, T = 25°C
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	30	V	
Operating temperature**	T_{OP}	-10 - +60	°C	Package B
Operating temperature**	T_{OP}	-40 - +60	°C	Package T, E (Tst = 25°C)
Storage temperature	T_{stg}	-40 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 5 seconds

*Maximal laser diode forward current depends on the operating temperature. Please, refer to the figure below.



**Operating temperature is defined by the case temperature. It is recommended to ensure sufficient heat dissipation so that the module's maximum operating temperature is not exceeded.

Operating temperature for the DIL-14-pins case (T or E) with TEC is defined for internal temperature stabilization at Tst = 25°C that corresponds to thermistor resistance Rt = 10 kOhm.

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LDS-850-FP-50

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Optical power (CW)	P_{cw}	50			mW	CW, I_{op} = 190 mA, SM05
Mean wavelength	λ	840	850	860	nm	CW, I_{op} = 190 mA
Spectral width	Δλ		1	3	nm	CW, I_{op} = 190 mA
Wavelength-temperature coefficient	dλ/dT		0.20		nm/°C	CW, I_{op} = 190 mA
Threshold current	I_{th}		60	80	mA	
Slope efficiency	S_e	0.45	0.50		mW/mA	CW, SM05
Operating voltage	V_{op}		2.3	2.6	V	CW, I_{op} = 190 mA
Monitor current	I_m	0.1	0.4	1.0	mA	CW, I_{op} = 190 mA, V_r = 5 V
Polarization extinction ratio	PER	17			dB	CW, SMP05
Front-to-rear tracking error	E_r		0.2	0.8	dB	CW, P_{cw} = 3 mW, SM05, T = -10 ~ +50°C

Tracking error E_r = max |10 lg [P(T)/P(25°C)]|, I_m= const, T = T_{min} ~ T_{max}
Pulse mode: pulse width 10 μs, duty cycle = 1%

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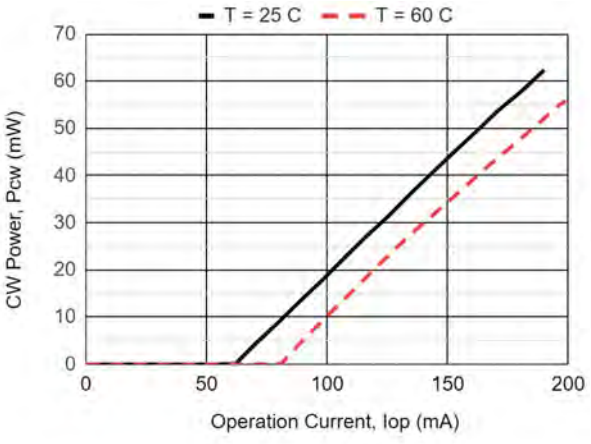
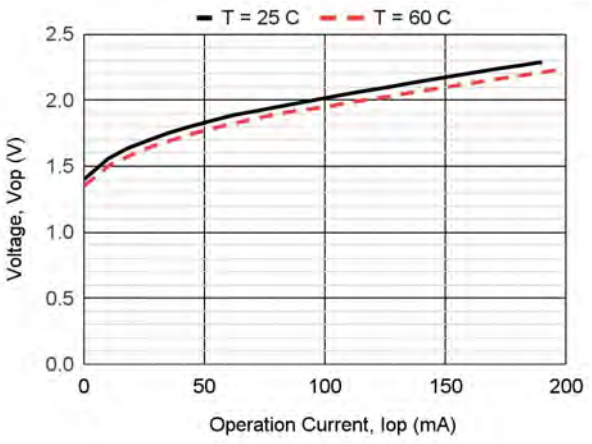
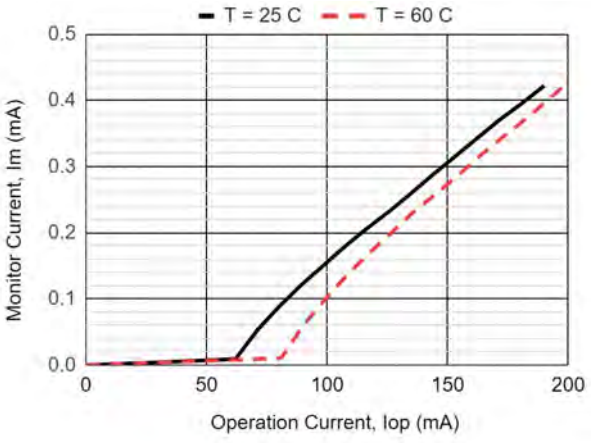
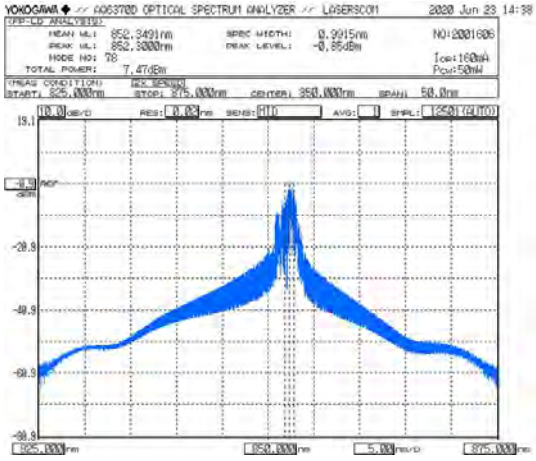
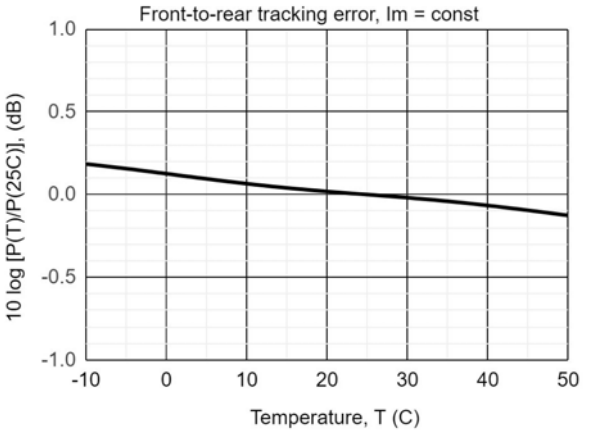
LDS-850-FP-50











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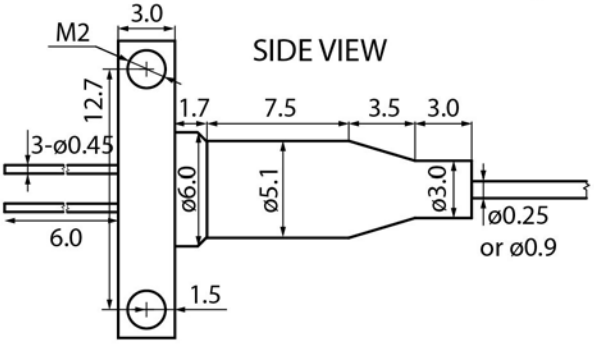
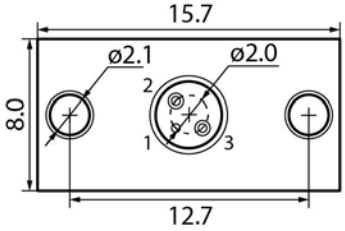
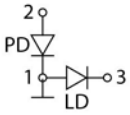
LDS-850-FP-50

PACKAGE B



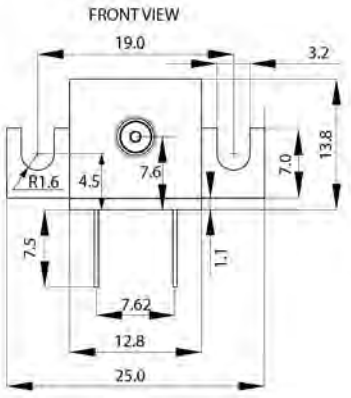


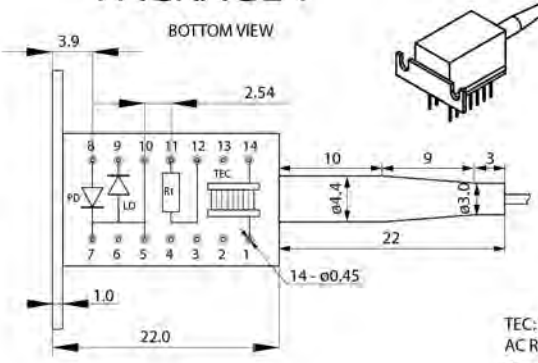


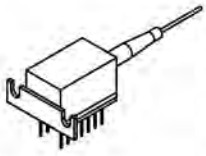
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T







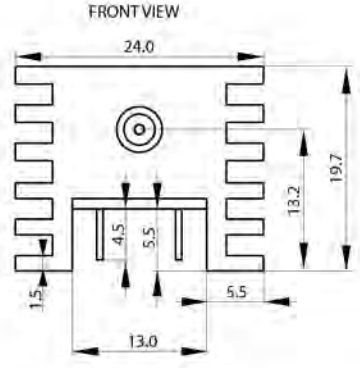
PINOUT #2, #3

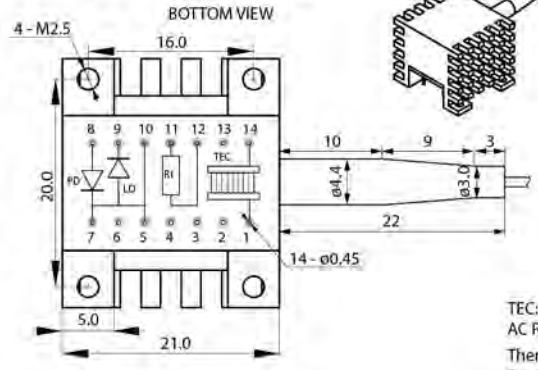
1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.PD Cathode, LD Anode
8.PD Anode
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

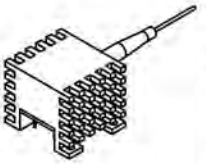
TEC: I_{max}=1.4A, U_{max}=3.9 V, Q_{max}=3.3 W,
AC R = 2.0 Ohm, ΔT_{max} = 69 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

PACKAGE E







PINOUT #2, #3

1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.PD Cathode, LD Anode
8.PD Anode
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

TEC: I_{max}=1.4A, U_{max}=3.9 V, Q_{max}=3.3 W,
AC R = 2.0 Ohm, ΔT_{max} = 69 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

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LDS-850-FP-50

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Safety and handling cautions

1. Avoid smashing and burning of the module. Avoid storing and using the module in conditions where water, organic solvents or aggressive acids or bases may contact the module or where there is a possibility of exposure to corrosive gases, explosive gases, dust, salinity or other harsh conditions. The module should be disposed as special industrial waste.
2. Exceeding absolute maximum ratings even for a short time can cause permanent damage of the module.
3. The module is sensitive to and can be broken by ESD (static electricity).

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LasersCom LLC achieves business objectives and customer needs with social responsibility. We do not support or contribute to the violence and human rights violations associated with the mining of conflict minerals coming from Conflict Regions according to US "Dodd-Frank Act". When possible, our suppliers' conflict mineral statements are reviewed. We do not directly purchase Conflict Minerals from any source and do not knowingly procure any parts and products containing Conflict Minerals from Conflict Regions.

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LDS-850-FP-3/20

OVERVIEW

LDS-850-FP-3/20 is the laser diode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Wavelength: 850 nm
- Cavity type: Fabry-Perot
- Optical power: up to 3 mW in CW mode, up to 20 mW in pulse mode, in single-mode fiber Corning HI 780
- Package types: coaxial or coaxial with bracket, 14 pin DIL
- Built-in monitor photodiode

APPLICATIONS

- Spectroscopy
- Biomedicine
- Sensorics

ORDERING INFORMATION

LDS-850-FP-3/20-X-3-X-X-X-X

Case type

U: compact coaxial
B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SM05: SM, Corning HI 780, furcation tubing ∅0.9 mm
SMP05: PM, Fujikura SM85, PANDA type, furcation tubing ∅0.9 mm
SM1: G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm
SM3: G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm
MM5: MM, 50/125, OM2, furcation tubing ∅0.9 mm
MM6: MM, 62.5/125, OM1, furcation tubing ∅0.9 mm
Other type on request

Connector type

FU: FC/UPC (SM05, SMP05, SM1, SM3, MM5, MM6)
FA: FC/APC (SM05, SMP05, SM1, SM3)
N: no connector
Other type: on request

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)
P: pulse mode
CWP: both CW and pulse mode

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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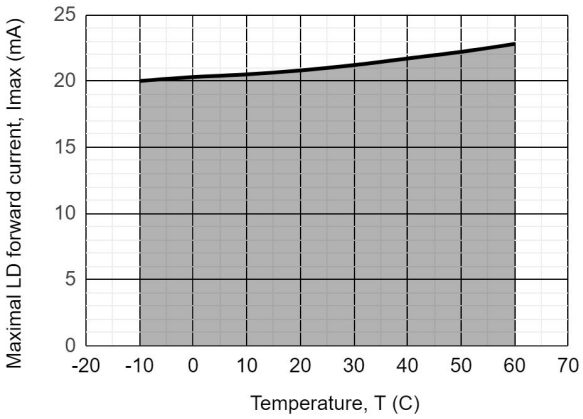
LDS-850-FP-3/20

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current*	Imax	21	mA	CW, T = 25°C
Laser diode forward current	Ipmax	80	mA	CW, T = 25°C, pulse width 10 us, cycle duty 1%
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	30	V	
Operating temperature**	T_{OP}	-10 - +60	°C	Package B
Operating temperature**	T_{OP}	-40 - +60	°C	Package T, E (Tst = 25°C)
Storage temperature	T_{stg}	-40 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 5 seconds

*Maximal laser diode forward current depends on the operating temperature. Please, refer to the figure below.



**Operating temperature is defined by the case temperature. It is recommended to ensure sufficient heat dissipation so that the module's maximum operating temperature is not exceeded.

Operating temperature for the DIL-14-pins case (T or E) with TEC is defined for internal temperature stabilization at Tst = 25°C that corresponds to thermistor resistance Rt = 10 kOhm.

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LDS-850-FP-3/20

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Optical power (CW)	P_{cw}	3			mW	CW, I_{op} = 21 mA, SM05
Optical power (pulse)	P_p	17			mW	CW, I_p = 80 mA
Mean wavelength	λ	845	850	855	nm	CW, I_{op} = 21 mA
Spectral width	Δλ		1	3	nm	CW, I_{op} = 21 mA
Wavelength-temperature coefficient	dλ/dT		0.08		nm/°C	CW, I_{op} = 21 mA
Threshold current	I_{th}		9	12	mA	
Slope efficiency	S_e	0.25	0.30		mW/mA	CW, SM05
Operating voltage	V_{op}		1.7	2.2	V	CW, I_{op} = 21 mA
Monitor current	I_m	0.1	0.3	0.5	mA	CW, I_{op} = 21 mA, V_r = 5 V
Polarization extinction ratio	PER	17			dB	CW, SMP05
Front-to-rear tracking error	E_r		0.3	0.8	dB	CW, P_{cw} = 3 mW, SM05, T = -10 ~ +50°C

Tracking error E_r = max |10 lg [P(T)/P(25°C)]]|, I_m= const, T = T_{min} ~ T_{max}
Pulse mode: pulse width 10 μs, duty cycle = 1%

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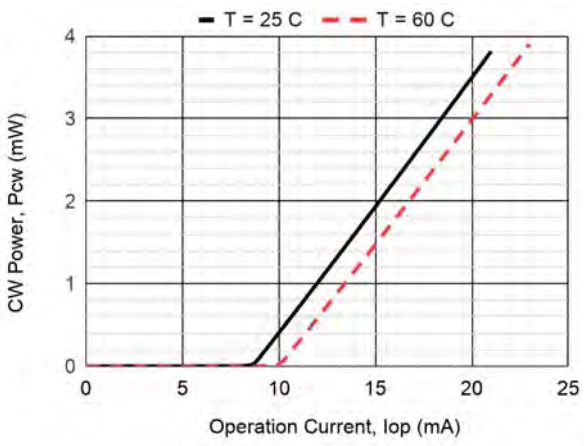
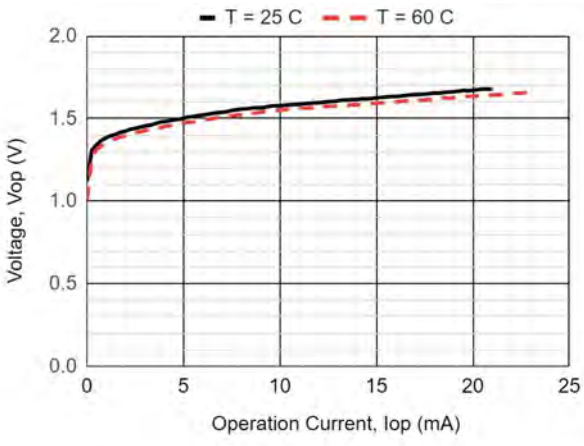
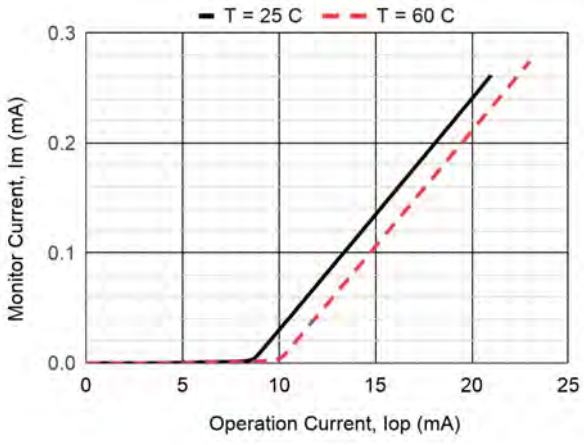
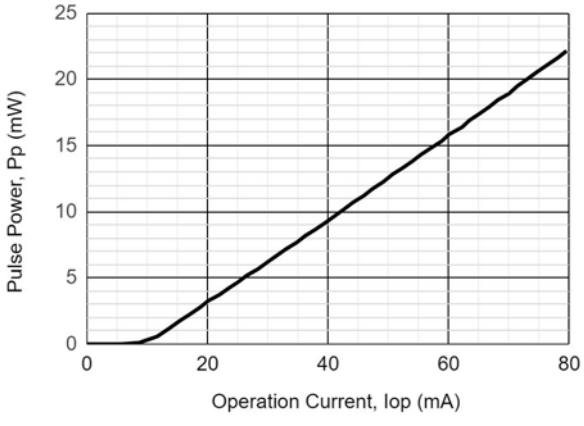
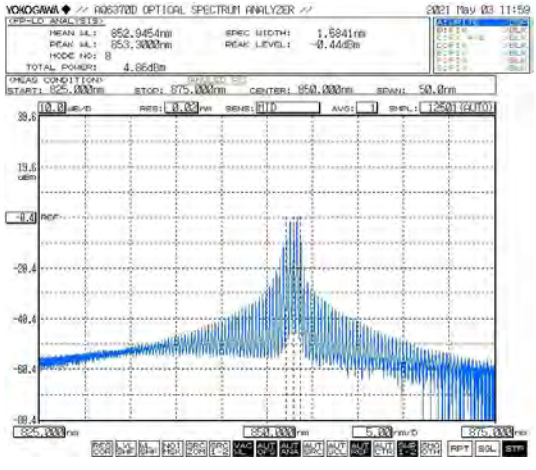
LDS-850-FP-3/20

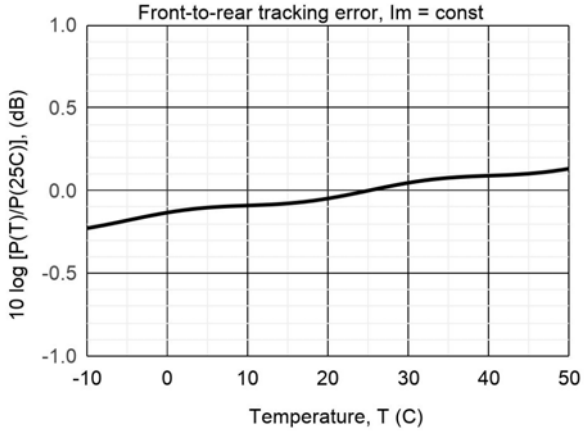












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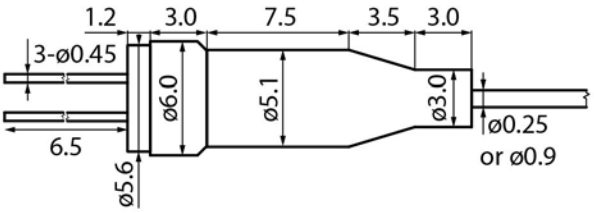
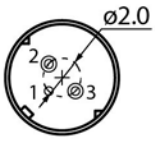
LDS-850-FP-3/20

PACKAGE U

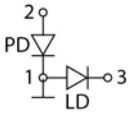
SIDE VIEW



BACK VIEW



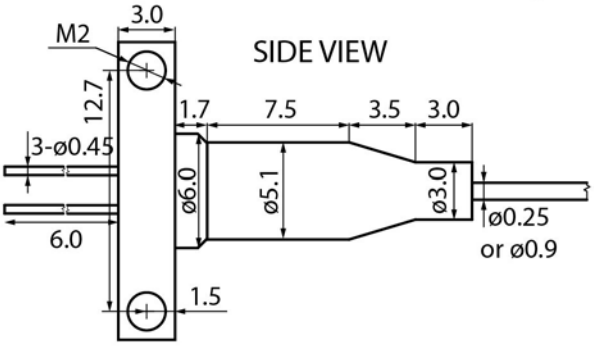
PINOUT #3



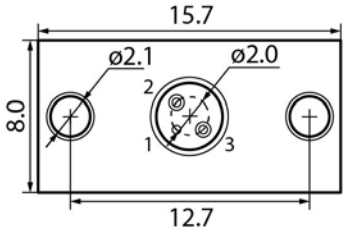
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

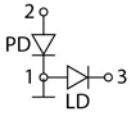
PACKAGE B



BACK VIEW



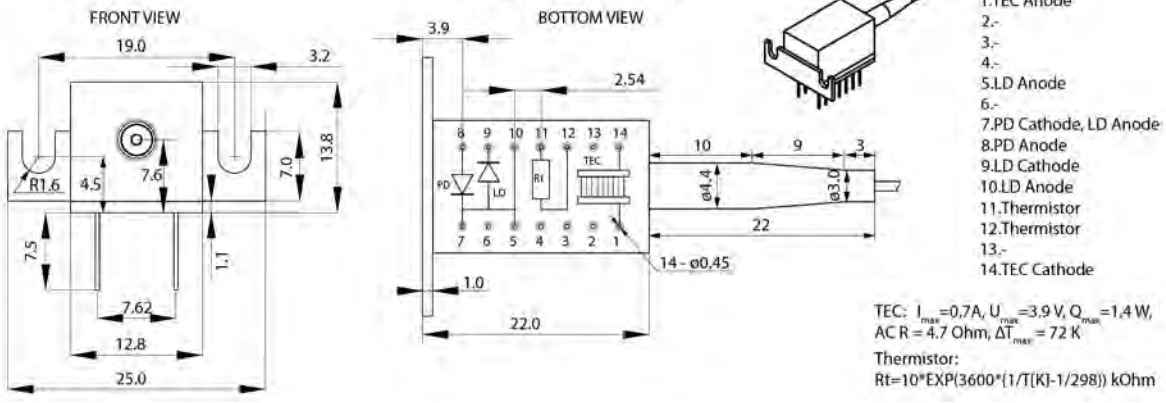
PINOUT #3



Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T



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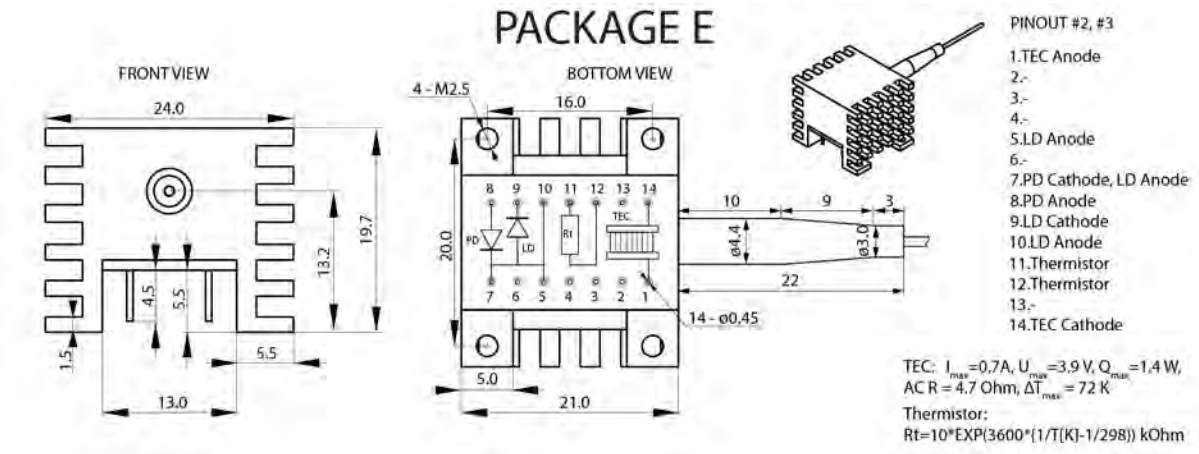

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LDS-850-FP-3/20

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LDS-850-FP-15/45

OVERVIEW

LDS-850-FP-15/45 is the laser diode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Wavelength: 850 nm
- Cavity type: Fabry-Perot
- Optical power: up to 15 mW in CW mode and up to 45 mW in pulse mode in single-mode fiber Corning HI-780
- Package types: coaxial with bracket, 14 pin DIL
- Built-in monitor photodiode

APPLICATIONS

- Laser Systems

ORDERING INFORMATION

LDS-850-FP-15/45-X-3-X-X-X-X

Case type

B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SM05: SM, Corning Hi-780, furcation tubing ∅0.9 mm
SMP05: PM, Fujikura SM85, PANDA type, furcation tubing ∅0.9 mm
SM1: G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm
SM3: G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm
MM5: MM, 50/125, OM2, furcation tubing ∅0.9 mm
MM6: MM, 62.5/125, OM1, furcation tubing ∅0.9 mm
Other type on request

Connector type

FU: FC/UPC (SM05, SMP05, SM1, SM3, MM5, MM6)
FA: FC/APC (SM05, SMP05, SM1, SM3)
N: no connector
Other type: on request

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)
P: pulse mode (10 us pulse, cycle duty 1%)
CWP: both CW and pulse mode

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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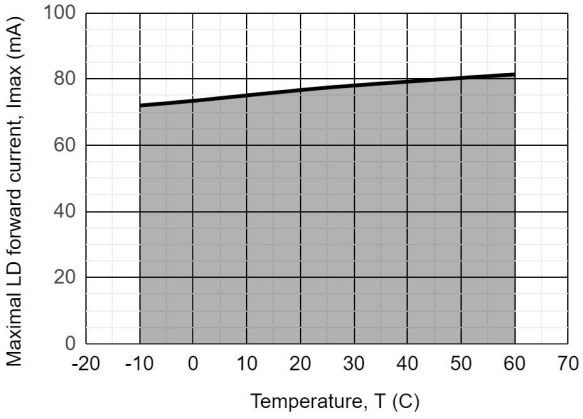
LDS-850-FP-15/45

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current*	I_{max}	75	mA	CW, T = 25°C
Laser diode forward current	I_{pmax}	150	mA	Pulse, T = 25°C, pulse width 10 us, cycle duty 1%
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	30	V	
Operating temperature**	T_{OP}	-10 - +60	°C	Package B
Operating temperature**	T_{OP}	-40 - +60	°C	Package T, E (Tst = 25°C)
Storage temperature	T_{stg}	-40 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 5 seconds

*Maximal laser diode forward current depends on the operating temperature. Please, refer to the figure below.



**Operating temperature is defined by the case temperature. It is recommended to ensure sufficient heat dissipation so that the module's maximum operating temperature is not exceeded.

Operating temperature for the DIL-14-pins case (T or E) with TEC is defined for internal temperature stabilization at Tst = 25°C that corresponds to thermistor resistance Rt = 10 kOhm.

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LDS-850-FP-15/45

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Optical power (CW)	P_{cw}	15			mW	CW, I_{op} = 75 mA, SM05
Optical power (pulse)	P_p	45			mW	CW, I_p = 150 mA
Mean wavelength	λ	842	852	862	nm	CW, I_{op} = 75 mA
Spectral width	Δλ		1	3	nm	CW, I_{op} = 75 mA
Wavelength-temperature coefficient	dλ/dT		0.26		nm/°C	CW, I_{op} = 75 mA
Threshold current	I_{th}		25	35	mA	
Slope efficiency	S_e	0.30	0.40		mW/mA	CW, SM05
Operating voltage	V_{op}		2.0	2.4	V	CW, I_{op} = 75 mA
Monitor current	I_m	0.1	0.2	0.5	mA	CW, I_{op} = 75 mA, V_r = 5 V
Polarization extinction ratio	PER	17			dB	CW, SMP05
Front-to-rear tracking error	E_r		0.3	0.8	dB	CW, P_{cw} = 3 mW, SM05, T = -10 ~ +50°C

Tracking error E_r = max |10 lg [P(T)/P(25°C)]]|, I_m= const, T = T_{min} ~ T_{max}
Pulse mode: pulse width 10 μs, duty cycle = 1%

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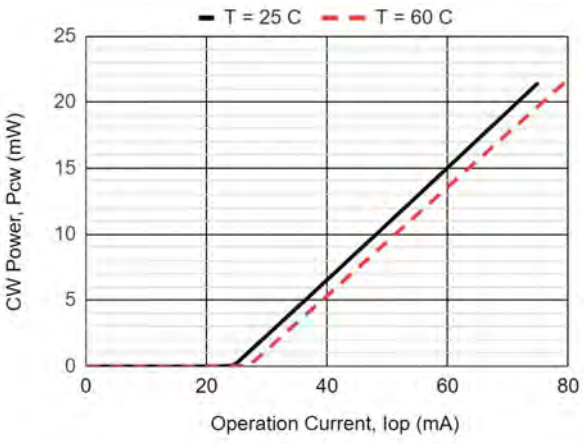
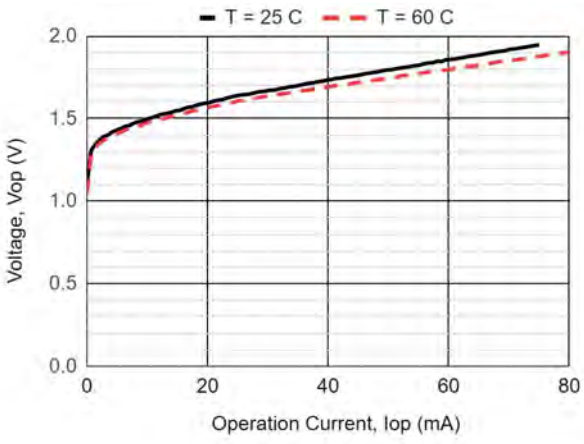
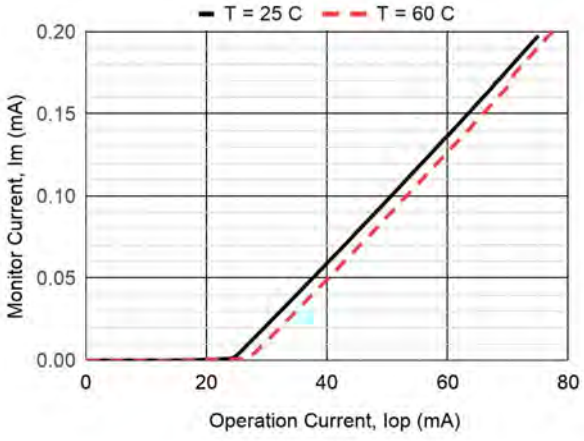
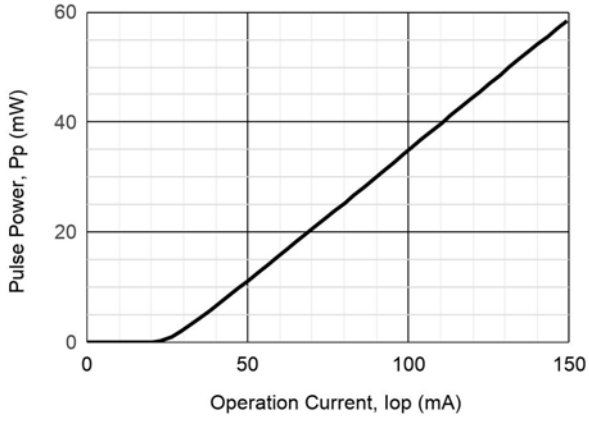
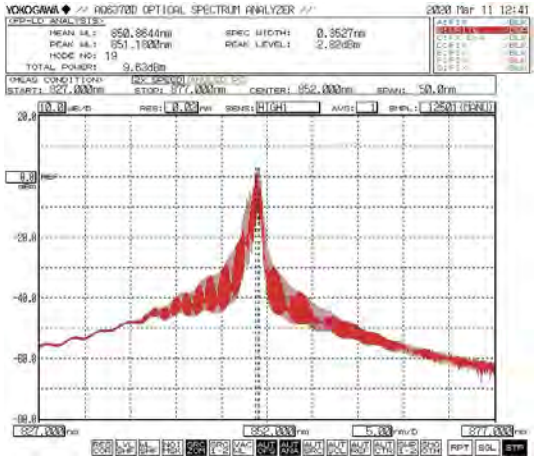
LDS-850-FP-15/45

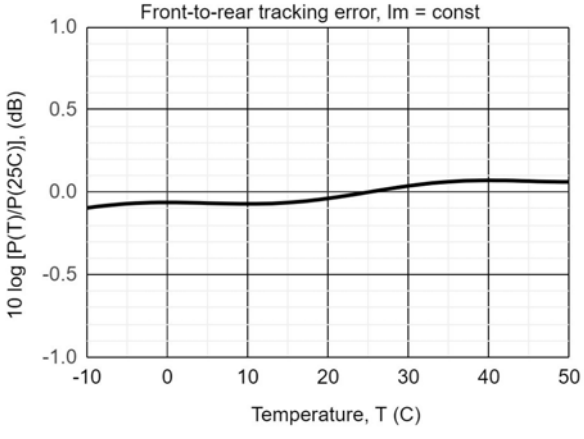












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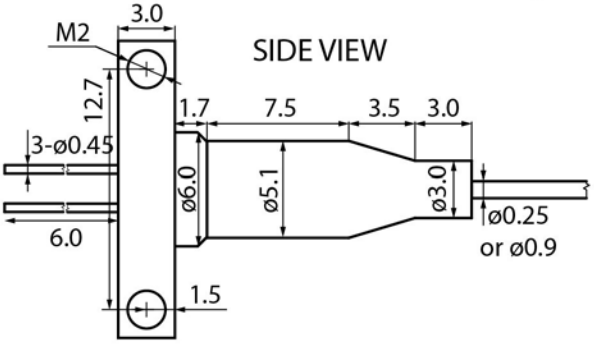
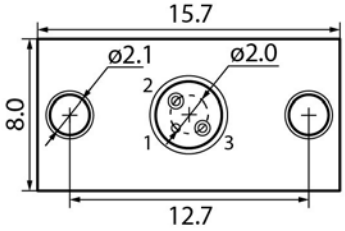
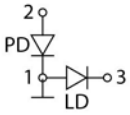
LDS-850-FP-15/45

PACKAGE B



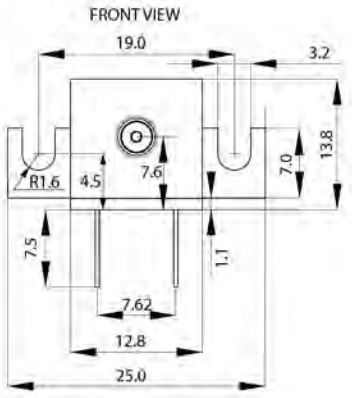


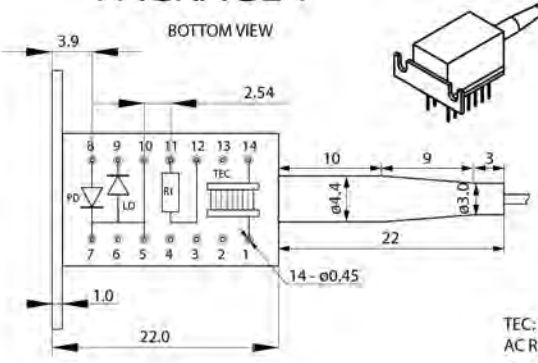


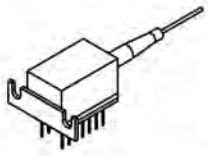
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T







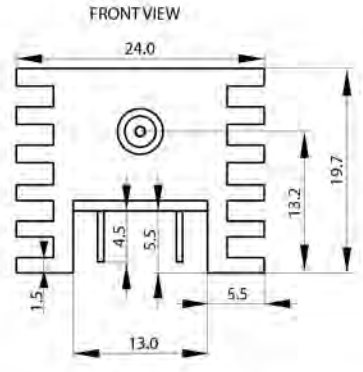
PINOUT #2, #3

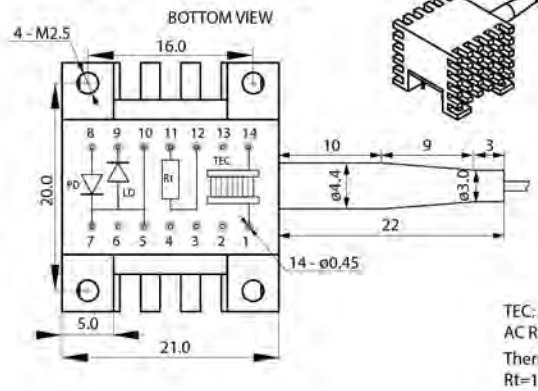
1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.PD Cathode, LD Anode
8.PD Anode
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

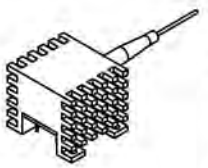
TEC: I_{max}=0,7A, U_{max}=3.9 V, Q_{max}=1,4 W,
AC R = 4.7 Ohm, ΔT_{max} = 72 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

PACKAGE E







PINOUT #2, #3

1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.PD Cathode, LD Anode
8.PD Anode
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

TEC: I_{max}=0,7A, U_{max}=3.9 V, Q_{max}=1,4 W,
AC R = 4.7 Ohm, ΔT_{max} = 72 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

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LDS-850-FP-15/45

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Safety and handling cautions

1. Avoid smashing and burning of the module. Avoid storing and using the module in conditions where water, organic solvents or aggressive acids or bases may contact the module or where there is a possibility of exposure to corrosive gases, explosive gases, dust, salinity or other harsh conditions. The module should be disposed as special industrial waste.
2. Exceeding absolute maximum ratings even for a short time can cause permanent damage of the module.
3. The module is sensitive to and can be broken by ESD (static electricity).

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LasersCom LLC achieves business objectives and customer needs with social responsibility. We do not support or contribute to the violence and human rights violations associated with the mining of conflict minerals coming from Conflict Regions according to US "Dodd-Frank Act". When possible, our suppliers' conflict mineral statements are reviewed. We do not directly purchase Conflict Minerals from any source and do not knowingly procure any parts and products containing Conflict Minerals from Conflict Regions.

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LDS-880-FP-3

OVERVIEW

LDS-880-FP-3 is the laser diode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Wavelength: 880 nm
- Cavity type: Fabry-Perot
- Optical power: 3 mW in CW mode in single-mode fiber Corning HI 780
- Package types: coaxial or coaxial with bracket, 14 pin DIL
- Built-in monitor photodiode

APPLICATIONS

- Spectroscopy
- Biomedicine
- Sensorics

ORDERING INFORMATION

LDS-880-FP-3-X-3-X-X-X-X

Case type

U: compact coaxial
B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SM05: SM, Corning HI 780, furcation tubing ∅0.9 mm
SMP05: PM, Fujikura SM85, PANDA type, furcation tubing ∅0.9 mm
SM1: G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm
SM3: G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm
MM5: MM, 50/125, OM2, furcation tubing ∅0.9 mm
MM6: MM, 62.5/125, OM1, furcation tubing ∅0.9 mm
Other type on request

Connector type

FU: FC/UPC (SM05, SMP05, SM1, SM3, MM5, MM6)
FA: FC/APC (SM05, SMP05, SM1, SM3)
N: no connector
Other type: on request

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)
P: pulse mode
CWP: both CW and pulse mode

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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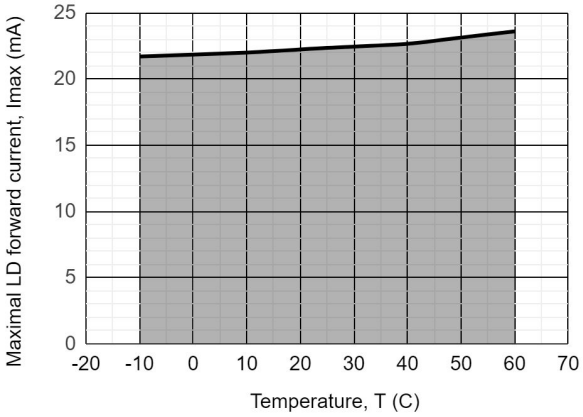
LDS-880-FP-3

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current*	Imax	22	mA	CW, T = 25°C
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	30	V	
Operating temperature**	T_{OP}	-10 - +60	°C	Package B
Operating temperature**	T_{OP}	-40 - +60	°C	Package T, E (Tst = 25°C)
Storage temperature	T_{stg}	-40 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 5 seconds

*Maximal laser diode forward current depends on the operating temperature. Please, refer to the figure below.



**Operating temperature is defined by the case temperature. It is recommended to ensure sufficient heat dissipation so that the module's maximum operating temperature is not exceeded.

Operating temperature for the DIL-14-pins case (T or E) with TEC is defined for internal temperature stabilization at Tst = 25°C that corresponds to thermistor resistance Rt = 10 kOhm.

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LDS-880-FP-3

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Optical power (CW)	P_{cw}	3			mW	CW, I_{op} = 22 mA, SM05
Mean wavelength	λ	870	880	890	nm	CW, I_{op} = 22 mA
Spectral width	Δλ		1	3	nm	CW, I_{op} = 22 mA
Wavelength-temperature coefficient	dλ/dT		0.27		nm/°C	CW, I_{op} = 22 mA
Threshold current	I_{th}		8	13	mA	
Slope efficiency	S_e	0.21	0.28		mW/mA	CW, SM05
Operating voltage	V_{op}		1.9	2.1	V	CW, I_{op} = 22 mA
Monitor current	I_m	0.1	0.4	0.7	mA	CW, I_{op} = 22 mA, V_r = 5 V
Polarization extinction ratio	PER	17			dB	CW, SMP05
Front-to-rear tracking error	E_r		0.3	0.8	dB	CW, P_{cw} = 3 mW, SM05, T = -10 ~ +50°C

Tracking error E_r = max |10 lg [P(T)/P(25°C)]|, I_m= const, T = T_{min} ~ T_{max}
Pulse mode: pulse width 10 μs, duty cycle = 1%

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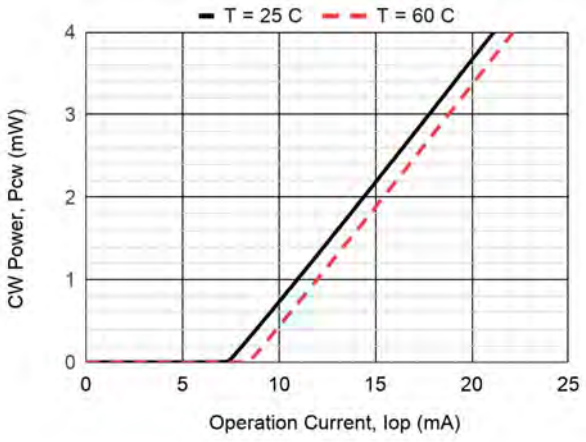
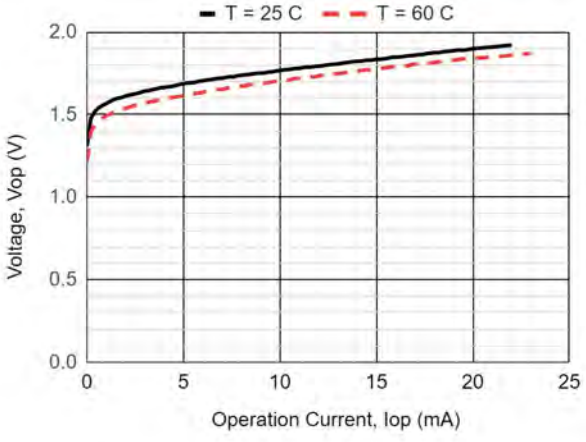
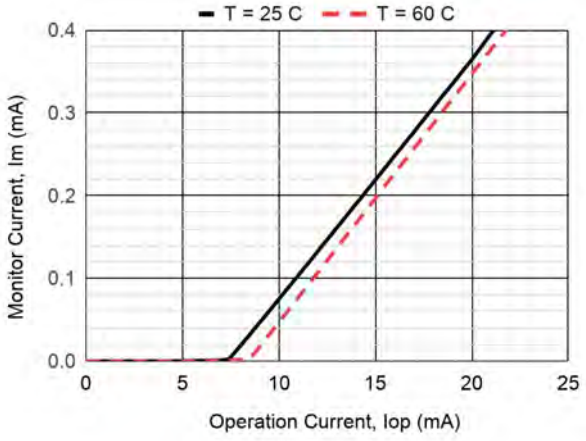
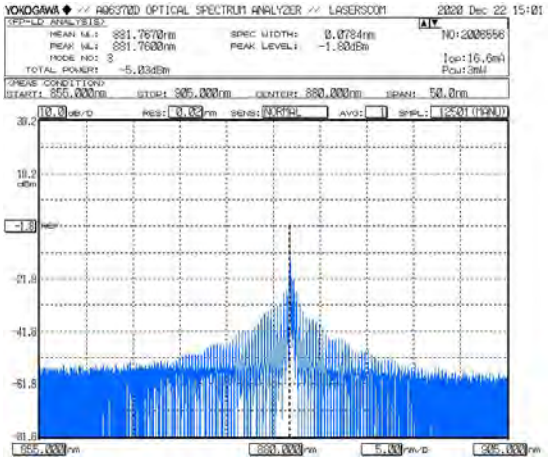
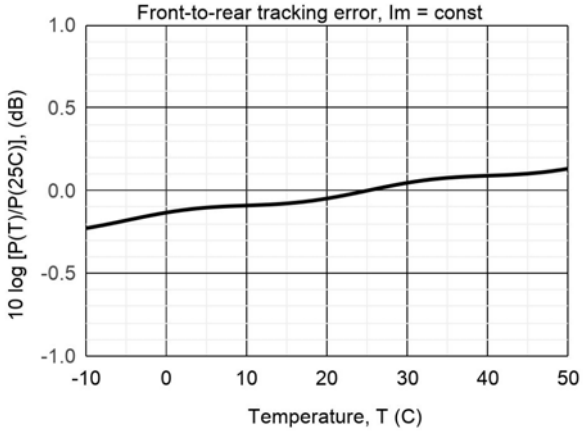
LDS-880-FP-3











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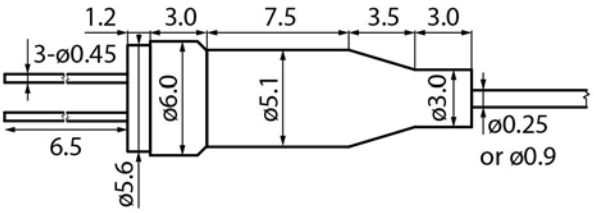
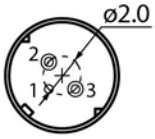
LDS-880-FP-3

PACKAGE U

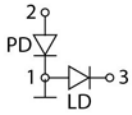
SIDE VIEW



BACK VIEW



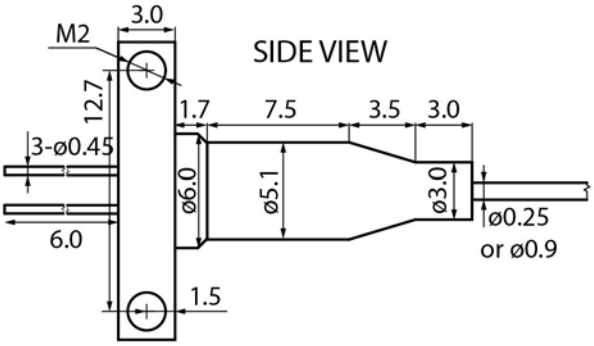
PINOUT #3



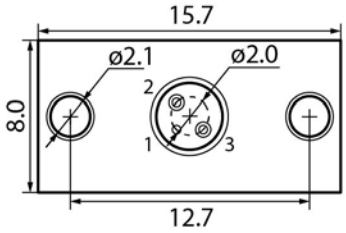
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

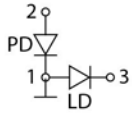
PACKAGE B



BACK VIEW



PINOUT #3

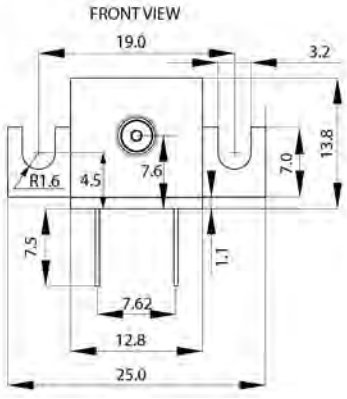


Connector FC/UPC, FC/APC, no connector, or by request

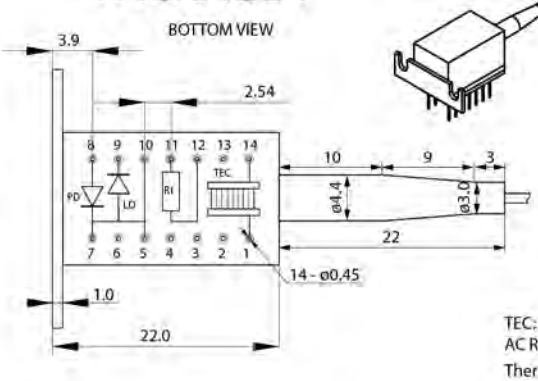
Fiber length 500+/-50, 1000+/-100, or by request

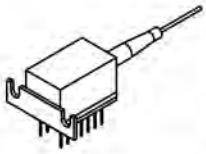
PACKAGE T

FRONT VIEW



BOTTOM VIEW





PINOUT #2, #3

1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.PD Cathode, LD Anode
8.PD Anode
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

TEC: I_{max}=0,7A, U_{max}=3.9 V, Q_{max}=1,4 W,
AC R = 4.7 Ohm, ΔT_{max} = 72 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

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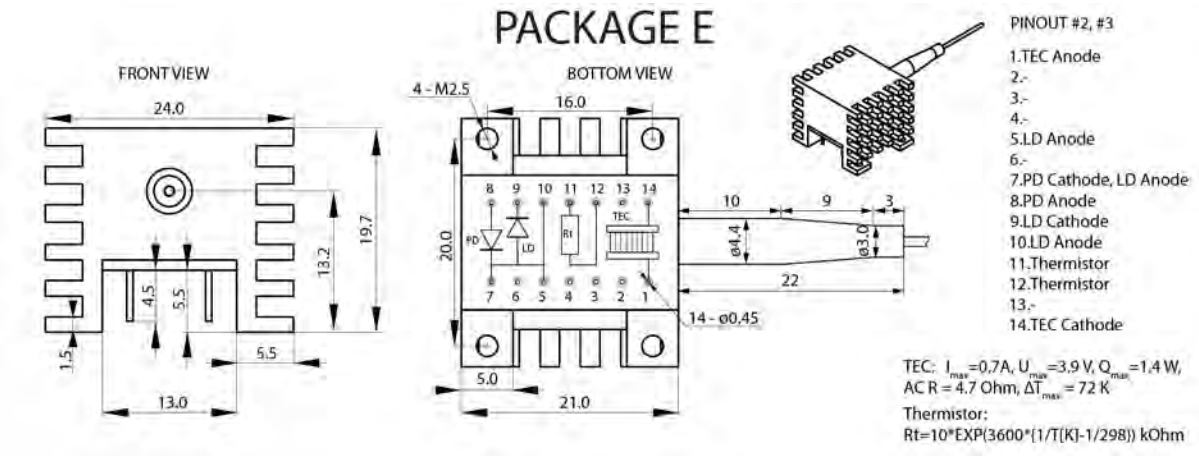
LDS-880-FP-3



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LDS-880-FP-3

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LDS-905-FP-3

OVERVIEW

LDS-905-FP-3 is the laser diode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Wavelength: 905 nm
- Cavity type: Fabry-Perot
- Optical power: 3 mW in CW mode in single-mode fiber Corning Hi-780
- Package types: coaxial with bracket, 14 pins DIL
- Built-in monitor photodiode

APPLICATIONS

- Laser systems

ORDERING INFORMATION

LDS-905-FP-3-X-3-X-X-X-X

Case type

B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SM05: SM, Corning HI 780, furcation tubing ∅0.9 mm
SMP05: PM, Fujikura SM85, PANDA type, furcation tubing ∅0.9 mm
SM1: G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm
SM3: G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm
MM5: MM, 50/125, OM2, furcation tubing ∅0.9 mm
MM6: MM, 62.5/125, OM1, furcation tubing ∅0.9 mm
Other type on request

Connector type

FU: FC/UPC
FA: FC/APC
N: no connector
Other type: on request

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C)

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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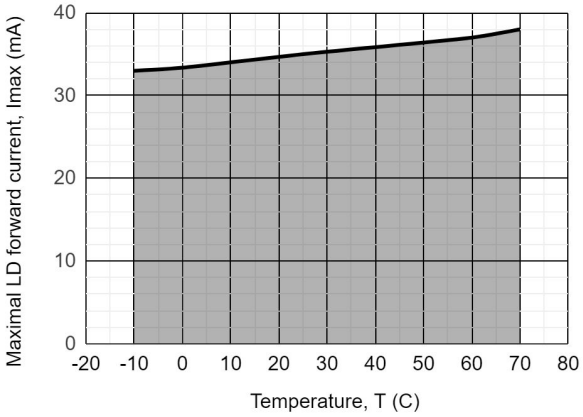
LDS-905-FP-3

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current*	Imax	35	mA	CW, T = 25°C
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	30	V	
Operating temperature**	T_{OP}	-10 - +70	°C	Package B
Operating temperature**	T_{OP}	-40 - +60	°C	Package T, E (Tst = 25°C)
Storage temperature	T_{stg}	-40 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 5 seconds

*Maximal laser diode forward current depends on the operating temperature. Please, refer to the figure below.



**Operating temperature is defined by the case temperature. It is recommended to ensure sufficient heat dissipation so that the module's maximum operating temperature is not exceeded.

Operating temperature for the DIL-14-pins case (T or E) with TEC is defined for internal temperature stabilization at Tst = 25°C that corresponds to thermistor resistance Rt = 10 kOhm.

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LDS-905-FP-3

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Optical power (CW)	P_{cw}	3			mW	CW, I_{op} = 35 mA, SM05
Mean wavelength	λ	895	905	915	nm	CW, I_{op} = 35 mA
Spectral width	Δλ		1	3	nm	CW, I_{op} = 35 mA
Wavelength-temperature coefficient	dλ/dT		0.17		nm/°C	CW, I_{op} = 35 mA
Threshold current	I_{th}		15	25	mA	
Slope efficiency	S_e	0.15	0.20		mW/mA	CW, SM05
Operating voltage	V_{op}		1.6	2.0	V	CW, I_{op} = 35 mA
Monitor current	I_m	0.1	0.3	0.6	mA	CW, I_{op} = 35 mA, V_r = 5 V
Polarization extinction ratio	PER	17			dB	CW, SMP05
Front-to-rear tracking error	E_r		0.2	0.8	dB	CW, P_{cw} = 3 mW, SM05, T = -10 ~ +50°C

Tracking error E_r = max |10 lg [P(T)/P(25°C)]|, I_m= const, T = T_{min} ~ T_{max}
Pulse mode: pulse width 10 μs, duty cycle = 1%

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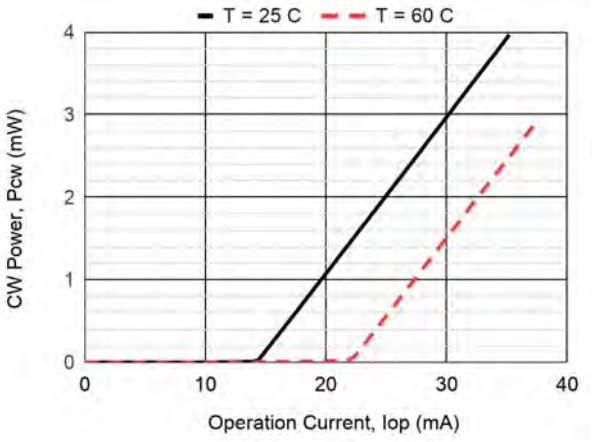
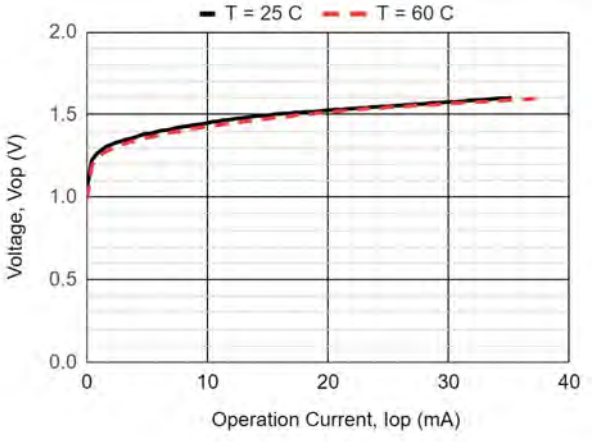
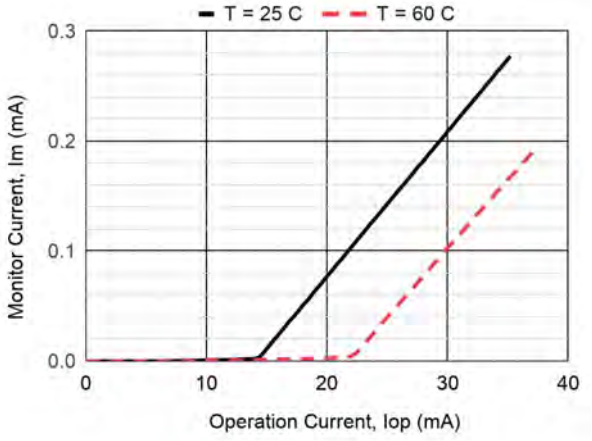
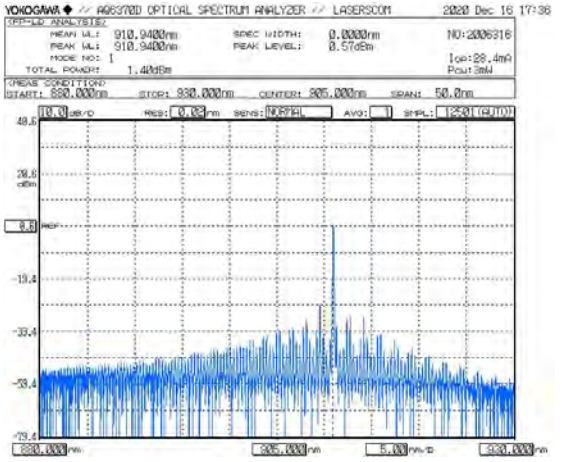
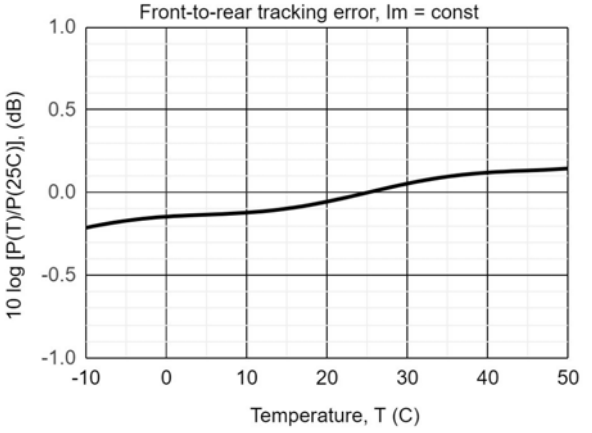
LDS-905-FP-3











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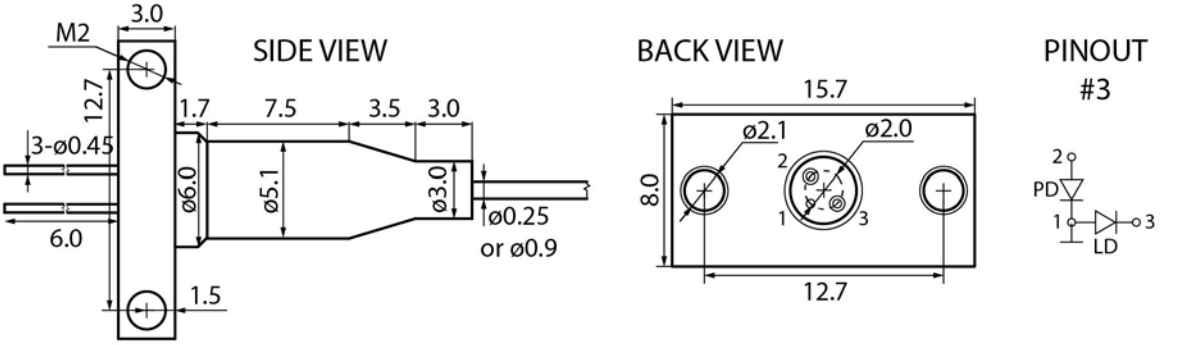
LDS-905-FP-3

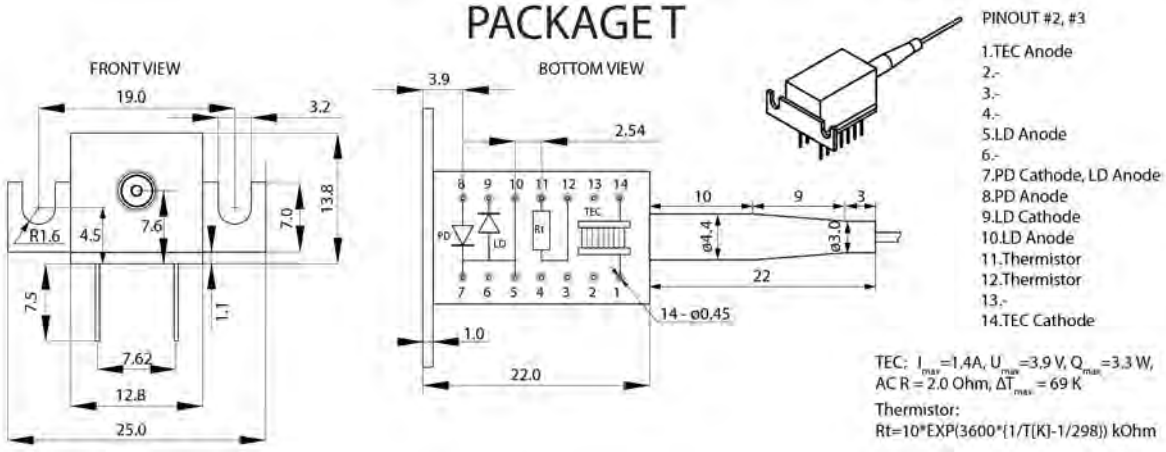
PACKAGE B



Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T



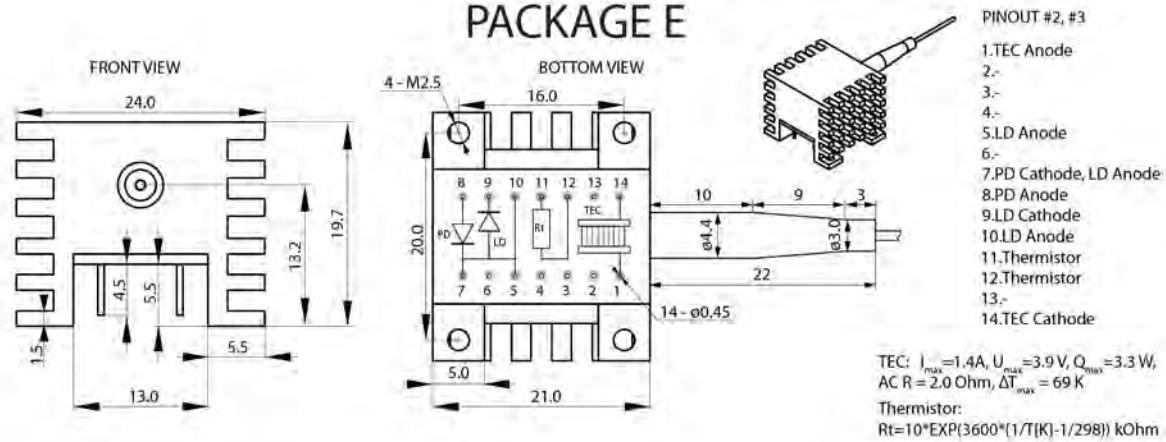
PINOUT #2, #3

1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.PD Cathode, LD Anode
8.PD Anode
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

TEC: I_{max}=1.4A, U_{max}=3.9 V, Q_{max}=3.3 W,
AC R = 2.0 Ohm, ΔT_{max} = 69 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

PACKAGE E



PINOUT #2, #3

1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.PD Cathode, LD Anode
8.PD Anode
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

TEC: I_{max}=1.4A, U_{max}=3.9 V, Q_{max}=3.3 W,
AC R = 2.0 Ohm, ΔT_{max} = 69 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

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LDS-905-FP-3

Characteristics, data, materials and structures specified in this datasheet are subject to change without notice. Please refer to the latest specification before use of the products.

Safety and handling cautions

1. Avoid smashing and burning of the module. Avoid storing and using the module in conditions where water, organic solvents or aggressive acids or bases may contact the module or where there is a possibility of exposure to corrosive gases, explosive gases, dust, salinity or other harsh conditions. The module should be disposed as special industrial waste.
2. Exceeding absolute maximum ratings even for a short time can cause permanent damage of the module.
3. The module is sensitive to and can be broken by ESD (static electricity).

Conflict Minerals Policy Statement

LasersCom LLC achieves business objectives and customer needs with social responsibility. We do not support or contribute to the violence and human rights violations associated with the mining of conflict minerals coming from Conflict Regions according to US "Dodd-Frank Act". When possible, our suppliers' conflict mineral statements are reviewed. We do not directly purchase Conflict Minerals from any source and do not knowingly procure any parts and products containing Conflict Minerals from Conflict Regions.

RoHS Compliance Statement

Restriction of Hazardous Substances (RoHS) directive (Directive 2011/65/EC amended with Directive (EU) 2015/863) is the directive aimed at reducing the harmful environmental impact of waste electrical equipment by restricting the use of known dangerous substances. Based on information received from our supply sources, LasersCom LLC hereby states that the banned substances listed in the RoHS directive are not found in the parts and materials used above the threshold level listed other than exceptions approved by the European Commission.

REACH Compliance Statement

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LDS-905-FP-100

OVERVIEW

LDS-905-FP-100 is the laser diode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Wavelength: 905 nm
- Cavity type: Fabry-Perot
- Optical power: up to 100 mW in CW mode in single-mode fiber Nufern 780-HP
- Package types: coaxial with bracket, 14 pin DIL
- Built-in monitor photodiode

APPLICATIONS

- Laser systems

ORDERING INFORMATION

LDS-905-FP-100-X-3-X-X-X-X

Case type

B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SM05: SM, Corning HI 780, furcation tubing ∅0.9 mm
SMP05: PM, Fujikura SM85, PANDA type, furcation tubing ∅0.9 mm
SM1: G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm
SM3: G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm
MM5: MM, 50/125, OM2, furcation tubing ∅0.9 mm
MM6: MM, 62.5/125, OM1, furcation tubing ∅0.9 mm
Other type on request

Connector type

FU: FC/UPC (SM05, SMP05, SM1, SM3, MM5, MM6)
FA: FC/APC (SM05, SMP05, SM1, SM3)
N: no connector
Other type: on request

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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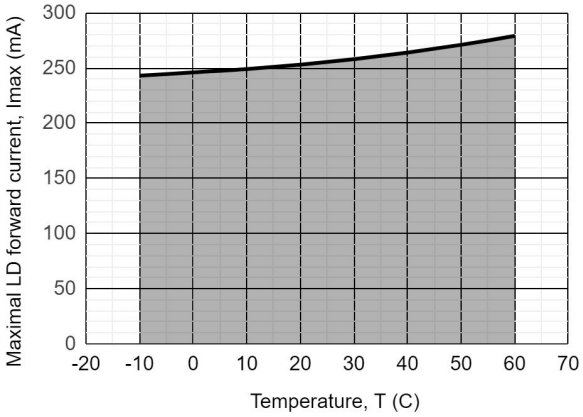
LDS-905-FP-100

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current*	Imax	255	mA	CW, T = 25°C
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	30	V	
Operating temperature**	T_{OP}	-10 - +60	°C	Package B
Operating temperature**	T_{OP}	-40 - +60	°C	Package T, E (Tst = 25°C)
Storage temperature	T_{stg}	-40 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 5 seconds

*Maximal laser diode forward current depends on the operating temperature. Please, refer to the figure below.



**Operating temperature is defined by the case temperature. It is recommended to ensure sufficient heat dissipation so that the module's maximum operating temperature is not exceeded.

Operating temperature for the DIL-14-pins case (T or E) with TEC is defined for internal temperature stabilization at Tst = 25°C that corresponds to thermistor resistance Rt = 10 kOhm.

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LDS-905-FP-100

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Optical power (CW)	P_{cw}	100			mW	CW, I_{op} = 250 mA, SM05
Mean wavelength	λ	895	905	915	nm	CW, I_{op} = 250 mA
Spectral width	Δλ		2	4	nm	CW, I_{op} = 250 mA
Wavelength-temperature coefficient	dλ/dT		0.31		nm/°C	CW, I_{op} = 250 mA
Threshold current	I_{th}		25	60	mA	
Slope efficiency	S_e	0.40	0.45		mW/mA	CW, SM05
Operating voltage	V_{op}		2.2	2.5	V	CW, I_{op} = 250 mA
Monitor current	I_m	0.1	0.5	1.0	mA	CW, I_{op} = 250 mA, V_r = 5 V
Polarization extinction ratio	PER	17			dB	CW, SMP05
Front-to-rear tracking error	E_r		0.5	1.0	dB	CW, P_{cw} = 3 mW, SM05, T = -10 ~ +50°C

Tracking error E_r = max |10 lg [P(T)/P(25°C)]|, I_m= const, T = T_{min} ~ T_{max}
Pulse mode: pulse width 10 μs, duty cycle = 1%

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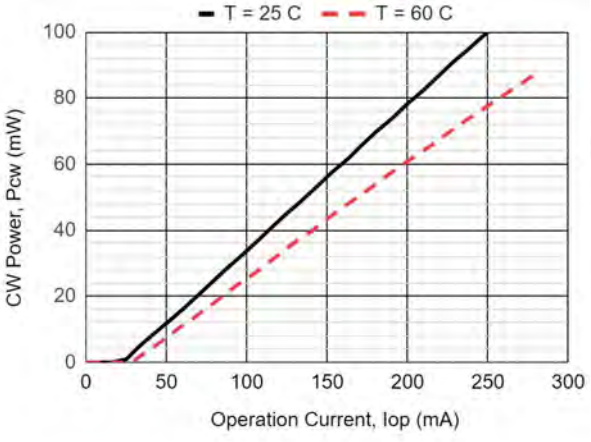
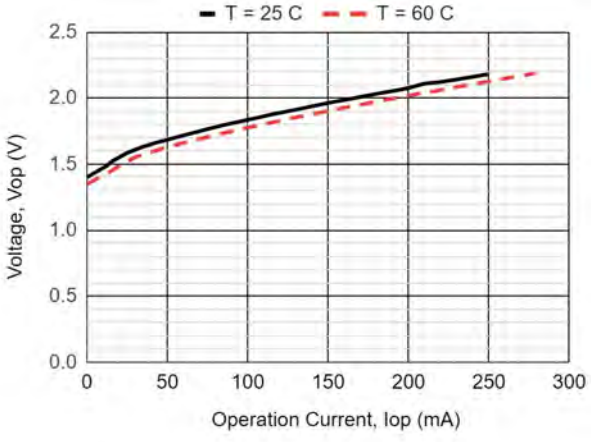
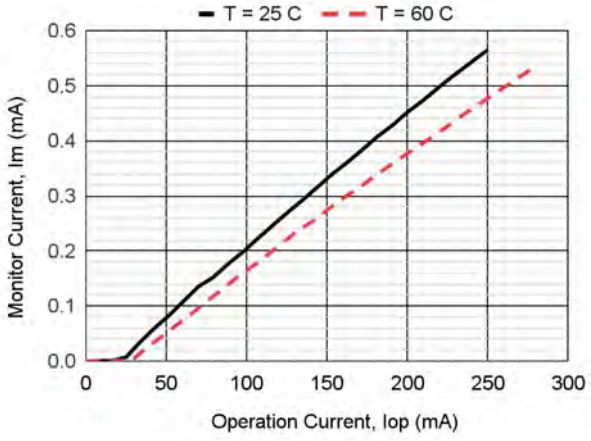
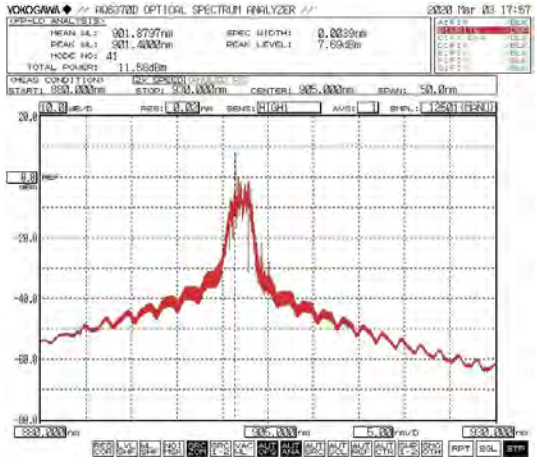
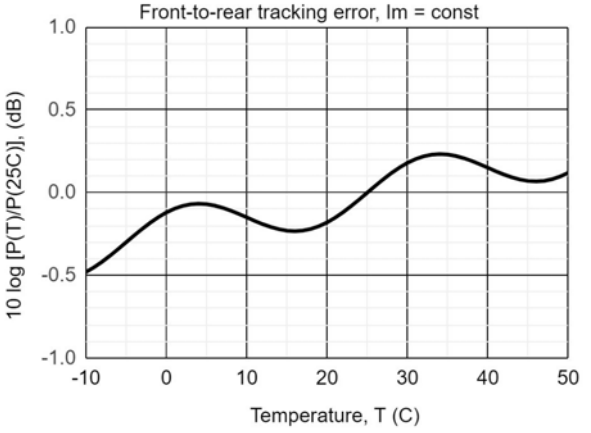
LDS-905-FP-100











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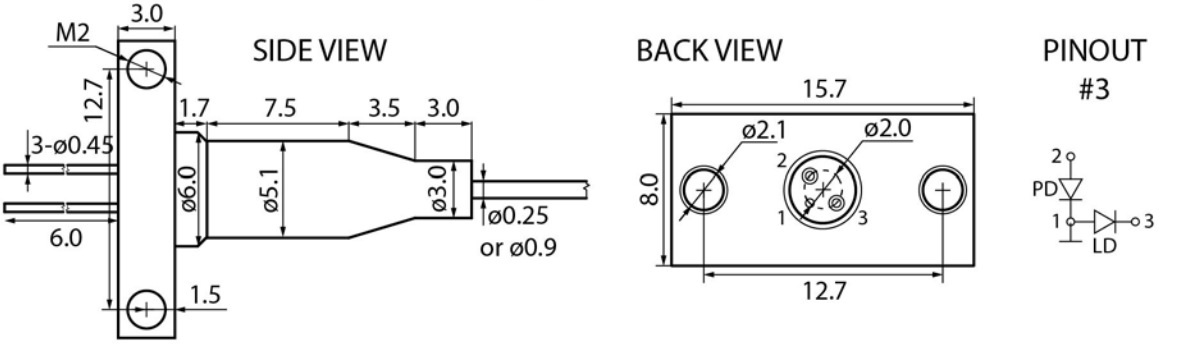
LDS-905-FP-100

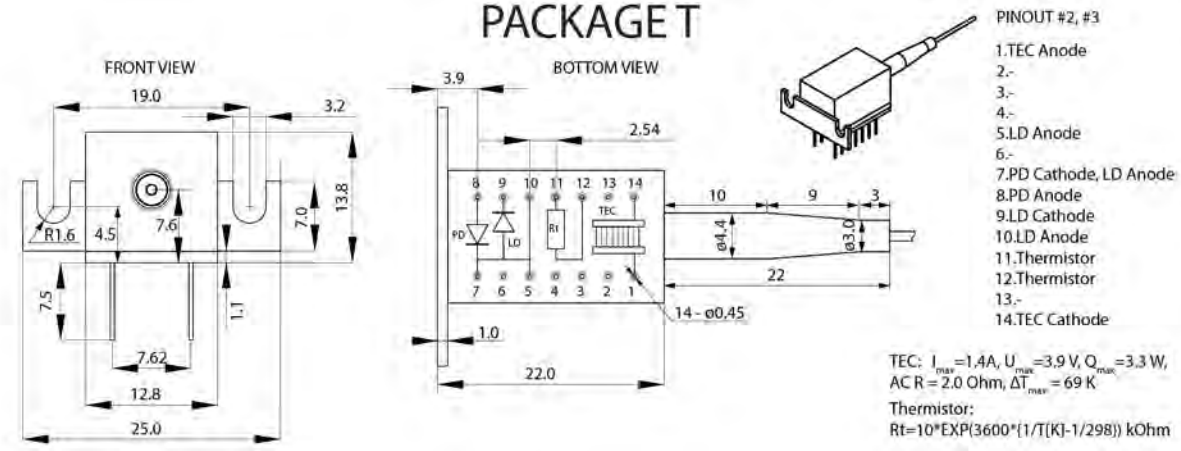
PACKAGE B



Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T



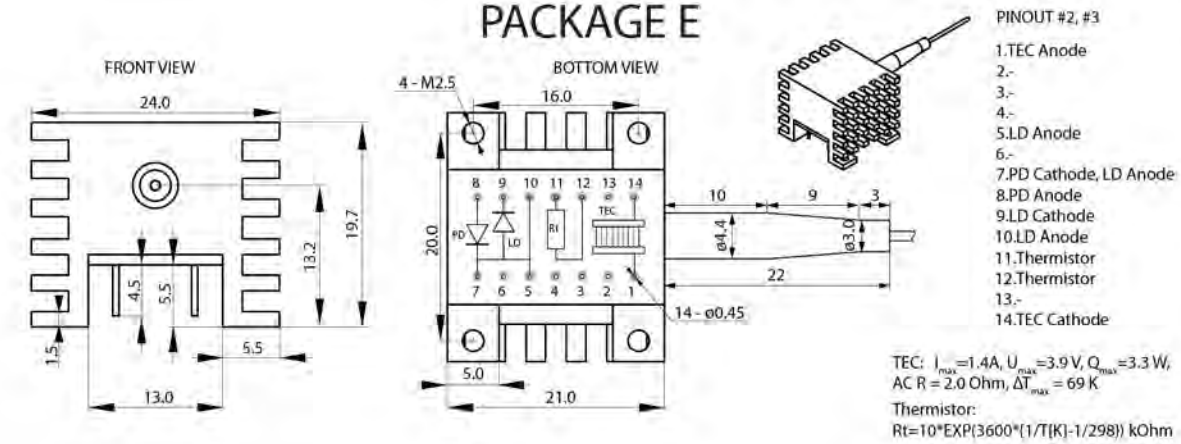
PINOUT #2, #3

1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.PD Cathode, LD Anode
8.PD Anode
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

TEC: I_{max}=1.4A, U_{max}=3.9 V, Q_{max}=3.3 W,
AC R = 2.0 Ohm, ΔT_{max} = 69 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

PACKAGE E



PINOUT #2, #3

1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.PD Cathode, LD Anode
8.PD Anode
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

TEC: I_{max}=1.4A, U_{max}=3.9 V, Q_{max}=3.3 W,
AC R = 2.0 Ohm, ΔT_{max} = 69 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

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LDS-905-FP-100

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LDS-940-FP-100

OVERVIEW

LDS-940-FP-100 is a laser diode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Wavelength: 940 nm
- Cavity type: Fabry-Perot
- Optical power: up to 100 mW in CW mode in single-mode fiber Corning Hi-780
- Package types: coaxial with bracket, 14 pins DIL
- Built-in monitor photodiode

APPLICATIONS

- Laser systems

ORDERING INFORMATION

LDS-940-FP-100-X-3-X-X-X-X

Case type

B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SM05: SM, Corning HI 780, furcation tubing ∅0.9 mm
SMP05: PM, Fujikura SM85, PANDA type, furcation tubing ∅0.9 mm
SM1: G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm
SM3: G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm
MM5: MM, 50/125, OM2, furcation tubing ∅0.9 mm
MM6: MM, 62.5/125, OM1, furcation tubing ∅0.9 mm
Other type on request

Connector type

FU: FC/UPC (SM05, SMP05, SM1, SM3, MM5, MM6)
FA: FC/APC (SM05, SMP05, SM1, SM3)
N: no connector
Other type: on request

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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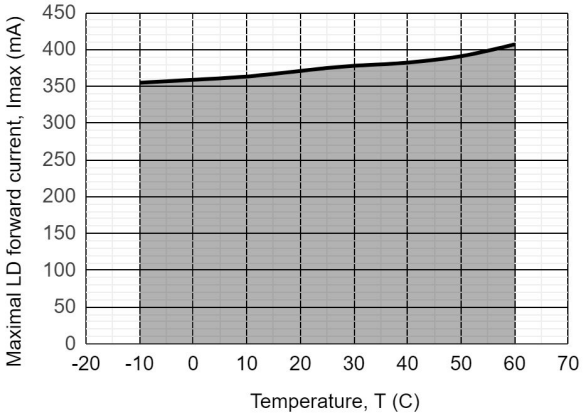
LDS-940-FP-100

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current*	Imax	375	mA	CW, T = 25°C
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	30	V	
Operating temperature**	T_{OP}	-10 - +60	°C	Package B
Operating temperature**	T_{OP}	-40 - +60	°C	Package T, E (Tst = 25°C)
Storage temperature	T_{stg}	-40 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 5 seconds

*Maximal laser diode forward current depends on the operating temperature. Please, refer to the figure below.



**Operating temperature is defined by the case temperature. It is recommended to ensure sufficient heat dissipation so that the module's maximum operating temperature is not exceeded.

Operating temperature for the DIL-14-pins case (T or E) with TEC is defined for internal temperature stabilization at Tst = 25°C that corresponds to thermistor resistance Rt = 10 kOhm.

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LDS-940-FP-100

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Optical power (CW)	P_{cw}	100			mW	CW, I_{op} = 370 mA, SM05
Mean wavelength	λ	930	940	955	nm	CW, I_{op} = 370 mA
Spectral width	Δλ		2	4	nm	CW, I_{op} = 370 mA
Wavelength-temperature coefficient	dλ/dT		0.40		nm/°C	CW, I_{op} = 370 mA
Threshold current	I_{th}		40	60	mA	
Slope efficiency	S_e	0.30	0.38		mW/mA	CW, SM05
Operating voltage	V_{op}		2.1	2.5	V	CW, I_{op} = 370 mA
Monitor current	I_m	0.2	1.0	2.0	mA	CW, I_{op} = 370 mA, V_r = 5 V
Polarization extinction ratio	PER	17			dB	CW, SMP05
Front-to-rear tracking error	E_r		0.7	1.2	dB	CW, P_{cw} = 3 mW, SM05, T = -10 ~ +50°C

Tracking error E_r = max |10 lg [P(T)/P(25°C)]|, I_m= const, T = T_{min} ~ T_{max}
Pulse mode: pulse width 10 μs, duty cycle = 1%

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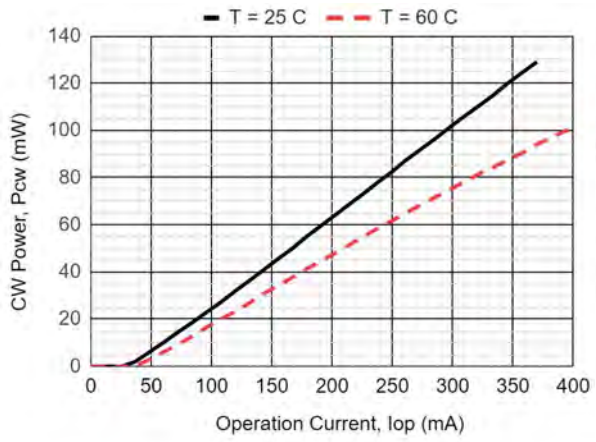
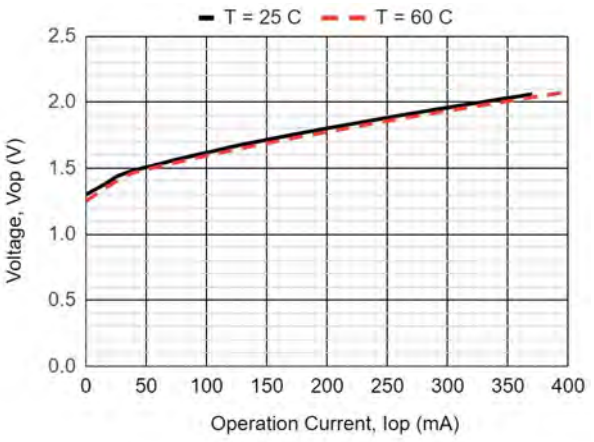
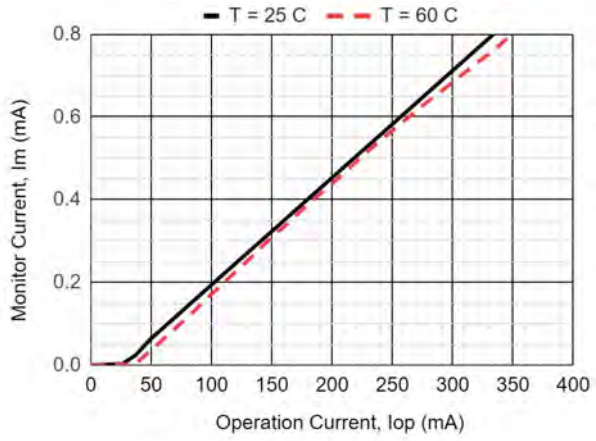
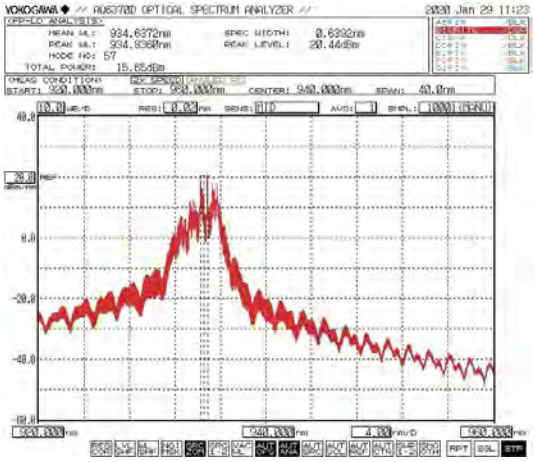
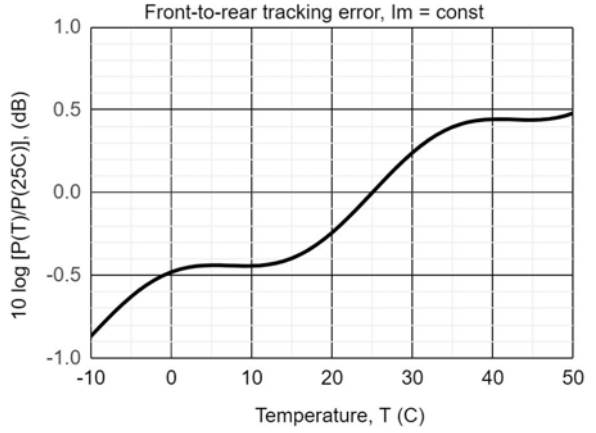
LDS-940-FP-100











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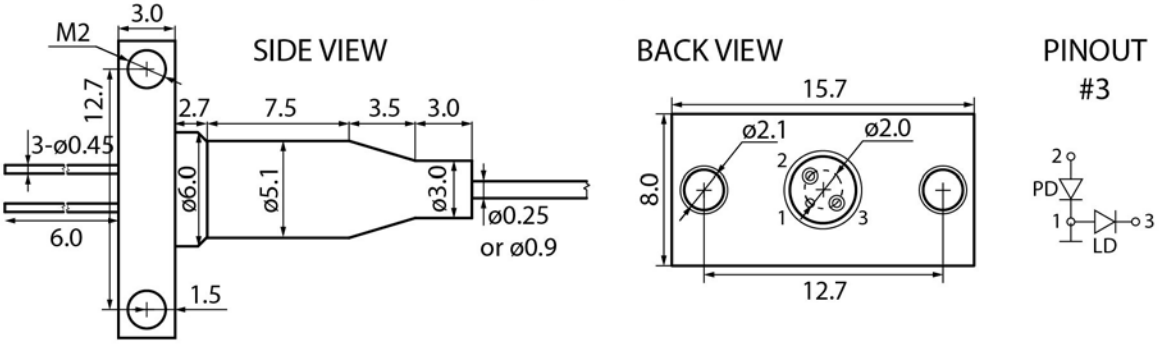
LDS-940-FP-100

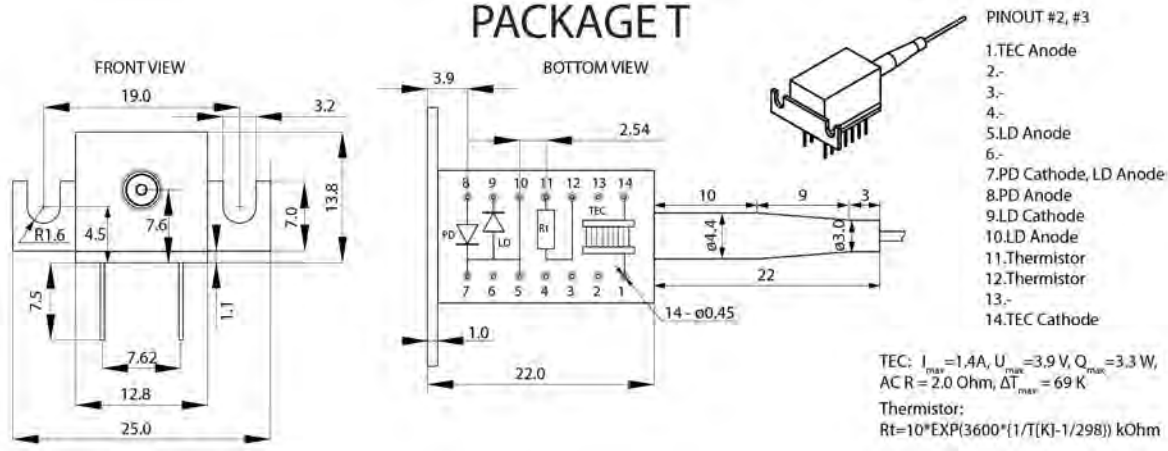
PACKAGE B



Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T



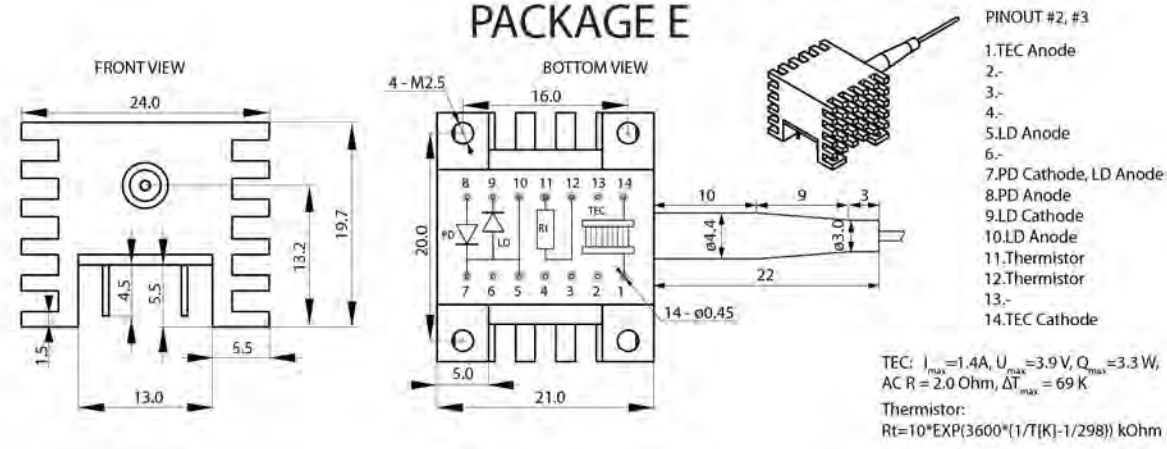
PINOUT #2, #3

1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.PD Cathode, LD Anode
8.PD Anode
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

TEC: I_{max}=1.4A, U_{max}=3.9 V, Q_{max}=3.3 W,
AC R = 2.0 Ohm, ΔT_{max} = 69 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

PACKAGE E



PINOUT #2, #3

1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.PD Cathode, LD Anode
8.PD Anode
9.LD Cathode
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11.Thermistor
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14.TEC Cathode

TEC: I_{max}=1.4A, U_{max}=3.9 V, Q_{max}=3.3 W,
AC R = 2.0 Ohm, ΔT_{max} = 69 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

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LDS-940-FP-100

Characteristics, data, materials and structures specified in this datasheet are subject to change without notice. Please refer to the latest specification before use of the products.

Safety and handling cautions

1. Avoid smashing and burning of the module. Avoid storing and using the module in conditions where water, organic solvents or aggressive acids or bases may contact the module or where there is a possibility of exposure to corrosive gases, explosive gases, dust, salinity or other harsh conditions. The module should be disposed as special industrial waste.
2. Exceeding absolute maximum ratings even for a short time can cause permanent damage of the module.
3. The module is sensitive to and can be broken by ESD (static electricity).

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RoHS Compliance Statement

Restriction of Hazardous Substances (RoHS) directive (Directive 2011/65/EC amended with Directive (EU) 2015/863) is the directive aimed at reducing the harmful environmental impact of waste electrical equipment by restricting the use of known dangerous substances. Based on information received from our supply sources, LasersCom LLC hereby states that the banned substances listed in the RoHS directive are not found in the parts and materials used above the threshold level listed other than exceptions approved by the European Commission.

REACH Compliance Statement

Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) is a European Union regulation 1907/2006/EC that addresses the production and use of chemical substances, and their potential impacts on human health and the environment. Based on information received from our supply sources, LasersCom LLC hereby states compliance of the parts and materials used in manufacturing to REACH regulation. LasersCom LLC does not manufacture or import any substances or preparations as defined under REACH.

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LDS-980-FP-3

OVERVIEW

LDS-980-FP-3 is the laser diode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Wavelength: 980 nm
- Cavity type: Fabry-Perot
- Optical power: 3 mW in CW mode in single-mode fiber Corning HI 1060
- Package types: coaxial or coaxial with bracket, 14 pin DIL
- Built-in monitor photodiode

APPLICATIONS

- Spectroscopy
- Biomedicine
- Sensorics

ORDERING INFORMATION

LDS-980-FP-3-X-3-X-X-X-X

Case type

U: compact coaxial
B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SM05: SM, Corning HI 780, furcation tubing ∅0.9 mm
SM06: SM, Corning HI 1060, furcation tubing ∅0.9 mm
SMP06: PM, Fujikura SM98, PANDA type, furcation tubing ∅0.9 mm
SM1: G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm
SM3: G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm
MM5: MM, 50/125, OM2, furcation tubing ∅0.9 mm
MM6: MM, 62.5/125, OM1, furcation tubing ∅0.9 mm
Other type on request

Connector type

FU: FC/UPC (SM05, SM06, SMP06, SM1, SM3, MM5, MM6)
FA: FC/APC (SM05, SM06, SMP06, SM1, SM3)
N: no connector
Other type: on request

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)
P: pulse mode
CWP: both CW and pulse mode

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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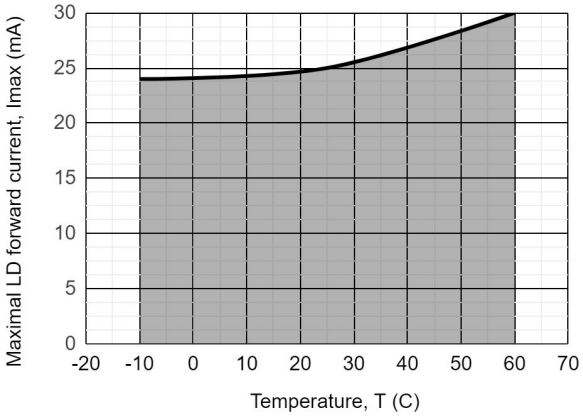
LDS-980-FP-3

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current*	Imax	25	mA	CW, T = 25°C
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	30	V	
Operating temperature**	T_{OP}	-10 - +60	°C	Package B
Operating temperature**	T_{OP}	-40 - +60	°C	Package T, E (Tst = 25°C)
Storage temperature	T_{stg}	-40 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 5 seconds

*Maximal laser diode forward current depends on the operating temperature. Please, refer to the figure below.



**Operating temperature is defined by the case temperature. It is recommended to ensure sufficient heat dissipation so that the module's maximum operating temperature is not exceeded.

Operating temperature for the DIL-14-pins case (T or E) with TEC is defined for internal temperature stabilization at Tst = 25°C that corresponds to thermistor resistance Rt = 10 kOhm.

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LDS-980-FP-3

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Optical power (CW)	P_{cw}	3			mW	CW, I_{op} = 23 mA, SM06
Mean wavelength	λ	965	980	990	nm	CW, I_{op} = 23 mA
Spectral width	Δλ		2	4	nm	CW, I_{op} = 23 mA
Wavelength-temperature coefficient	dλ/dT		0.40		nm/°C	CW, I_{op} = 23 mA
Threshold current	I_{th}		12	20	mA	
Slope efficiency	S_e	0.25	0.30		mW/mA	CW, SM06
Operating voltage	V_{op}		1.4	1.7	V	CW, I_{op} = 23 mA
Monitor current	I_m	0.01	0.05	0.10	mA	CW, I_{op} = 23 mA, V_r = 5 V
Polarization extinction ratio	PER	17			dB	CW, SMP06
Front-to-rear tracking error	E_r		0.3	0.8	dB	CW, P_{cw} = 3 mW, SM06, T = -10 ~ +50°C

Tracking error E_r = max |10 lg [P(T)/P(25°C)]|, I_m= const, T = T_{min} ~ T_{max}
Pulse mode: pulse width 10 μs, duty cycle = 1%

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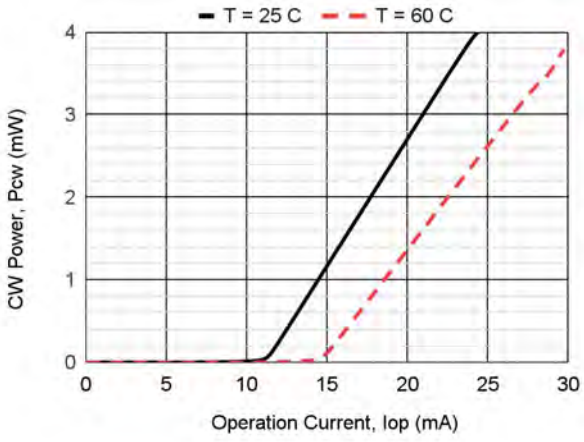
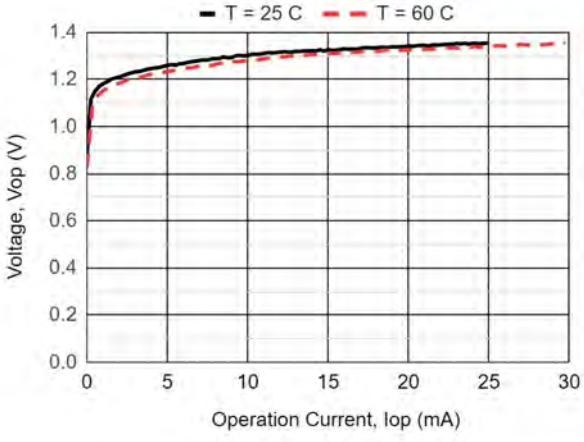
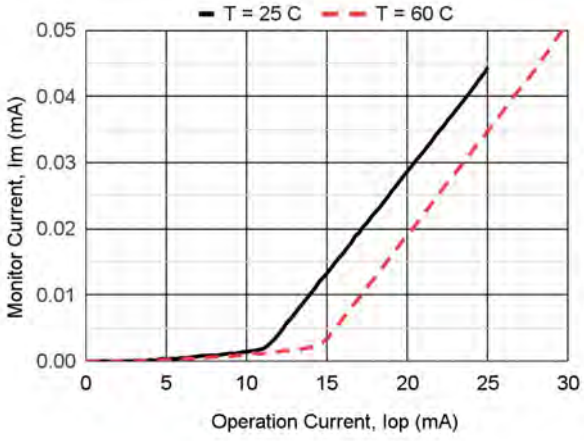
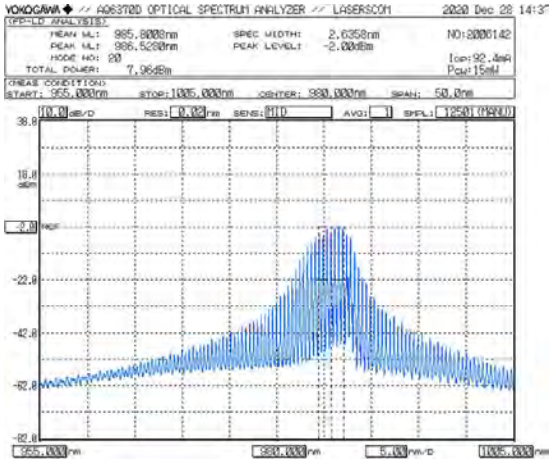
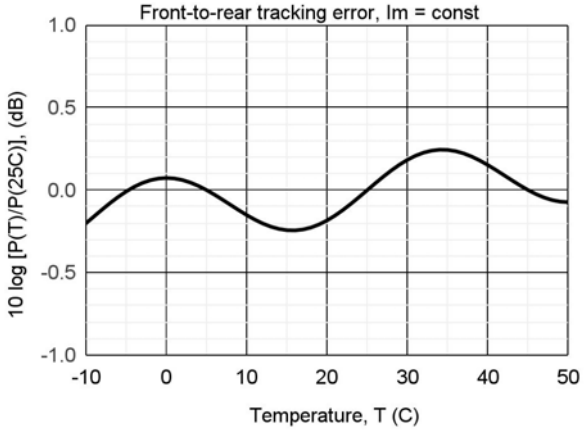
LDS-980-FP-3











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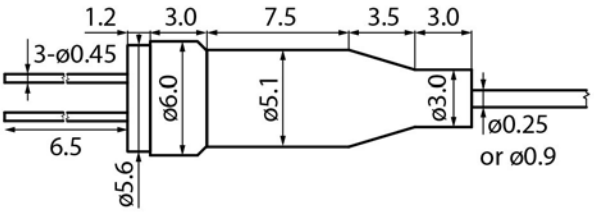
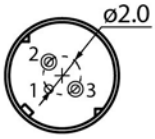
LDS-980-FP-3

PACKAGE U

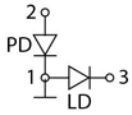
SIDE VIEW



BACK VIEW



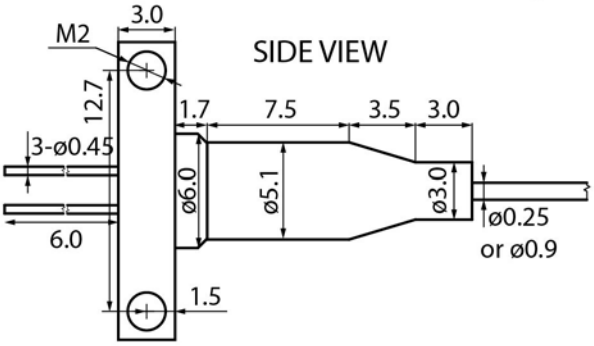
PINOUT #3



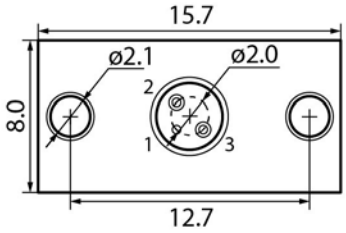
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

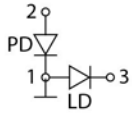
PACKAGE B



BACK VIEW



PINOUT #3

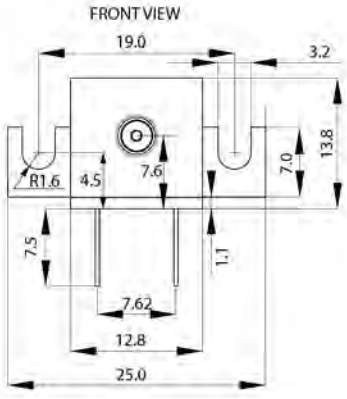


Connector FC/UPC, FC/APC, no connector, or by request

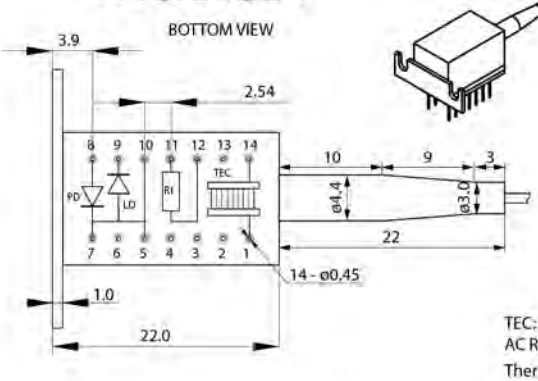
Fiber length 500+/-50, 1000+/-100, or by request

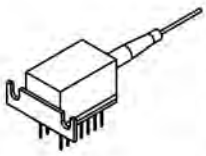
PACKAGE T

FRONT VIEW



BOTTOM VIEW





PINOUT #2, #3

1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.PD Cathode, LD Anode
8.PD Anode
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

TEC: I_{max}=0,7A, U_{max}=3.9 V, Q_{max}=1,4 W,
AC R = 4.7 Ohm, ΔT_{max} = 72 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

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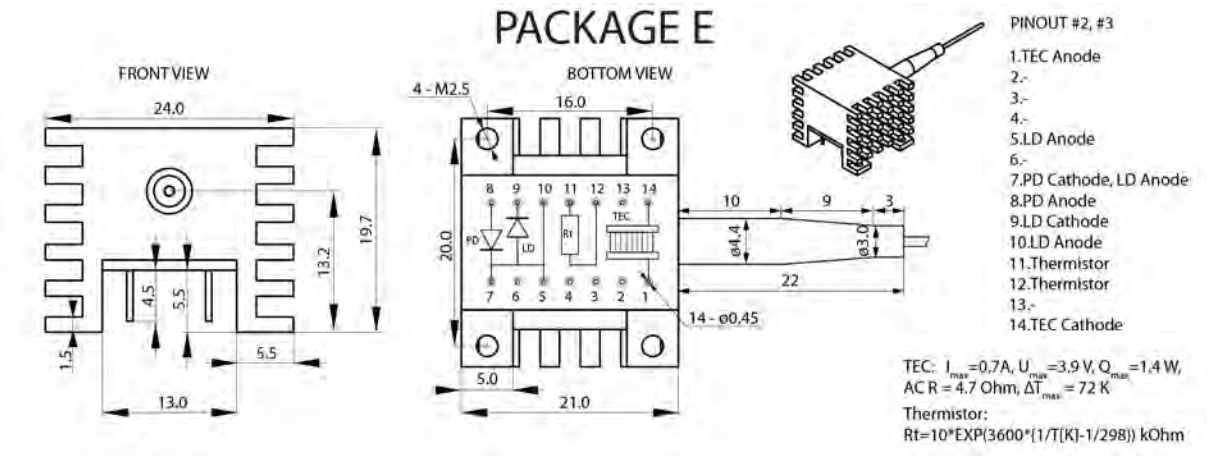

LDS-980-FP-3

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Safety and handling cautions

1. Avoid smashing and burning of the module. Avoid storing and using the module in conditions where water, organic solvents or aggressive acids or bases may contact the module or where there is a possibility of exposure to corrosive gases, explosive gases, dust, salinity or other harsh conditions. The module should be disposed as special industrial waste.
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LDS-1064-FP-20

OVERVIEW

LDS-1064-FP-20 is the laser diode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Wavelength: 1064 nm
- Cavity type: Fabry-Perot
- Optical power: up to 20 mW in CW mode in single-mode fiber Corning Hi-1060
- Package types: coaxial with bracket, 14 pin DIL
- Built-in monitor photodiode

APPLICATIONS

- Laser systems

ORDERING INFORMATION

LDS-1064-FP-20-X-3-X-X-X-X

Case type

B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SM06: SM, Corning HI 1060, furcation tubing ∅0.9 mm
SMP06: PM, Fujikura SM98, PANDA type, furcation tubing ∅0.9 mm
SM1: G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm
SM3: G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm
MM5: MM, 50/125, OM2, furcation tubing ∅0.9 mm
MM6: MM, 62.5/125, OM1, furcation tubing ∅0.9 mm
Other type on request

Connector type

FU: FC/UPC (SM06, SMP06, SM1, SM3, MM5, MM6)
FA: FC/APC (SM06, SMP06, SM1, SM3)
N: no connector
Other type: on request

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)
P: pulse mode
CWP: both CW and pulse mode

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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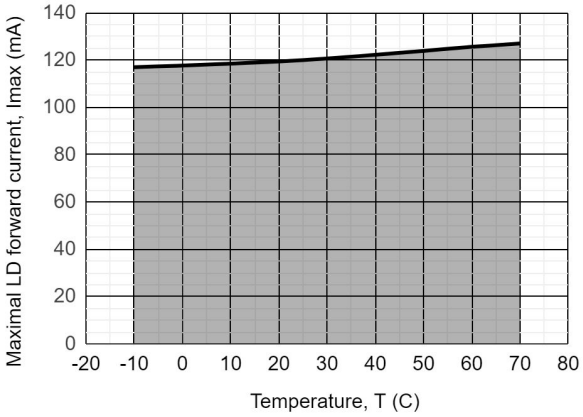
LDS-1064-FP-20

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current*	Imax	120	mA	CW, T = 25°C
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	30	V	
Operating temperature**	T_{OP}	-10 - +70	°C	Package B
Operating temperature**	T_{OP}	-40 - +60	°C	Package T, E (Tst = 25°C)
Storage temperature	T_{stg}	-40 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 5 seconds

*Maximal laser diode forward current depends on the operating temperature. Please, refer to the figure below.



**Operating temperature is defined by the case temperature. It is recommended to ensure sufficient heat dissipation so that the module's maximum operating temperature is not exceeded.

Operating temperature for the DIL-14-pins case (T or E) with TEC is defined for internal temperature stabilization at Tst = 25°C that corresponds to thermistor resistance Rt = 10 kOhm.

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LDS-1064-FP-20

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Optical power (CW)	P_{cw}	20			mW	CW, I_{op} = 120 mA, SM06
Mean wavelength	λ	1050	1060	1070	nm	CW, I_{op} = 120 mA
Spectral width	Δλ		1	3	nm	CW, I_{op} = 120 mA
Wavelength-temperature coefficient	dλ/dT		0.34		nm/°C	CW, I_{op} = 120 mA
Threshold current	I_{th}		15	20	mA	
Slope efficiency	S_e	0.18	0.21		mW/mA	CW, SM06
Operating voltage	V_{op}		1.9	2.1	V	CW, I_{op} = 120 mA
Monitor current	I_m	0.05	0.15	0.50	mA	CW, I_{op} = 120 mA, V_r = 5 V
Polarization extinction ratio	PER	17			dB	CW, SMP06
Front-to-rear tracking error	E_r		0.2	0.8	dB	CW, P_{cw} = 3 mW, SM06, T = -10 ~ +50°C

Tracking error E_r = max |10 lg [P(T)/P(25°C)]|, I_m= const, T = T_{min} ~ T_{max}
Pulse mode: pulse width 10 μs, duty cycle = 1%

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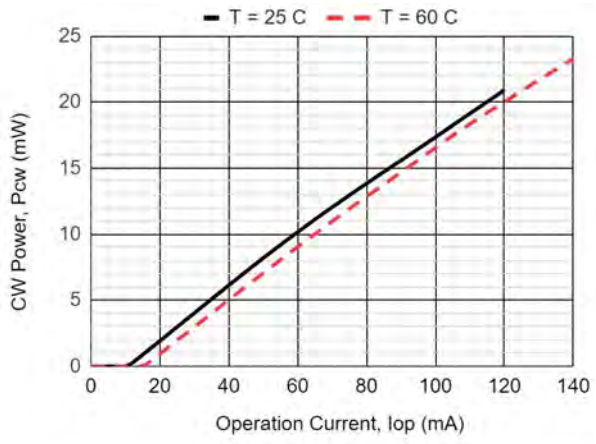
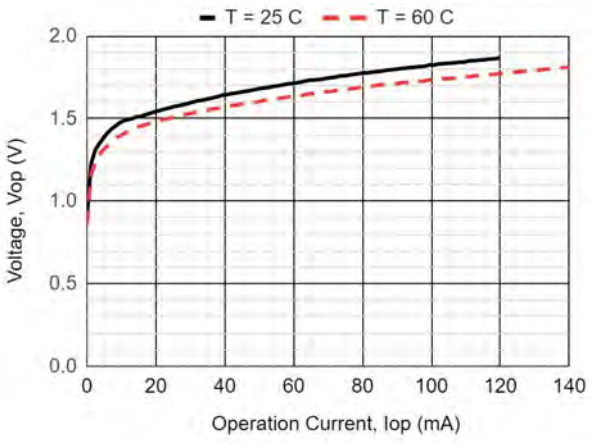
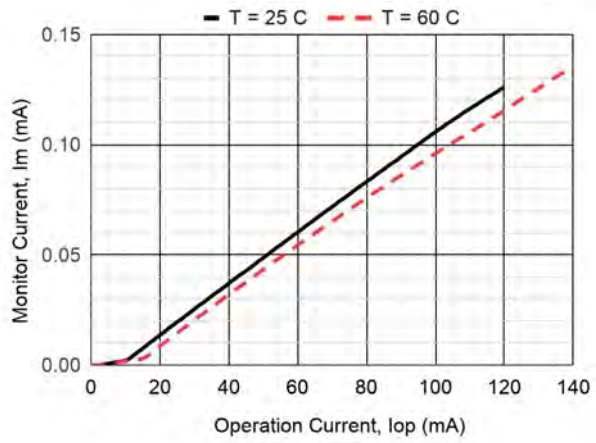
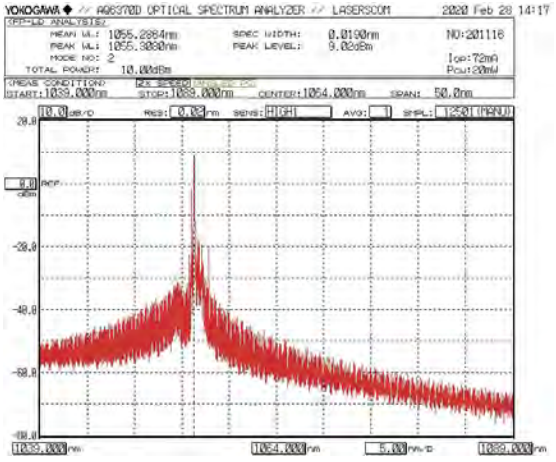
Coupling Light to Your Success

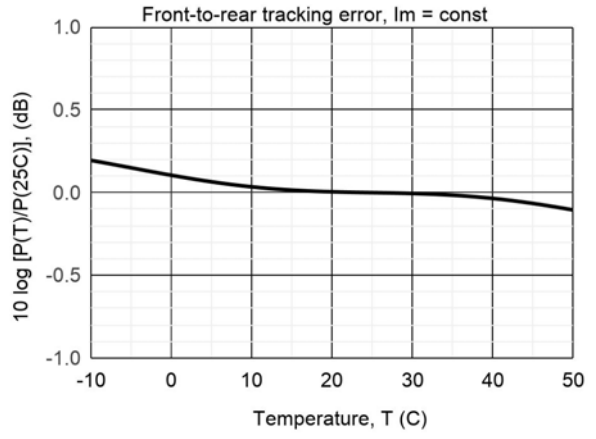
LDS-1064-FP-20











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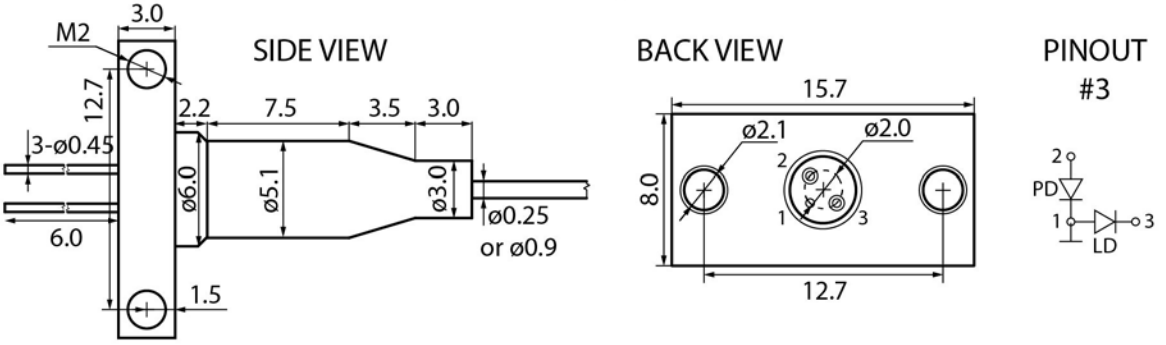
LDS-1064-FP-20

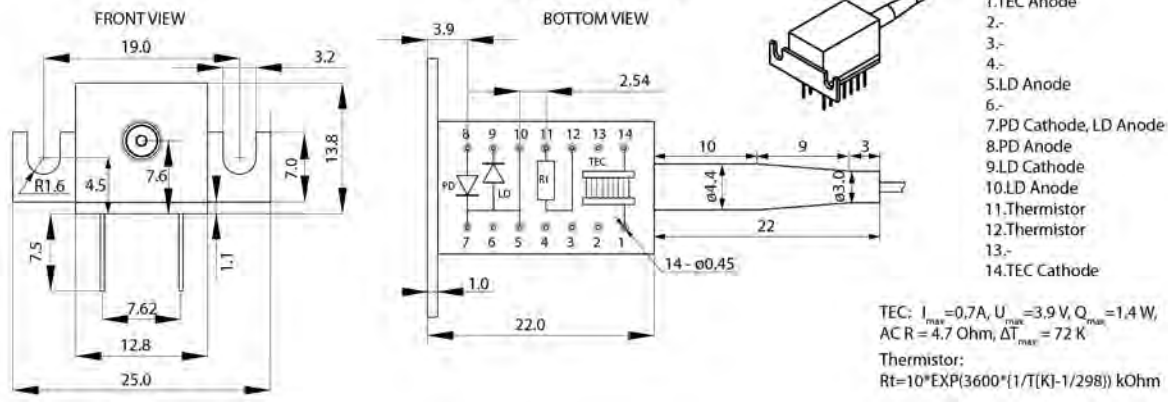
PACKAGE B



Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T



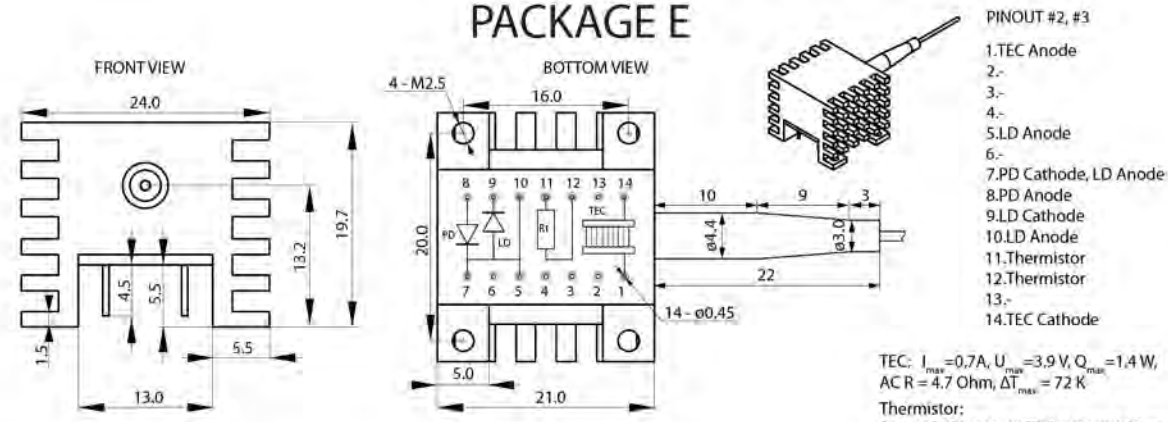
PINOUT #2, #3

1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.PD Cathode, LD Anode
8.PD Anode
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

TEC: I_{max}=0,7A, U_{max}=3.9 V, Q_{max}=1,4 W,
AC R = 4.7 Ohm, ΔT_{max} = 72 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

PACKAGE E



PINOUT #2, #3

1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.PD Cathode, LD Anode
8.PD Anode
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

TEC: I_{max}=0,7A, U_{max}=3.9 V, Q_{max}=1,4 W,
AC R = 4.7 Ohm, ΔT_{max} = 72 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

LASERSCOM
Coupling Light to Your Success

LDS-1064-FP-20

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Safety and handling cautions

1. Avoid smashing and burning of the module. Avoid storing and using the module in conditions where water, organic solvents or aggressive acids or bases may contact the module or where there is a possibility of exposure to corrosive gases, explosive gases, dust, salinity or other harsh conditions. The module should be disposed as special industrial waste.
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REACH Compliance Statement

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LDS-1270-DFB-2.5G-15/40

OVERVIEW

LDS-1270-DFB-2.5G-15/40 is the MQW laser diode coupled to an optical fiber and packaged into a hermetic case. The special feature of the LDS technology is the increased thermal stability of optical power

MAIN FEATURES

- Wavelength: 1270 nm
- Cavity type: DFB
- Linewidth: < 500 kHz
- Data rate up to 2.5 Gbps
- Optical power: up to 15 mW in CW mode, up to 40 mW in pulse mode in SM fiber G.657.A1
- Package types: coaxial, coaxial with bracket, 14 pins DIL
- Built-in monitor photodiode

APPLICATIONS

- Optical fiber communication systems with data rate up to 2.5 Gbps
- Laser systems

ORDERING INFORMATION

LDS-1270-DFB-2.5G-15/40-X-2-X-X-X-X

Case type

U: compact coaxial (pulse mode only)
B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm or **BSM1** ∅0.25mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm or **BSM3** ∅0.25mm
SMP13: PM, Fujikura SM13, PANDA type, furcation tubing ∅0.9 mm
Other type on request

Connector type

FA: FC/APC (SM1,SM3, SMP13)
FU: FC/UPC (SM1, SM3)
SA: SC/APC (SM1)
SU: SC/UPC (SM1)
N: no connector
Other type: on request

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)
P: pulse mode (10 µs; duty cycle = 1%)
CWP: both CW and pulse modes

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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LDS-1270-DFB-2.5G-15/40

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current	I_{FL}	120	mA	CW
		450	mA	Pulse
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	20	V	
Photodiode forward current	I_{FP}	2	mA	
Operating temperature	T_{OP}	-40 - +85	°C	Package U, B
Operating temperature	T_{OP}	-40 - +50	°C	Package T, E
Storage temperature	T_{stg}	-40 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 10 seconds

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Wavelength	λ	1265	1270	1275	nm	CW, P = 15 mW
Spectral width	$\Delta\lambda$		0.11		nm	CW, P = 15 mW, -20 dB, OSA
Spectral width	Δf			500	kHz	CW, P = 15 mW, delayed self-heterodyne method
Wavelength-temperature coeff.	dλ/dT		0.10		nm/°C	
Side-mode suppression ratio	SMSR	40	55		dB	CW, P = 15 mW
Threshold current	I_{th}		8	12	mA	CW
Operating current	I_{op}			120	mA	CW, P = 15 mW, SM1
Slope efficiency	S_e	0.18	0.19		W/A	CW, SM1
Operating voltage	V_{op}		1.5	2.0	V	CW, P = 15 mW
Tracking error	E_r		0.15	0.30	dB	CW, P = 3 mW; T = -40 ÷ +85 °C
Pulse optical power	P_p	45	50		mW	Pulse, Iop = 450 mA
Rise and fall times	t_r, t_f		85	120	ps	20%-80%, package U, B
Resonance frequency	f_r		4.3		GHz	2.5Gbps, Imod = 40mA, Ibias = Ith+2 mA
Monitoring output current (PD)	I_m	1.0	2.0	5.0	mA	CW, P = 15 mW, V_{rd} = 5V
Capacitance (PD)	C_t		10	20	pF	V_{rd} = 5V, f = 1 MHz
Dark current (PD)	I_d			100	nA	V_{rd} = 5V
Polarization extinction ratio	PER	20			dB	CW, SMP13

Pulse mode: pulse duration 10 μs; duty cycle = 1%

Tracking error E_r = max |10 lg [P(T)/P(25°C)]|, I_m= const, T = T_{min} ÷ T_{max}

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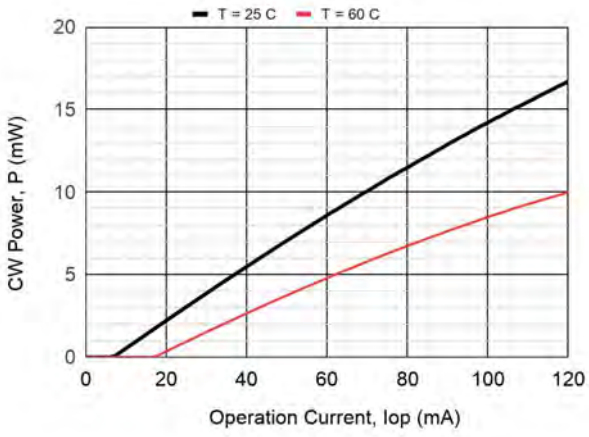
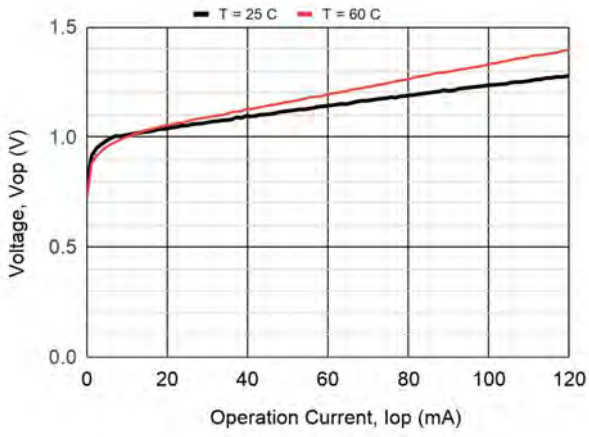
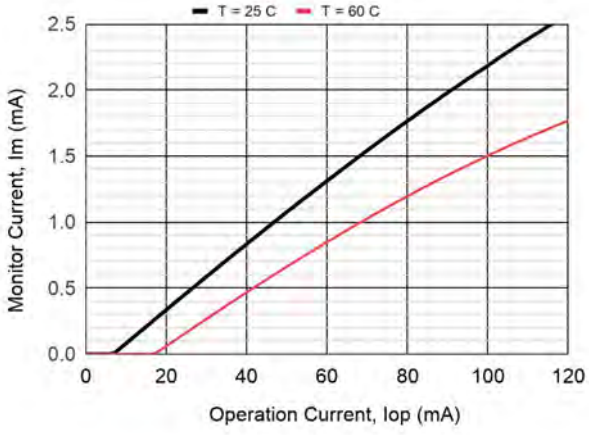
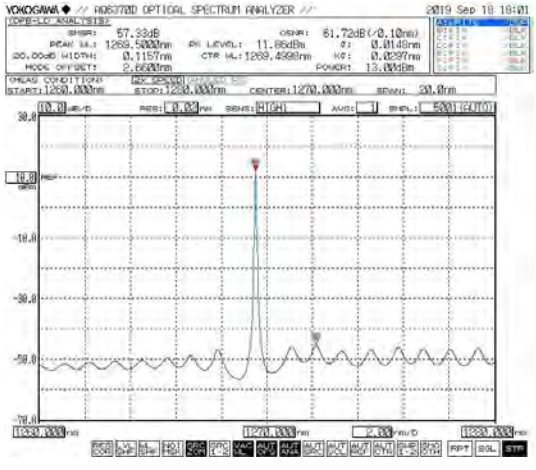
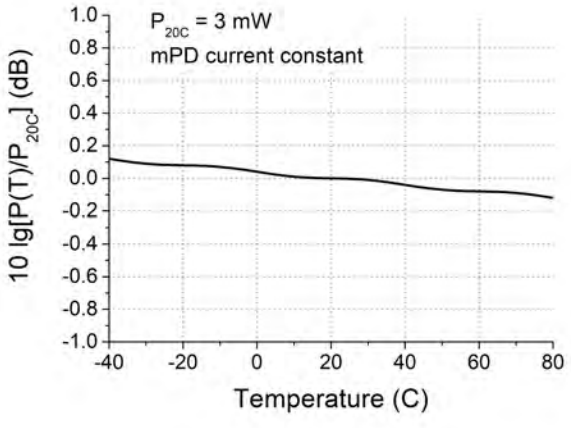
LDS-1270-DFB-2.5G-15/40











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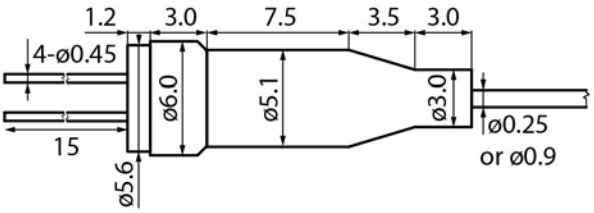
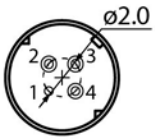
LDS-1270-DFB-2.5G-15/40

PACKAGE U

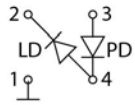
SIDE VIEW



BACK VIEW



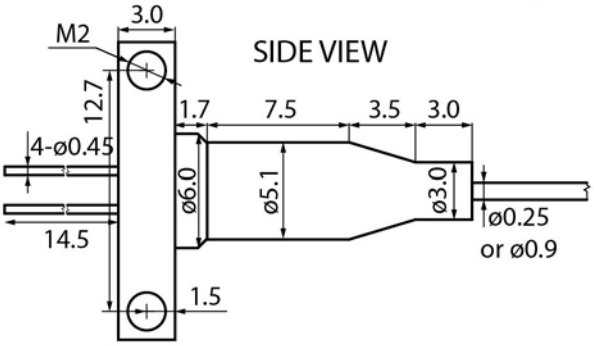
PINOUT #2



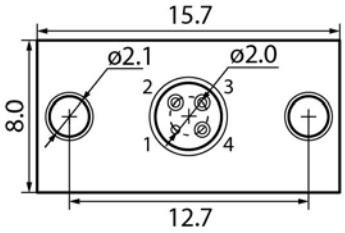
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE B



BACK VIEW



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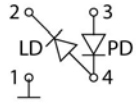
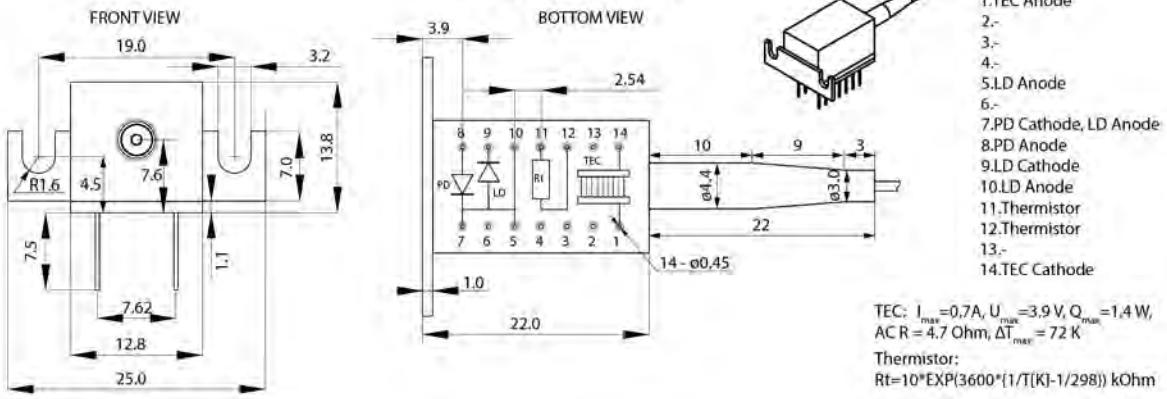


Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T



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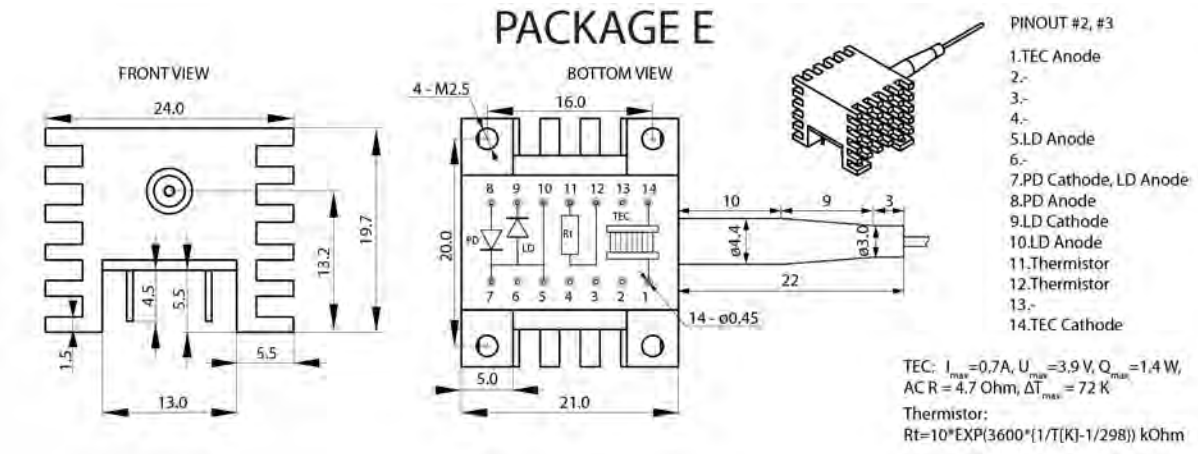

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LDS-1270-DFB-2.5G-15/40

Characteristics, data, materials and structures specified in this datasheet are subject to change without notice. Please refer to the latest specification before use of the products.

Safety and handling cautions

1. Avoid smashing and burning of the module. Avoid storing and using the module in conditions where water, organic solvents or aggressive acids or bases may contact the module or where there is a possibility of exposure to corrosive gases, explosive gases, dust, salinity or other harsh conditions. The module should be disposed as special industrial waste.
2. Exceeding absolute maximum ratings even for a short time can cause permanent damage of the module.
3. The module is sensitive to and can be broken by ESD (static electricity).

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LDI-1270-DFB-2.5G-20/50

OVERVIEW

LDI-1270-DFB-2.5G-20/50 is the MQW laser diode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Wavelength: 1270 nm
- Cavity type: DFB
- Linewidth: < 500 kHz
- Data rate up to 2.5 Gbps
- Optical power: up to 20 mW in CW mode, up to 50 mW in pulse mode in SM fiber G.657.A1
- Package types: coaxial, coaxial with bracket, 14 pins DIL
- Built-in monitor photodiode

APPLICATIONS

- Optical fiber communication systems with data rate up to 2.5 Gbps
- Laser systems

ORDERING INFORMATION

LDI-1270-DFB-2.5G-20/50-X-2-X-X-X-X

Case type

U: compact coaxial (pulse mode only)
B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm or **BSM1** ∅0.25mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm or **BSM3** ∅0.25mm
MM5: MM, 50/125, OM2, furcation tubing ∅0.9 mm
MM6: MM, 62.5/125, OM1, furcation tubing ∅0.9 mm
Other type on request

Connector type

FA: FC/APC (SM1,SM3)
SA: SC/APC (SM1)
N: no connector
Other type: on request

FU: FC/UPC (SM1, SM3, MM5, MM6)
SU: SC/UPC (SM1)

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)
P: pulse mode (10 µs; duty cycle = 1%)
CWP: both CW and pulse modes

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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LDI-1270-DFB-2.5G-20/50

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current	I_{FL}	120	mA	CW
		450	mA	Pulse
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	20	V	
Photodiode forward current	I_{Fp}	2	mA	
Operating temperature	T_{OP}	-40 - +85	°C	Package U, B
Operating temperature	T_{OP}	-40 - +50	°C	Package T, E
Storage temperature	T_{stg}	-40 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 10 seconds

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Wavelength	λ	1265	1270	1275	nm	CW, P = 20 mW
Spectral width	$\Delta\lambda$		0.11		nm	CW, P = 20 mW, -20 dB, OSA
Spectral width	Δf			500	kHz	CW, P = 20 mW, delayed self-heterodyne method
Wavelength-temperature coeff.	dλ/dT		0.10		nm/°C	
Side-mode suppression ratio	SMSR	40	55		dB	CW, P = 20 mW
Threshold current	I_{th}		8	12	mA	CW
Operating current	I_{op}		105	120	mA	CW, P = 20 mW, SM1
Slope efficiency	S_e	0.18	0.21		W/A	CW, SM1
Operating voltage	V_{op}		1.3	1.6	V	CW, P = 20 mW
Tracking error	E_r		0.4	0.6	dB	CW, P = 3 mW; T = -40 ÷ +85 °C
Pulse optical power	P_p	45	50		mW	Pulse, Iop = 450 mA
Rise and fall times	t_r, t_f		80	120	ps	20%-80%, package U, B
Resonance frequency	f_r		4.3		GHz	P = 4 mW
Monitoring output current (PD)	I_m	1.0	2.5	5.0	mA	CW, P = 20 mW, V_{rd} = 5V
Dark current (PD)	I_d			200	nA	V_{rd} = 5V

Pulse mode: pulse duration 10 μs; duty cycle = 1%

Tracking error E_r = max |10 lg [P(T)/P(25°C)]|, I_m = const, T = T_{min} ÷ T_{max}

LASERS COM
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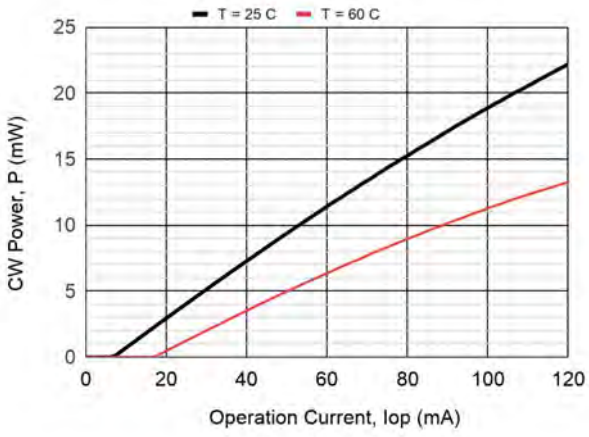
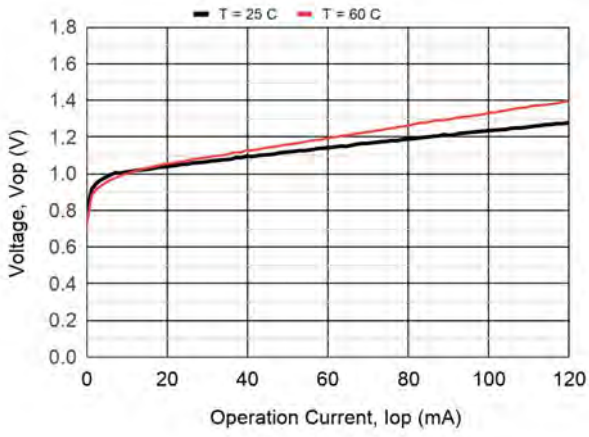
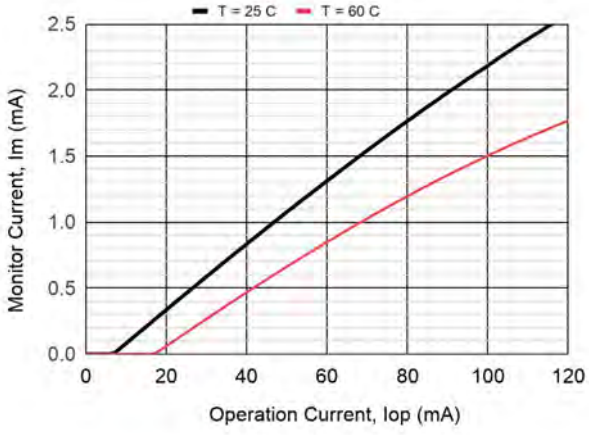
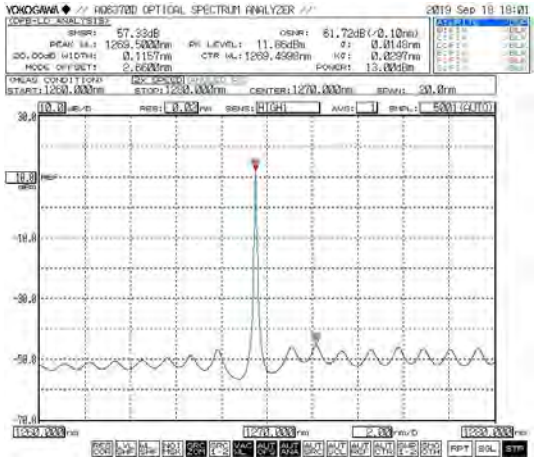
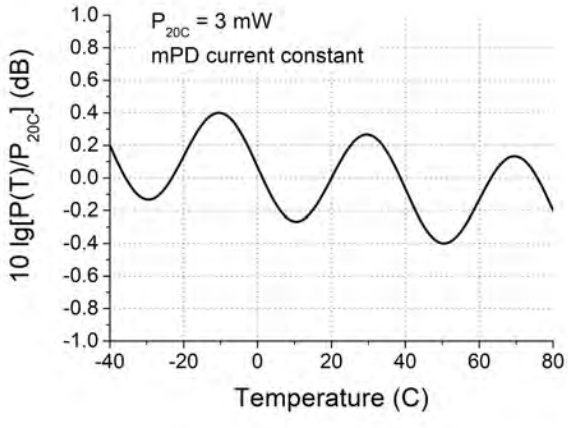
LDI-1270-DFB-2.5G-20/50











LASERSCOM
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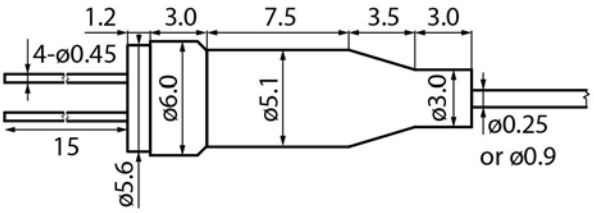
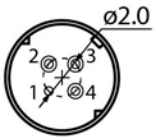
LDI-1270-DFB-2.5G-20/50

PACKAGE U

SIDE VIEW



BACK VIEW



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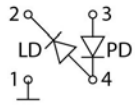
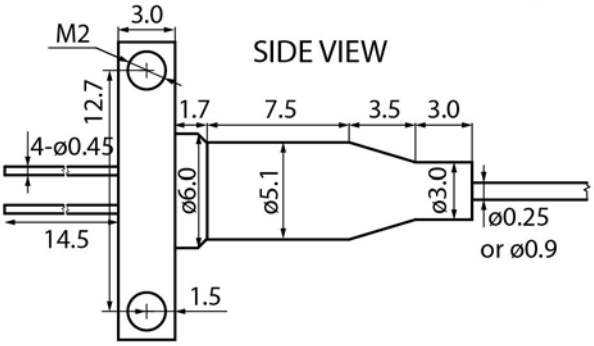


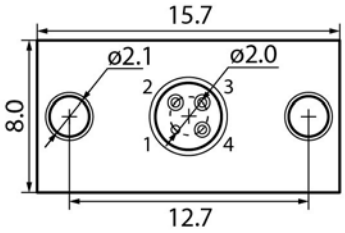
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE B



BACK VIEW



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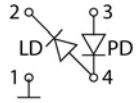
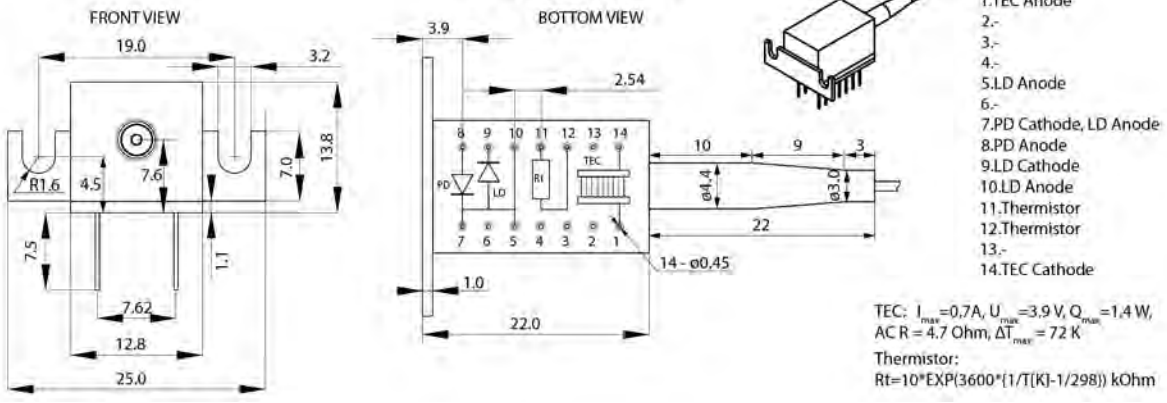


Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T



PINOUT #2, #3

1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.PD Cathode, LD Anode
8.PD Anode
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

TEC: I_{max}=0,7A, U_{max}=3.9 V, Q_{max}=1,4 W,
AC R = 4.7 Ohm, ΔT_{max} = 72 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

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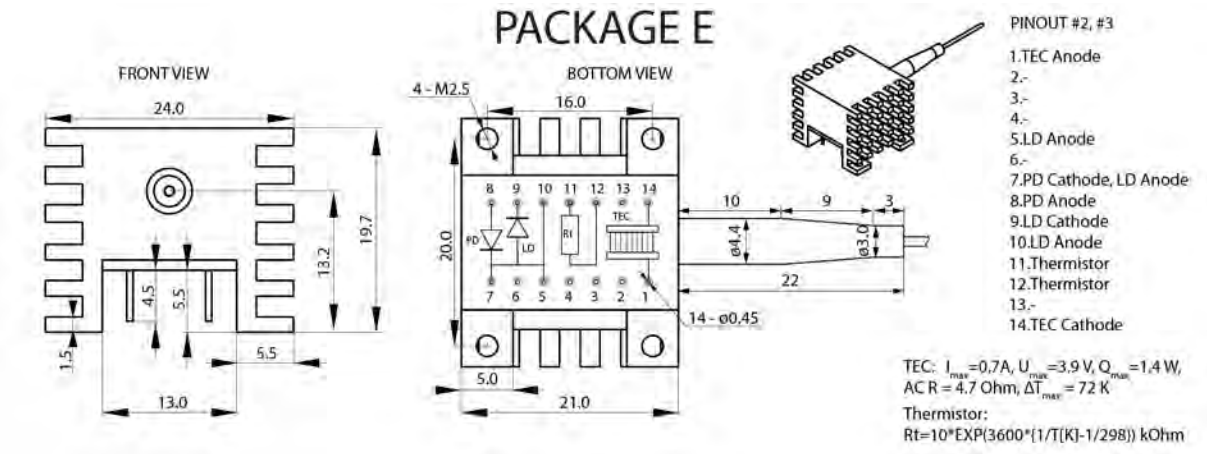
LDI-1270-DFB-2.5G-20/50



LASERSCOM
Coupling Light to Your Success

LDI-1270-DFB-2.5G-20/50

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LASERSCOM
Coupling Light to Your Success

LDS-1270-DFB-10G-10/30

OVERVIEW

LDS-1270-DFB-10G-10/30 is the MQW laser diode coupled to an optical fiber and packaged into a hermetic case. The special feature of the LDS technology is the increased thermal stability of optical power

MAIN FEATURES

- Wavelength: 1270 nm
- Cavity type: DFB
- Linewidth: 1 MHz
- Data rate up to 10 Gbps
- Optical power: up to 10 mW in CW mode, up to 30 mW in pulse mode in SM fiber G.657.A1
- Package types: coaxial, coaxial with bracket
- Built-in monitor photodiode

APPLICATIONS

- Optical fiber communication systems with data rate up to 10 Gbps
- Laser systems

ORDERING INFORMATION

LDS-1270-DFB-10G-10/30-X-12-X-X-X-X

Case type

U: compact coaxial (pulse mode only)
B: compact coaxial with double-sided bracket
Other type on request

Fiber type

SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm or **BSM1** ∅0.25mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm or **BSM3** ∅0.25mm
SMP13: PM, Fujikura SM13, PANDA type, furcation tubing ∅0.9 mm
Other type on request

Connector type

FA: FC/APC (SM1,SM3, SMP13)
FU: FC/UPC (SM1, SM3)
SA: SC/APC (SM1)
SU: SC/UPC (SM1)
N: no connector
Other type: on request

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)
P: pulse mode (10 µs; duty cycle = 1%)
CWP: both CW and pulse modes

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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LDS-1270-DFB-10G-10/30

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current	I_{FL}	120	mA	CW
		250	mA	Pulse
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	20	V	
Photodiode forward current	I_{Fp}	2	mA	
Operating temperature	T_{OP}	-40 - +85	°C	Package U, B
Operating temperature	T_{OP}	-40 - +50	°C	Package T, E
Storage temperature	T_{stg}	-40 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 10 seconds

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Wavelength	λ	1265	1270	1275	nm	CW, P = 10 mW
Spectral width	$\Delta\lambda$		0.12		nm	CW, P = 10 mW, -20 dB, OSA
Spectral width	Δf		1		MHz	CW, P = 10 mW, delayed self-heterodyne method
Wavelength-temperature coeff.	dλ/dT		0.10		nm/°C	
Side-mode suppression ratio	SMSR	40	55		dB	CW, P = 10 mW
Threshold current	I_{th}		8	10	mA	CW
Operating current	I_{op}		100	120	mA	CW, P = 10 mW, SM1
Slope efficiency	S_e	0.13	0.14		W/A	CW, SM1
Operating voltage	V_{op}		1.7	2.0	V	CW, P = 10 mW
Tracking error	E_r		0.15	0.30	dB	CW, P = 3 mW; T = -40 ÷ +80 °C, SM1
Pulse optical power	P_p	25	30		mW	Pulse, Iop = 250 mA
Rise and fall times	t_r, t_f			50	ps	20%-80%, package U, B
Resonance frequency	f_r		12		GHz	
Monitoring output current (PD)	I_m	0.20	0.80	1.5	mA	CW, P = 10 mW, V_{rd} = 5V
Capacitance (PD)	C_t		10	20	pF	V_{rd} = 5V, f = 1 MHz
Dark current (PD)	I_d			100	nA	V_{rd} = 1 V
Polarization extinction ratio	PER	20			dB	CW, SMP13

Pulse mode: pulse duration 10 μs; duty cycle = 1%

Tracking error E_r = max |10 lg [P(T)/P(25°C)]|, I_m= const, T = T_{min} ÷ T_{max}

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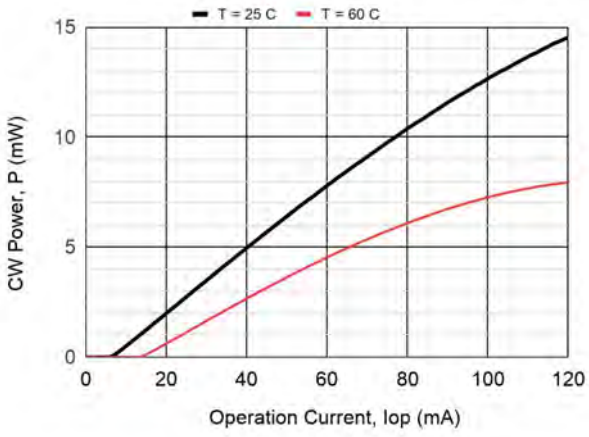
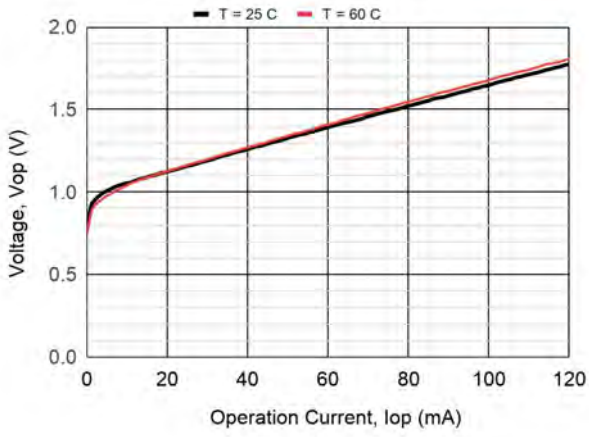
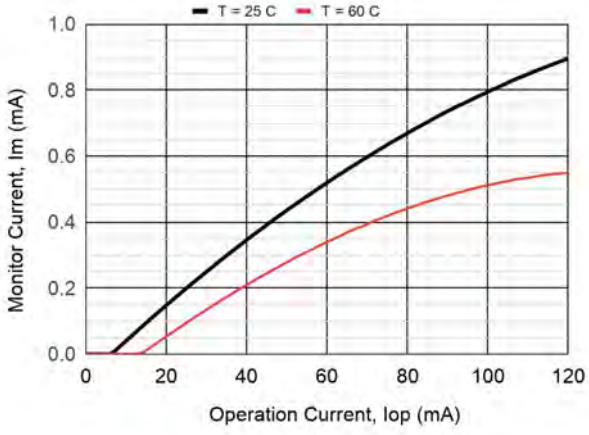
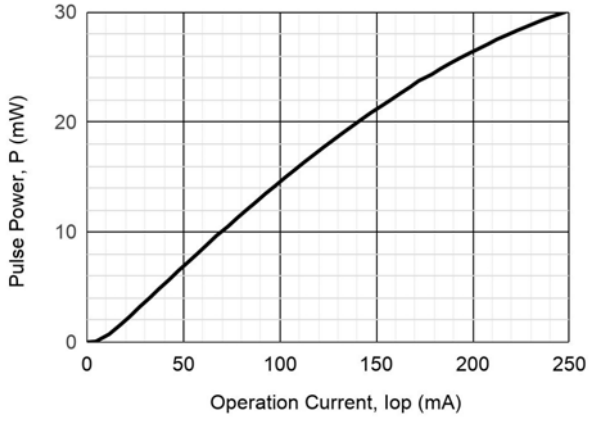
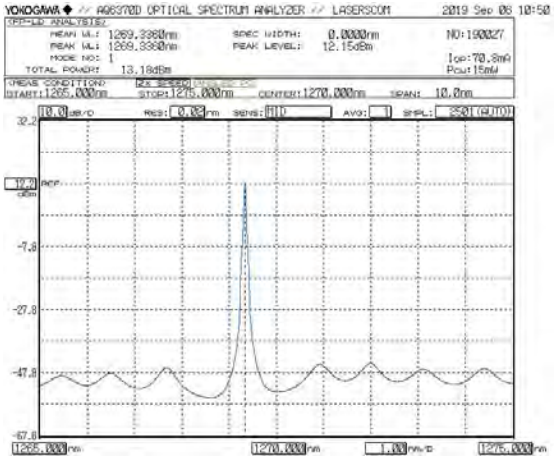
LDS-1270-DFB-10G-10/30

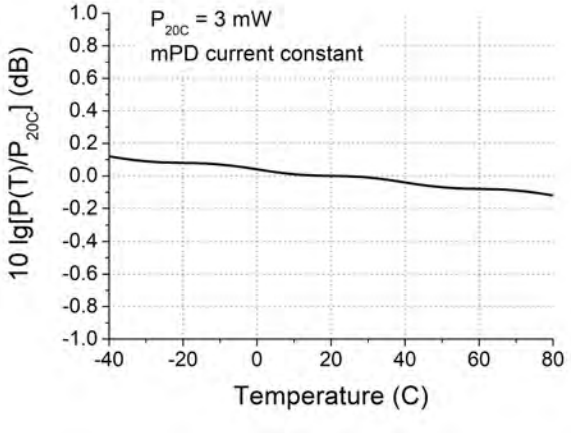










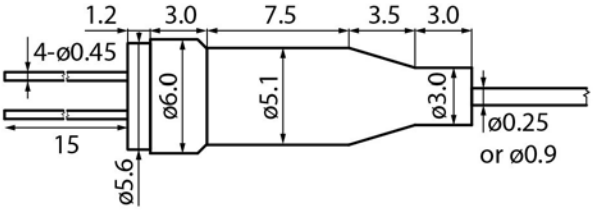


LASERSCOM
Coupling Light to Your Success

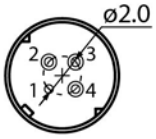
LDS-1270-DFB-10G-10/30

PACKAGE U

SIDE VIEW



BACK VIEW



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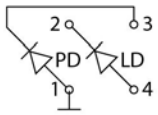
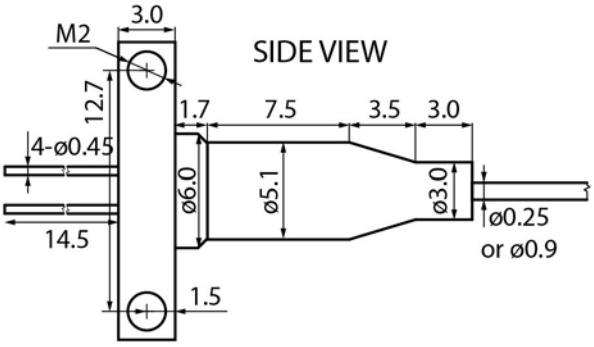


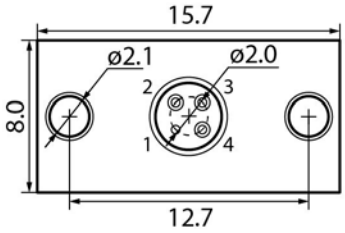
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE B



BACK VIEW



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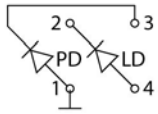

Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

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LDS-1270-DFB-10G-10/30

Characteristics, data, materials and structures specified in this datasheet are subject to change without notice. Please refer to the latest specification before use of the products.

Safety and handling cautions

1. Avoid smashing and burning of the module. Avoid storing and using the module in conditions where water, organic solvents or aggressive acids or bases may contact the module or where there is a possibility of exposure to corrosive gases, explosive gases, dust, salinity or other harsh conditions. The module should be disposed as special industrial waste.
2. Exceeding absolute maximum ratings even for a short time can cause permanent damage of the module.
3. The module is sensitive to and can be broken by ESD (static electricity).

Conflict Minerals Policy Statement

LasersCom LLC achieves business objectives and customer needs with social responsibility. We do not support or contribute to the violence and human rights violations associated with the mining of conflict minerals coming from Conflict Regions according to US "Dodd-Frank Act". When possible, our suppliers' conflict mineral statements are reviewed. We do not directly purchase Conflict Minerals from any source and do not knowingly procure any parts and products containing Conflict Minerals from Conflict Regions.

RoHS Compliance Statement

Restriction of Hazardous Substances (RoHS) directive (Directive 2011/65/EC amended with Directive (EU) 2015/863) is the directive aimed at reducing the harmful environmental impact of waste electrical equipment by restricting the use of known dangerous substances. Based on information received from our supply sources, LasersCom LLC hereby states that the banned substances listed in the RoHS directive are not found in the parts and materials used above the threshold level listed other than exceptions approved by the European Commission.

REACH Compliance Statement

Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) is a European Union regulation 1907/2006/EC that addresses the production and use of chemical substances, and their potential impacts on human health and the environment. Based on information received from our supply sources, LasersCom LLC hereby states compliance of the parts and materials used in manufacturing to REACH regulation. LasersCom LLC does not manufacture or import any substances or preparations as defined under REACH.

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LDI-1270-DFB-10G-15/45

OVERVIEW

LDI-1270-DFB-10G-15/45 is the MQW laser diode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Wavelength: 1270 nm
- Cavity type: DFB
- Linewidth: 1 MHz
- Data rate up to 10 Gbps
- Optical power: up to 15 mW in CW mode, up to 45 mW in pulse mode in SM fiber G.657.A1
- Package types: coaxial, coaxial with bracket
- Built-in monitor photodiode

APPLICATIONS

- Optical fiber communication systems with data rate up to 10 Gbps
- Laser systems

ORDERING INFORMATION

LDI-1270-DFB-10G-15/45-X-12-X-X-X-X

Case type

U: compact coaxial (pulse mode only)
B: compact coaxial with double-sided brackety
Other type on request

Fiber type

SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm or **BSM1** ∅0.25mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm or **BSM3** ∅0.25mm
MM5: MM, 50/125, OM2, furcation tubing ∅0.9 mm
MM6: MM, 62.5/125, OM1, furcation tubing ∅0.9 mm
Other type on request

Connector type

FA: FC/APC (SM1,SM3)
SA: SC/APC (SM1)
N: no connector
Other type: on request

FU: FC/UPC (SM1, SM3, MM5, MM6)
SU: SC/UPC (SM1)

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)
P: pulse mode (10 µs; duty cycle = 1%)
CWP: both CW and pulse modes

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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LDI-1270-DFB-10G-15/45

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current	I_{FL}	120	mA	CW
		250	mA	Pulse
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	20	V	
Photodiode forward current	I_{Fp}	2	mA	
Operating temperature	T_{OP}	-40 - +85	°C	Package U, B
Operating temperature	T_{OP}	-40 - +50	°C	Package T, E
Storage temperature	T_{stg}	-40 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 10 seconds

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Wavelength	λ	1265	1270	1275	nm	CW, P = 15 mW
Spectral width	$\Delta\lambda$		0.12		nm	CW, P = 15 mW, -20 dB, OSA
Spectral width	Δf		1		MHz	CW, P = 15 mW, delayed self-heterodyne method
Wavelength-temperature coeff.	dλ/dT		0.10		nm/°C	
Side-mode suppression ratio	SMSR	40	55		dB	CW, P = 15 mW
Threshold current	I_{th}		7	10	mA	CW
Operating current	I_{op}		80	120	mA	CW, P = 15 mW, SM1
Slope efficiency	S_e	0.13	0.20		W/A	CW, SM1
Operating voltage	V_{op}		1.5	2.0	V	CW, P = 15 mW
Tracking error	E_r		0.4	0.6	dB	CW, P = 3 mW; T = -40 ÷ +80 °C, SM1
Pulse optical power	P_p	40	45		mW	Pulse, Iop = 250 mA
Rise and fall times	t_r, t_f			50	ps	20%-80%, package U, B
Resonance frequency	f_r		12		GHz	
Monitoring output current (PD)	I_m	1	0.7	1.5	mA	CW, P = 15 mW, V_{rd} = 5V
Dark current (PD)	I_d			100	nA	V_{rd} = 1 V

Pulse mode: pulse duration 10 μs; duty cycle = 1%

Tracking error E_r = max |10 lg [P(T)/P(25°C)]|, I_m= const, T = T_{min} ÷ T_{max}

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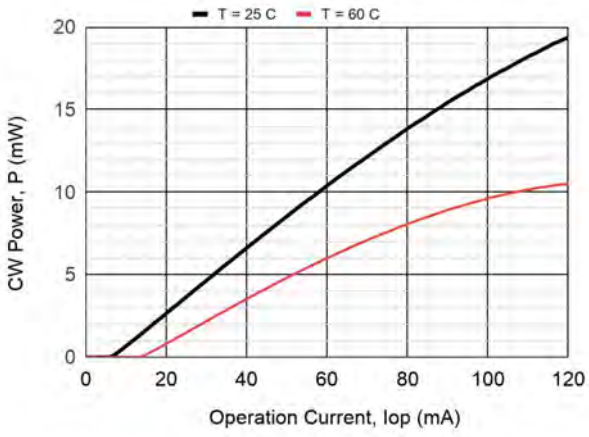
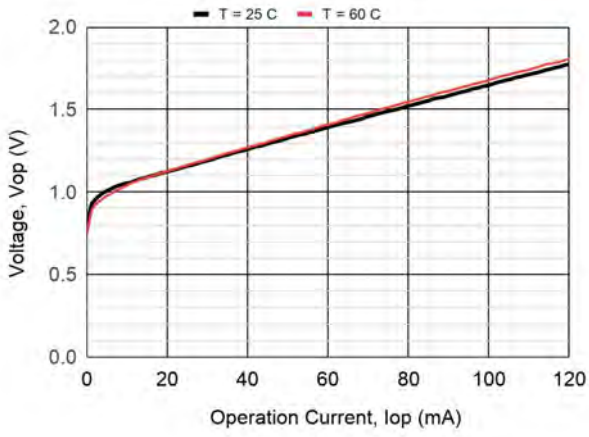
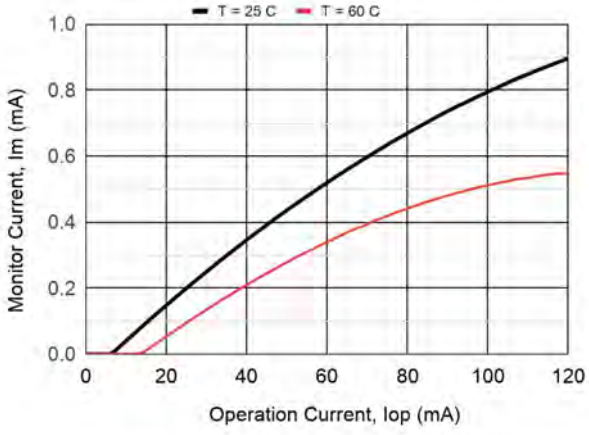
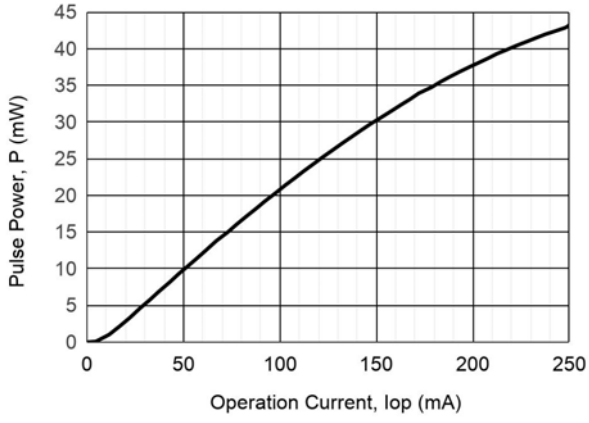
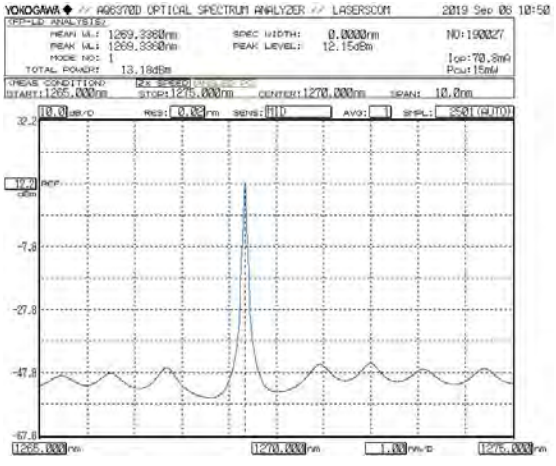
LDI-1270-DFB-10G-15/45

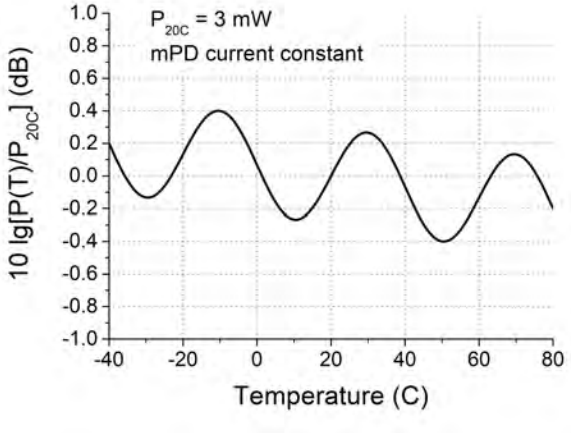












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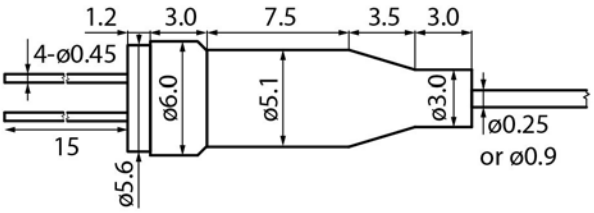
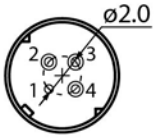
LDI-1270-DFB-10G-15/45

PACKAGE U

SIDE VIEW



BACK VIEW



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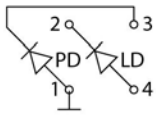
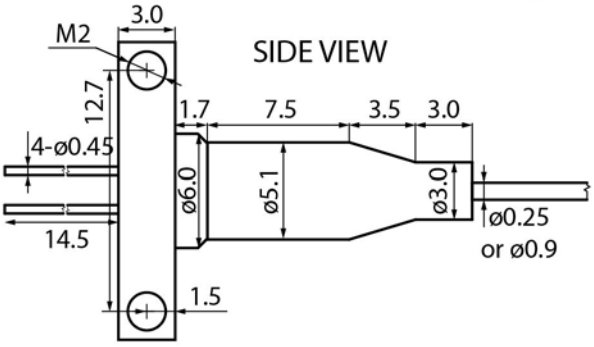


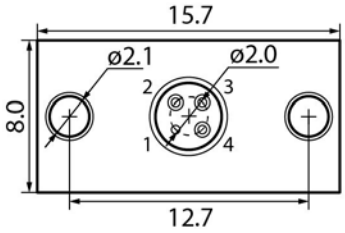
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE B



BACK VIEW



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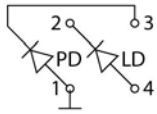

Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

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LDI-1270-DFB-10G-15/45

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2. Exceeding absolute maximum ratings even for a short time can cause permanent damage of the module.
3. The module is sensitive to and can be broken by ESD (static electricity).

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Coupling Light to Your Success

LDS-1290-DFB-2.5G-15/45

OVERVIEW

LDS-1290-DFB-2.5G-15/45 is the MQW laser diode coupled to an optical fiber and packaged into a hermetic case. The special feature of the LDS technology is the increased thermal stability of optical power

MAIN FEATURES

- Wavelength: 1290 nm
- Cavity type: DFB
- Linewidth: < 500 kHz
- Data rate up to 2.5 Gbps
- Optical power: up to 15 mW in CW mode, up to 45 mW in pulse mode in SM fiber G.657.A1
- Package types: coaxial, coaxial with bracket, 14 pin DIL
- Built-in monitor photodiode

APPLICATIONS

- Optical fiber communication systems with data rate up to 2.5 Gbps
- Laser systems

ORDERING INFORMATION

LDS-1290-DFB-2.5G-15/45-X-2-X-X-X-X

Case type

U: compact coaxial (pulse mode only)
B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm or **BSM1** ∅0.25mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm or **BSM3** ∅0.25mm
SMP13: PM, Fujikura SM13, PANDA type, furcation tubing ∅0.9 mm
Other type on request

Connector type

FA: FC/APC (SM1,SM3, SMP13)
SA: SC/APC (SM1)
N: no connector
Other type: on request
FU: FC/UPC (SM1, SM3)
SU: SC/UPC (SM1)

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)
P: pulse mode (10 µs; duty cycle = 1%)
CWP: both CW and pulse modes

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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LDS-1290-DFB-2.5G-15/45

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current	I_{FL}	120	mA	CW
		450	mA	Pulse
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	20	V	
Photodiode forward current	I_{Fp}	2	mA	
Operating temperature	T_{OP}	-40 - +85	°C	Package U, B
Operating temperature	T_{OP}	-40 - +50	°C	Package T, E
Storage temperature	T_{stg}	-50 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 10 seconds

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Wavelength	λ	1285	1290	1295	nm	CW, P = 15 mW
Spectral width	$\Delta\lambda$		0.11		nm	CW, P = 15 mW, -20 dB, OSA
Spectral width	Δf			500	kHz	CW, P = 15 mW, delayed self-heterodyne method
Wavelength-temperature coeff.	dλ/dT		0.11		nm/°C	
Side-mode suppression ratio	SMSR	40	55		dB	CW, P = 15 mW
Threshold current	I_{th}		8	12	mA	CW
Operating current	I_{op}		100	120	mA	CW, P = 15 mW, SM1
Slope efficiency	S_e	0.13	0.16		W/A	CW, SM1
Operating voltage	V_{op}		1.3	1.8	V	CW, P = 15 mW
Tracking error	E_r		0.15	0.30	dB	CW, P = 3 mW; T = -40 ÷ +80 °C
Pulse optical power	P_p	40	45		mW	Pulse, Iop = 450 mA
Rise and fall times	t_r, t_f		80	120	ps	20%-80%, package U, B
Resonance frequency	f_r		4.3		GHz	P = 4 mW
Monitoring output current (PD)	I_m	1.0	2.0	5.0	mA	CW, P = 15 mW, V_{rd} = 5V
Dark current (PD)	I_d			200	nA	V_{rd} = 5V
Polarization extinction ratio	PER	20			dB	CW, SMP13

Pulse mode: pulse duration 10 μs; duty cycle = 1%

Tracking error E_r = max |10 lg [P(T)/P(25°C)]|, I_m= const, T = T_{min} ÷ T_{max}

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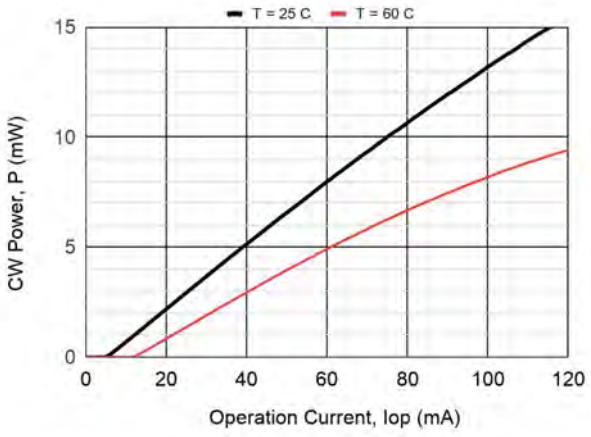

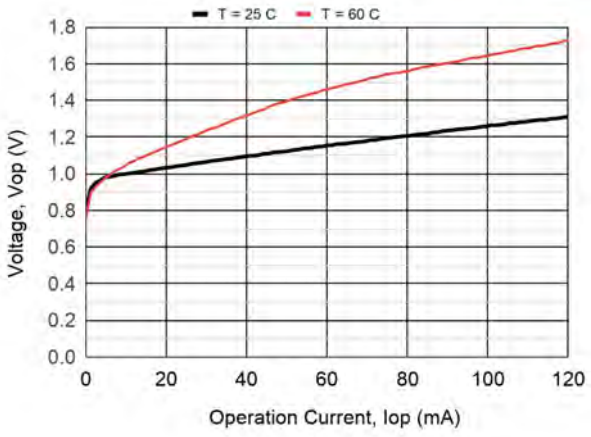

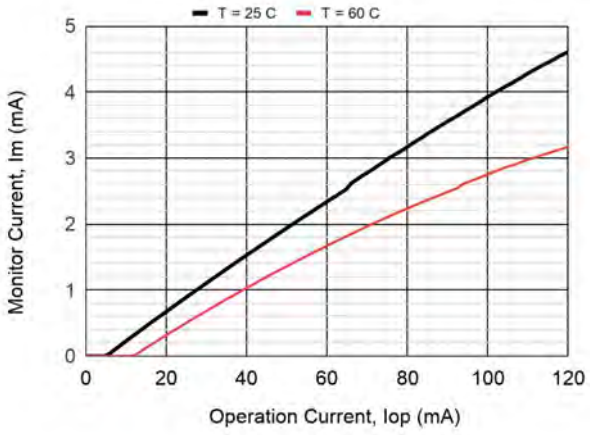

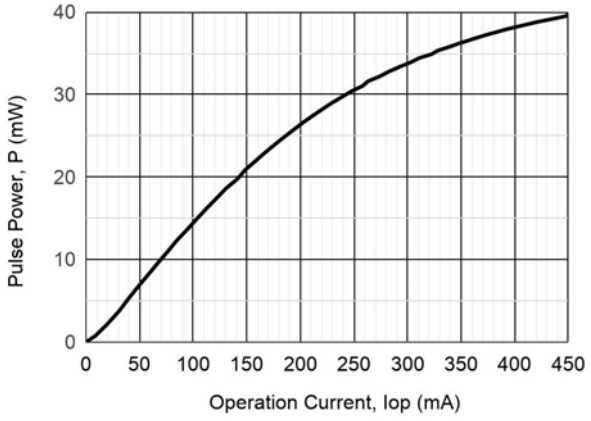

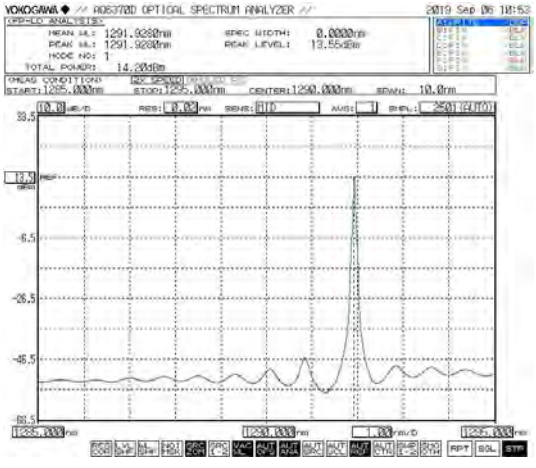

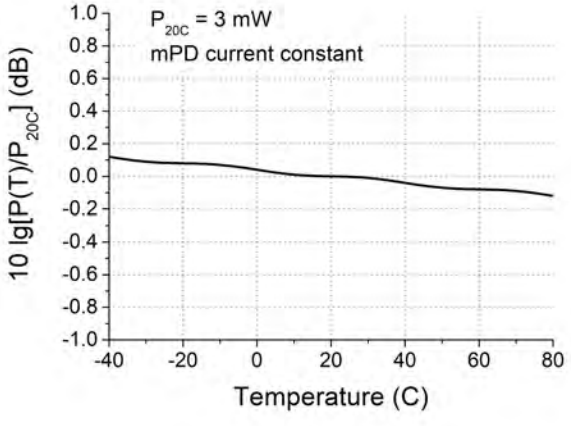

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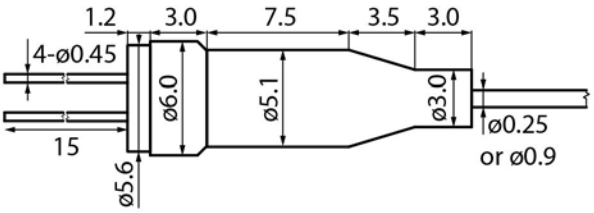
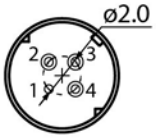
LDS-1290-DFB-2.5G-15/45

PACKAGE U

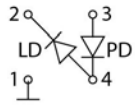
SIDE VIEW



BACK VIEW



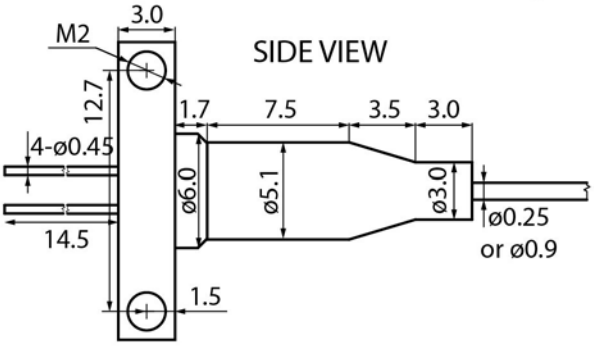
PINOUT #2



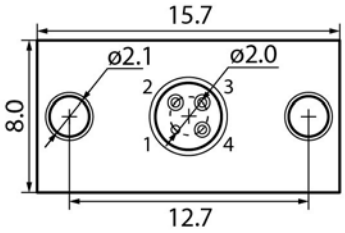
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

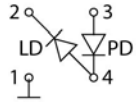
PACKAGE B



BACK VIEW



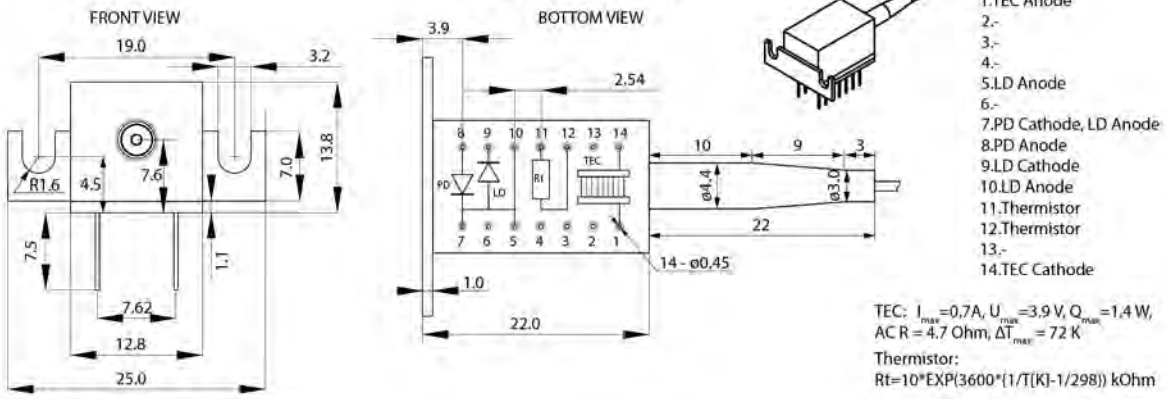
PINOUT #2



Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T



PINOUT #2, #3

1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.PD Cathode, LD Anode
8.PD Anode
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

TEC: I_{max}=0,7A, U_{max}=3.9 V, Q_{max}=1,4 W,
AC R = 4.7 Ohm, ΔT_{max} = 72 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

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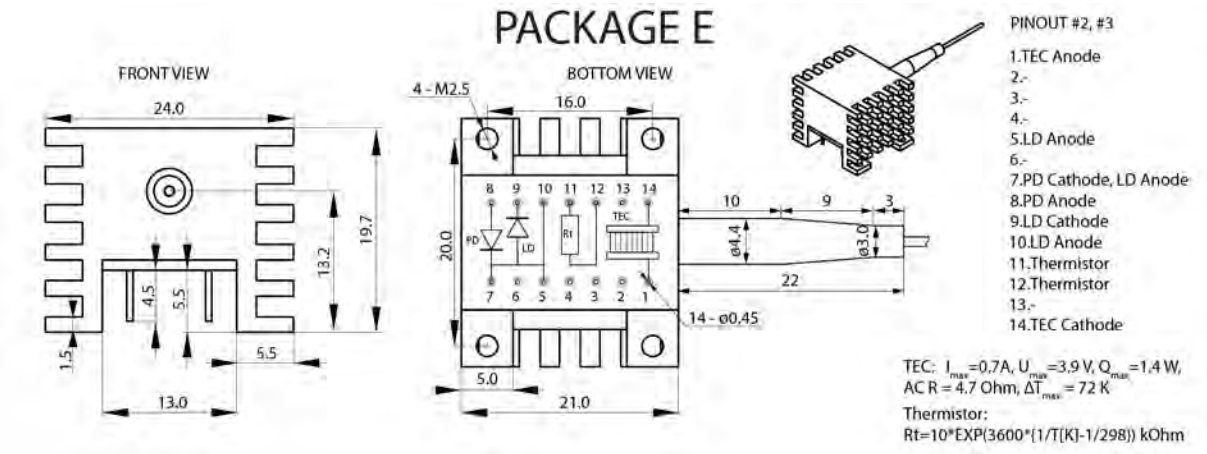

LDS-1290-DFB-2.5G-15/45

Characteristics, data, materials and structures specified in this datasheet are subject to change without notice. Please refer to the latest specification before use of the products.

Safety and handling cautions

1. Avoid smashing and burning of the module. Avoid storing and using the module in conditions where water, organic solvents or aggressive acids or bases may contact the module or where there is a possibility of exposure to corrosive gases, explosive gases, dust, salinity or other harsh conditions. The module should be disposed as special industrial waste.
2. Exceeding absolute maximum ratings even for a short time can cause permanent damage of the module.
3. The module is sensitive to and can be broken by ESD (static electricity).

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LasersCom LLC achieves business objectives and customer needs with social responsibility. We do not support or contribute to the violence and human rights violations associated with the mining of conflict minerals coming from Conflict Regions according to US "Dodd-Frank Act". When possible, our suppliers' conflict mineral statements are reviewed. We do not directly purchase Conflict Minerals from any source and do not knowingly procure any parts and products containing Conflict Minerals from Conflict Regions.

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LDI-1290-DFB-2.5G-20/50

OVERVIEW

LDI-1290-DFB-2.5G-20/50 is the MQW laser diode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Wavelength: 1290 nm
- Cavity type: DFB
- Linewidth: < 500 kHz
- Data rate up to 2.5 Gbps
- Optical power: up to 20 mW in CW mode, up to 50 mW in pulse mode in SM fiber G.657.A1
- Package types: coaxial, coaxial with bracket, 14 pins DIL
- Built-in monitor photodiode

APPLICATIONS

- Optical fiber communication systems with data rate up to 2.5 Gbps
- Laser systems

ORDERING INFORMATION

LDI-1290-DFB-2.5G-20/50-X-2-X-X-X-X

Case type

U: compact coaxial (pulse mode only)
B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm or **BSM1** ∅0.25mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm or **BSM3** ∅0.25mm
MM5: MM, 50/125, OM2, furcation tubing ∅0.9 mm
MM6: MM, 62.5/125, OM1, furcation tubing ∅0.9 mm
Other type on request

Connector type

FA: FC/APC (SM1,SM3)
SA: SC/APC (SM1)
N: no connector
Other type: on request

FU: FC/UPC (SM1, SM3, MM5, MM6)
SU: SC/UPC (SM1)

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)
P: pulse mode (10 µs; duty cycle = 1%)
CWP: both CW and pulse modes

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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LDI-1290-DFB-2.5G-20/50

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current	I_{FL}	120	mA	CW
		450	mA	Pulse
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	20	V	
Photodiode forward current	I_{Fp}	2	mA	
Operating temperature	T_{OP}	-40 - +85	°C	Package U, B
Operating temperature	T_{OP}	-40 - +50	°C	Package T, E
Storage temperature	T_{stg}	-50 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 10 seconds

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Wavelength	λ	1285	1290	1295	nm	CW, P = 20 mW
Spectral width	$\Delta\lambda$		0.11		nm	CW, P = 20 mW, -20 dB, OSA
Spectral width	Δf			500	kHz	CW, P = 20 mW, delayed self-heterodyne method
Wavelength-temperature coeff.	dλ/dT		0.11		nm/°C	
Side-mode suppression ratio	SMSR	40	55		dB	CW, P = 20 mW
Threshold current	I_{th}		6	12	mA	CW
Operating current	I_{op}		95	120	mA	CW, P = 20 mW, SM1
Slope efficiency	S_e	0.18	0.22		W/A	CW, SM1
Operating voltage	V_{op}		1.3	1.8	V	CW, P = 20 mW
Tracking error	E_r		0.4	0.6	dB	CW, P = 3 mW; T = -40 ÷ +80 °C
Pulse optical power	P_p	45	50		mW	Pulse, Iop = 450 mA
Rise and fall times	t_r, t_f		80	120	ps	20%-80%, package U, B
Resonance frequency	f_r		4.3		GHz	P = 4 mW
Monitoring output current (PD)	I_m	1.0	2.5	5.0	mA	CW, P = 20 mW, V_{rd} = 5V
Dark current (PD)	I_d			200	nA	V_{rd} = 5V

Pulse mode: pulse duration 10 μs; duty cycle = 1%

Tracking error E_r = max |10 lg [P(T)/P(25°C)]]|, I_m= const, T = T_{min} ÷ T_{max}

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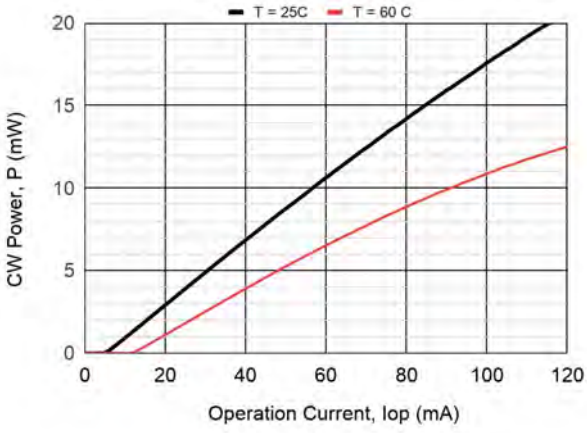
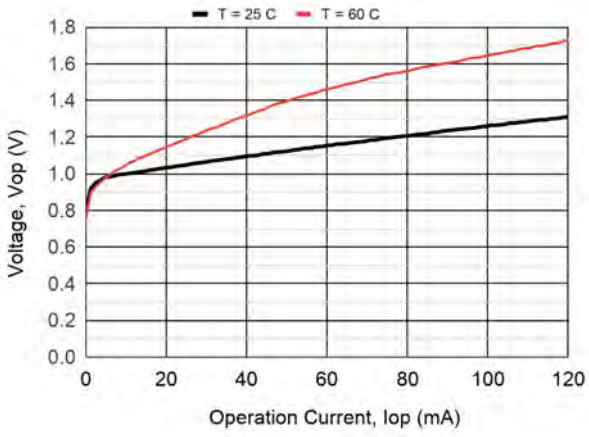
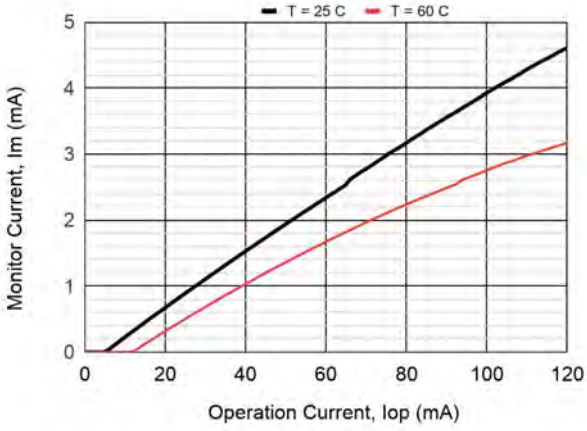
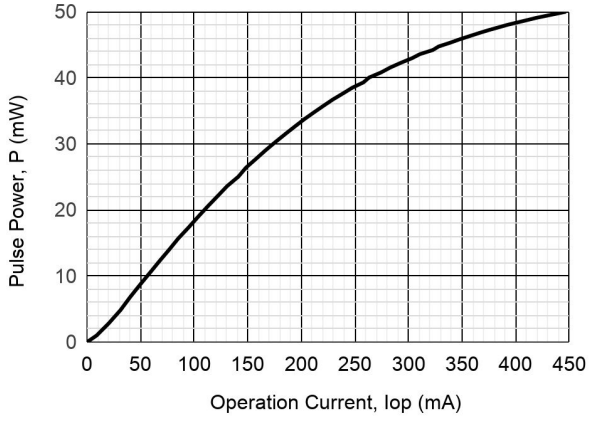
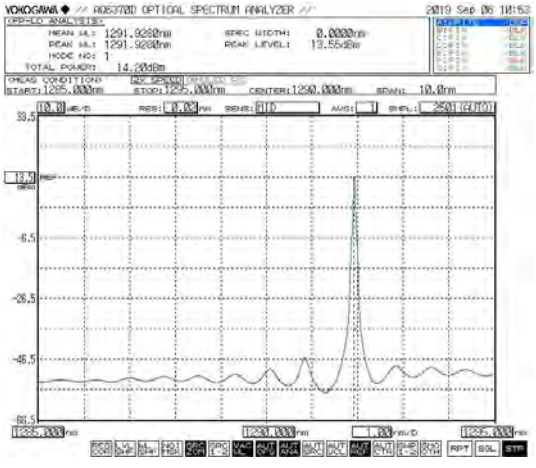
LDI-1290-DFB-2.5G-20/50

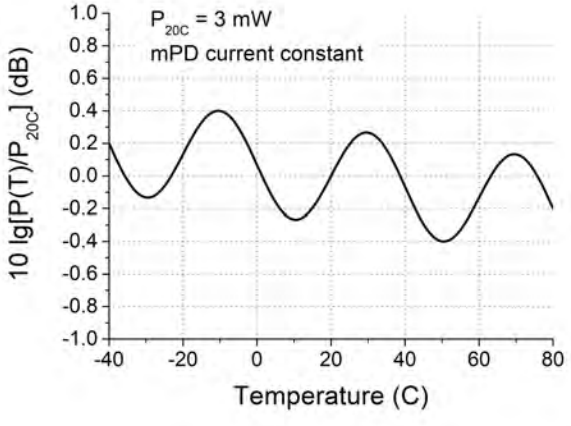












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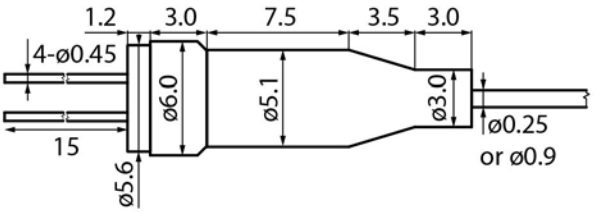
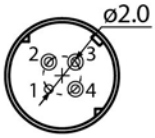
LDI-1290-DFB-2.5G-20/50

PACKAGE U

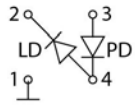
SIDE VIEW



BACK VIEW



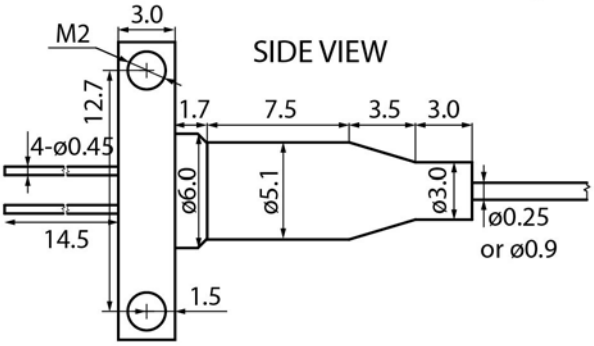
PINOUT #2



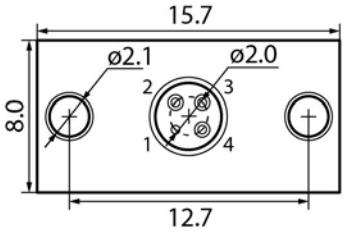
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE B



BACK VIEW



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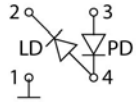
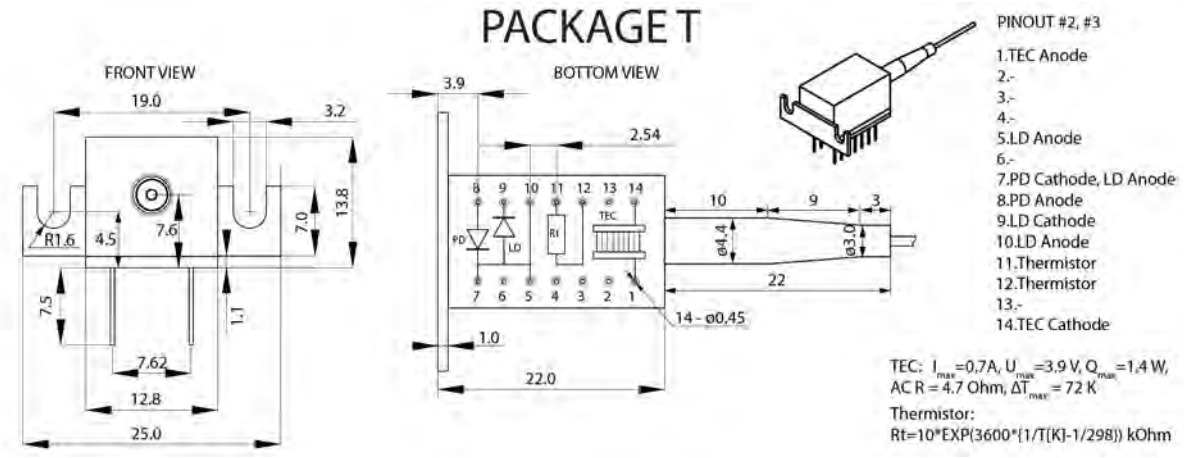


Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T



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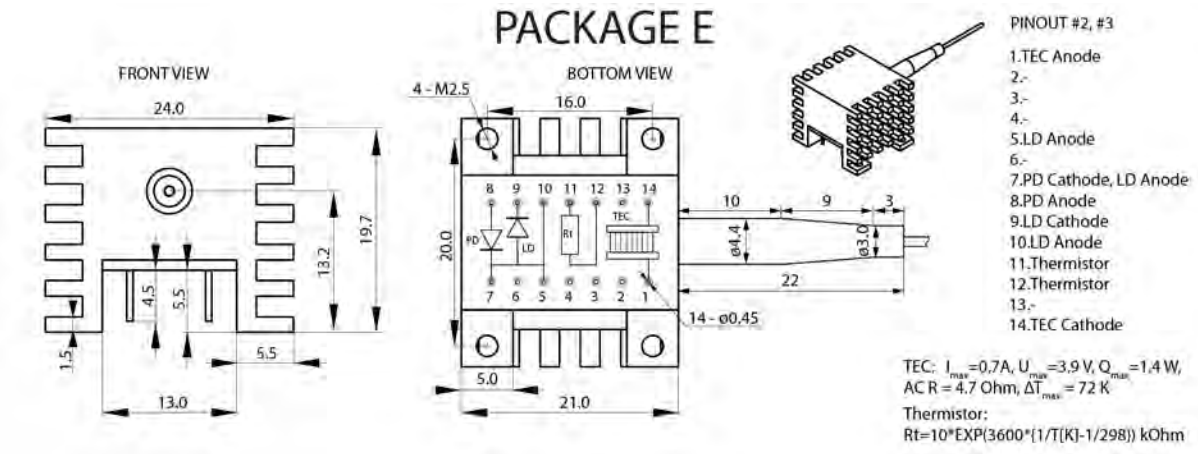
LDI-1290-DFB-2.5G-20/50



LDI-1290-DFB-2.5G-20/50

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Safety and handling cautions

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LDS-1310-DFB-2.5G-15/60

OVERVIEW

LDS-1310-DFB-2.5G-15/60 is the MQW laser diode coupled to an optical fiber and packaged into a hermetic case

The special feature of the LDS technology is the increased thermal stability of optical power

MAIN FEATURES

- Wavelength: 1310 nm
- Cavity type: DFB
- Linewidth: < 500 kHz
- Data rate up to 2.5 Gbps
- Optical power: up to 15 mW in CW mode, up to 60 mW in pulse mode in SM fiber G.657.A1
- Package types: coaxial, coaxial with bracket, 14 pin DIL
- Built-in monitor photodiode

APPLICATIONS

- Optical fiber communication systems with data rate up to 2.5 Gbps
- Laser systems

ORDERING INFORMATION

LDS-1310-DFB-2.5G-15/60-X -2-X-X-X-X

Case type

U: compact coaxial (pulse mode only)
B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm or **BSM1** ∅0.25mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm or **BSM3** ∅0.25mm
SMP13: PM, Fujikura SM13, PANDA type, furcation tubing ∅0.9 mm
Other type on request

Connector type

FA: FC/APC (SM1,SM3, SMP13)
FU: FC/UPC (SM1, SM3)
SA: SC/APC (SM1)
SU: SC/UPC (SM1)
N: no connector
Other type: on request

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)
P: pulse mode (10 µs; duty cycle = 1%)
CWP: both CW and pulse modes

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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LDS-1310-DFB-2.5G-15/60

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current	I_{FL}	120	mA	CW
		450	mA	Pulse
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	20	V	
Photodiode forward current	I_{Fp}	2	mA	
Operating temperature	T_{OP}	-40 - +85	°C	Package U, B
Operating temperature	T_{OP}	-40 - +50	°C	Package T, E
Storage temperature	T_{stg}	-40 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 10 seconds

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Wavelength	λ	1305	1310	1315	nm	CW, P = 15 mW
Spectral width	$\Delta\lambda$		0.11		nm	CW, P = 15 mW, -20 dB, OSA
Spectral width	Δf			500	kHz	CW, P = 15 mW, delayed self-heterodyne method
Wavelength-temperature coeff.	dλ/dT		0.12		nm/°C	
Side-mode suppression ratio	SMSR	40	55		dB	CW, P = 15 mW
Threshold current	I_{th}		8	12	mA	CW
Operating current	I_{op}		80	120	mA	CW, P = 15 mW, SM1
Slope efficiency	S_e	0.17	0.20		W/A	CW, SM1
Operating voltage	V_{op}		1.4	1.8	V	CW, P = 15 mW
Tracking error	E_r		0.15	0.30	dB	CW, P = 3 mW; T = -40 ÷ +80 °C
Pulse optical power	P_p	55	60		mW	Pulse, Iop = 450 mA
Rise and fall times	t_r, t_f		80	120	ps	20%-80%, package U, B
Resonance frequency	f_r		11		GHz	2.5Gbps, Imod = 40mA, Ibias = Ith+2 mA
Monitoring output current (PD)	I_m	1.0	1.3	3.0	mA	CW, P = 15 mW, V_{rd} = 5V
Capacitance (PD)	C_t		10	20	pF	V_{rd} = 5V, f = 1 MHz
Dark current (PD)	I_d			100	nA	V_{rd} = 5V
Polarization extinction ratio	PER	20			dB	CW, SMP13

Pulse mode: pulse duration 10 μs; duty cycle = 1%

Tracking error E_r = max |10 lg [P(T)/P(25°C)]]|, I_m= const, T = T_{min} ÷ T_{max}

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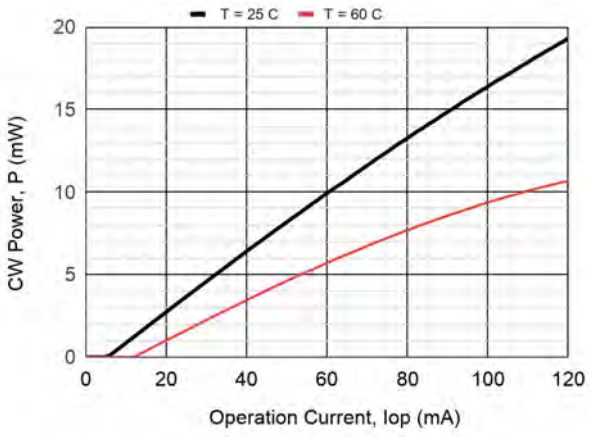

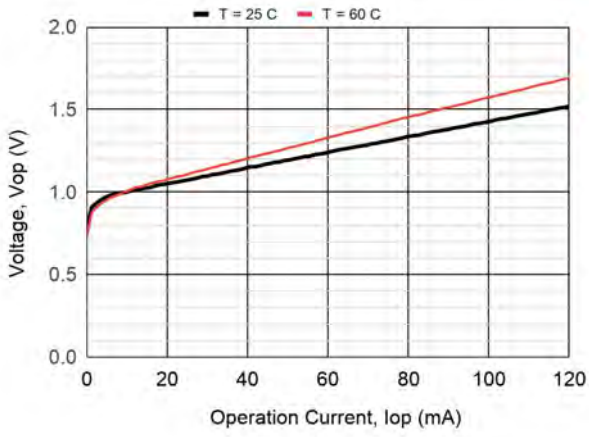

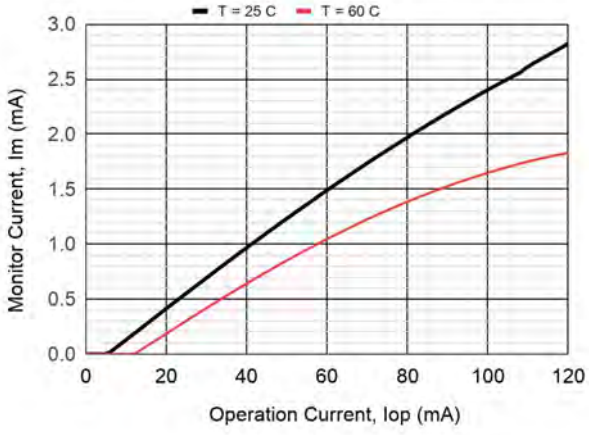

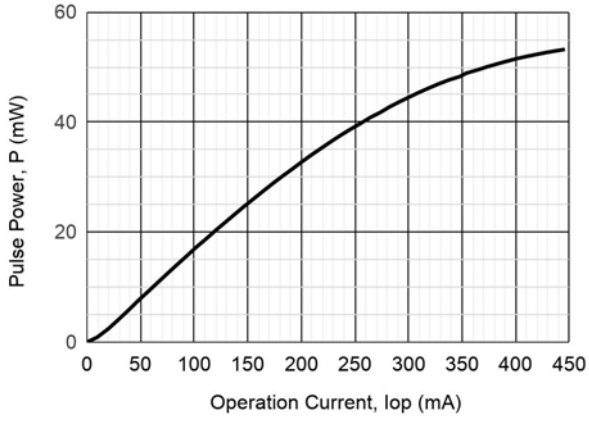

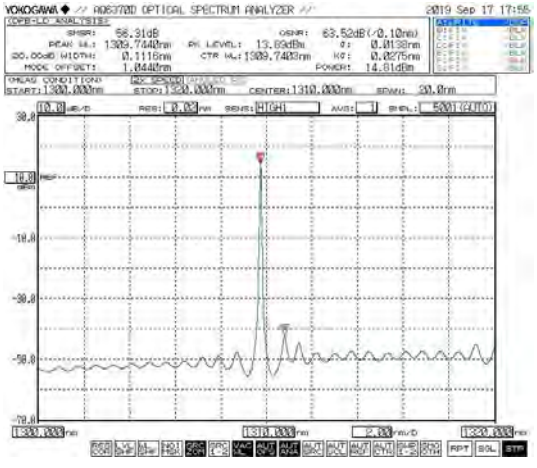

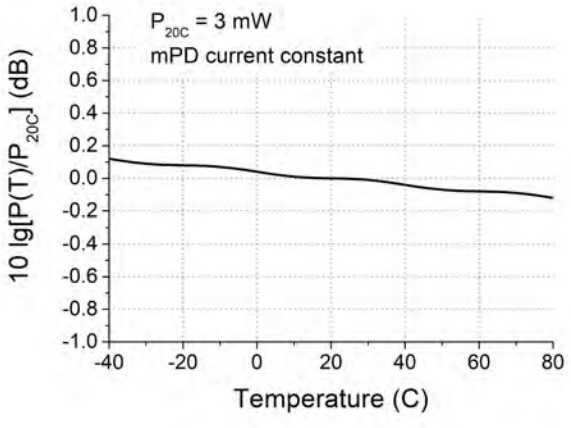

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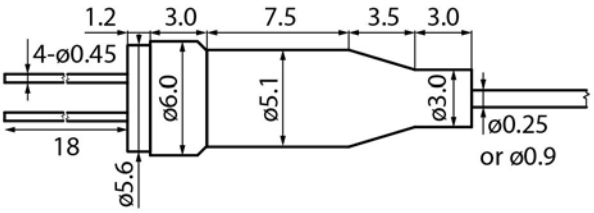
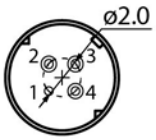
LDS-1310-DFB-2.5G-15/60

PACKAGE U

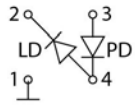
SIDE VIEW



BACK VIEW



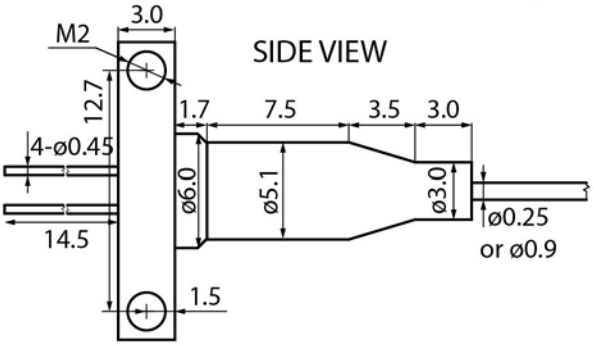
PINOUT #2



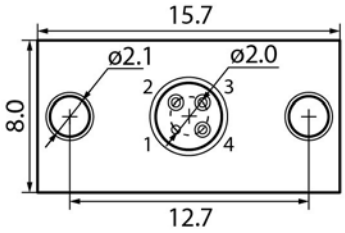
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

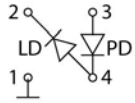
PACKAGE B



BACK VIEW



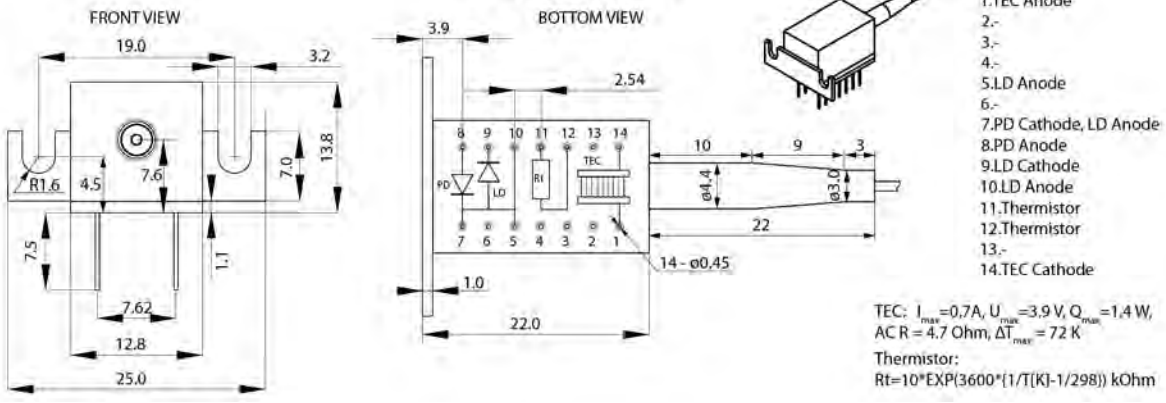
PINOUT #2



Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T



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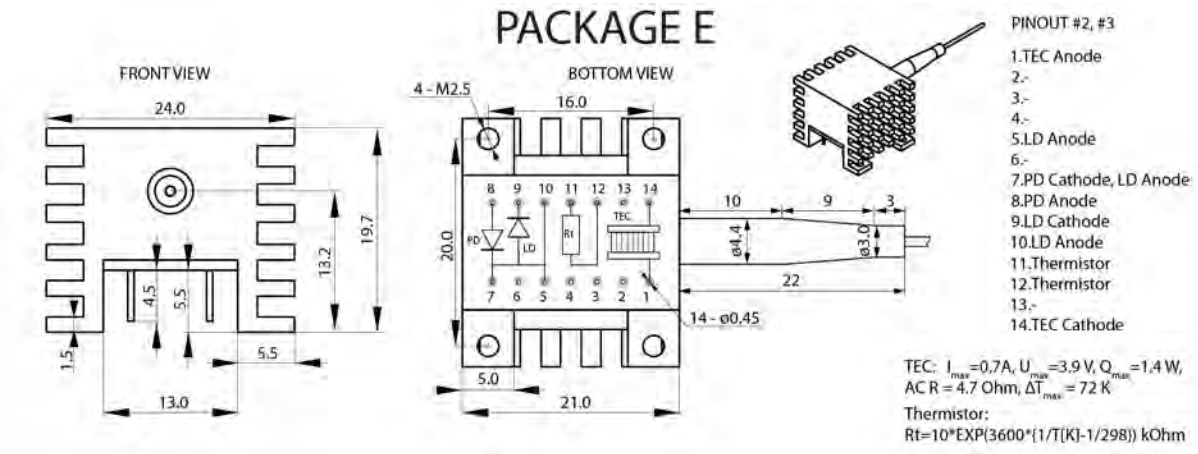

LDS-1310-DFB-2.5G-15/60

Characteristics, data, materials and structures specified in this datasheet are subject to change without notice. Please refer to the latest specification before use of the products.

Safety and handling cautions

1. Avoid smashing and burning of the module. Avoid storing and using the module in conditions where water, organic solvents or aggressive acids or bases may contact the module or where there is a possibility of exposure to corrosive gases, explosive gases, dust, salinity or other harsh conditions. The module should be disposed as special industrial waste.
2. Exceeding absolute maximum ratings even for a short time can cause permanent damage of the module.
3. The module is sensitive to and can be broken by ESD (static electricity).

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LasersCom LLC achieves business objectives and customer needs with social responsibility. We do not support or contribute to the violence and human rights violations associated with the mining of conflict minerals coming from Conflict Regions according to US "Dodd-Frank Act". When possible, our suppliers' conflict mineral statements are reviewed. We do not directly purchase Conflict Minerals from any source and do not knowingly procure any parts and products containing Conflict Minerals from Conflict Regions.

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REACH Compliance Statement

Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) is a European Union regulation 1907/2006/EC that addresses the production and use of chemical substances, and their potential impacts on human health and the environment. Based on information received from our supply sources, LasersCom LLC hereby states compliance of the parts and materials used in manufacturing to REACH regulation. LasersCom LLC does not manufacture or import any substances or preparations as defined under REACH.

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LDI-1310-DFB-2.5G-20/80

OVERVIEW

LDI-1310-DFB-2.5G-20/80 is the MQW laser diode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Wavelength: 1310 nm
- Cavity type: DFB
- Linewidth: < 500 kHz
- Data rate up to 2.5 Gbps
- Optical power: up to 20 mW in CW mode, up to 80 mW in pulse mode in SM fiber G.657.A1
- Package types: coaxial, coaxial with bracket, 14 pins DIL
- Built-in monitor photodiode

APPLICATIONS

- Optical fiber communication systems with data rate up to 2.5 Gbps
- Laser systems

ORDERING INFORMATION

LDI-1310-DFB-2.5G-20/80-X-2-X-X-X-X

Case type

U: compact coaxial (pulse mode only)
B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm or **BSM1** ∅0.25mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm or **BSM3** ∅0.25mm
MM5: MM, 50/125, OM2, furcation tubing ∅0.9 mm
MM6: MM, 62.5/125, OM1, furcation tubing ∅0.9 mm
Other type on request

Connector type

FA: FC/APC (SM1,SM3)
SA: SC/APC (SM1)
N: no connector
Other type: on request

FU: FC/UPC (SM1, SM3, MM5, MM6)
SU: SC/UPC (SM1)

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)
P: pulse mode (10 µs; duty cycle = 1%)
CWP: both CW and pulse modes

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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LDI-1310-DFB-2.5G-20/80

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current	I_{FL}	120	mA	CW
		450	mA	Pulse
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	20	V	
Photodiode forward current	I_{Fp}	2	mA	
Operating temperature	T_{OP}	-40 - +85	°C	Package U, B
Operating temperature	T_{OP}	-40 - +50	°C	Package T, E
Storage temperature	T_{stg}	-40 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 10 seconds

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Wavelength	λ	1305	1310	1315	nm	CW, P = 20 mW
Spectral width	$\Delta\lambda$		0.11		nm	CW, P = 20 mW, -20 dB, OSA
Spectral width	Δf			500	kHz	CW, P = 20 mW, delayed self-heterodyne method
Wavelength-temperature coeff.	dλ/dT		0.12		nm/°C	
Side-mode suppression ratio	SMSR	40	55		dB	CW, P = 20 mW
Threshold current	I_{th}		8	12	mA	CW
Operating current	I_{op}		90	120	mA	CW, P = 20 mW, SM1
Slope efficiency	S_e	0.21	0.24		W/A	CW, SM1
Operating voltage	V_{op}		1.5	1.8	V	CW, P = 20 mW
Tracking error	E_r		0.4	0.6	dB	CW, P = 3 mW; T = -40 ÷ +80 °C
Pulse optical power	P_p	70	80		mW	Pulse, Iop = 450 mA
Rise and fall times	t_r, t_f		80	120	ps	20%-80%, package U, B
Resonance frequency	f_r		11		GHz	2.5Gbps, Imod = 40mA, Ibias = Ith+2 mA
Monitoring output current (PD)	I_m	1.0	2.5	5.0	mA	CW, P = 20 mW, V_{rd} = 5V
Dark current (PD)	I_d			200	nA	V_{rd} = 5V

Pulse mode: pulse duration 10 μs; duty cycle = 0.01

Tracking error E_r = max |10 lg [P(T)/P(25°C)]|, I_m= const, T = T_{min} ÷ T_{max}

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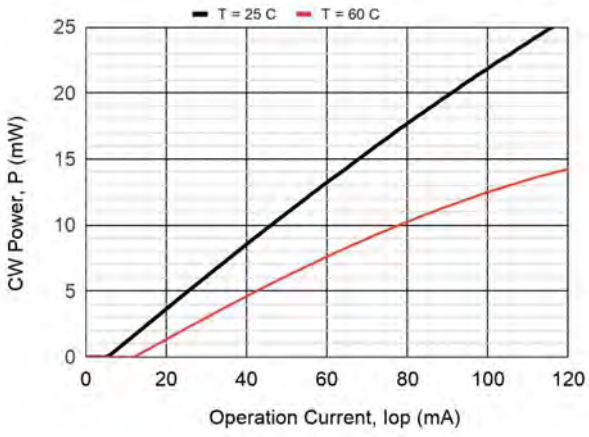
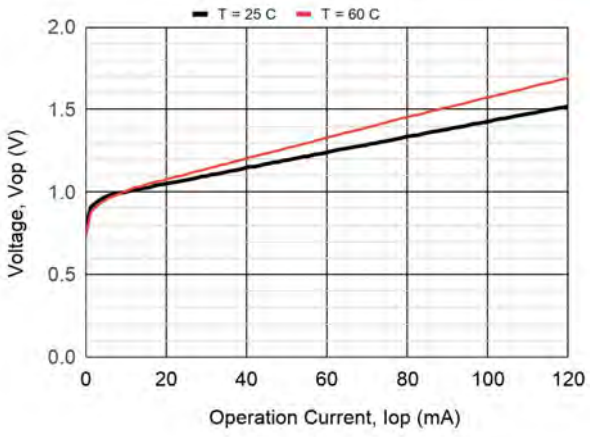
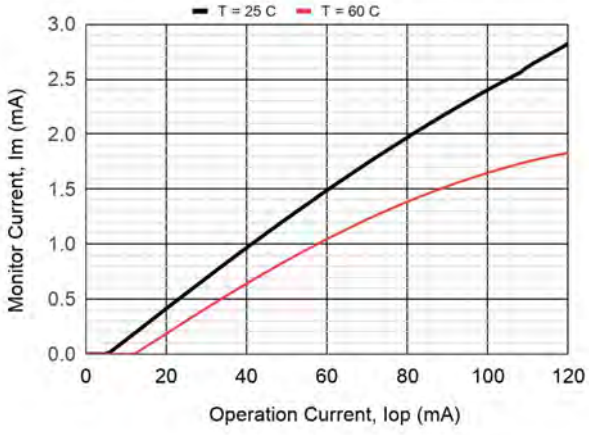
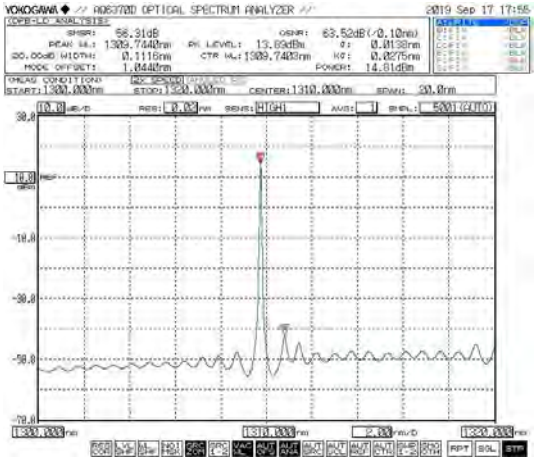
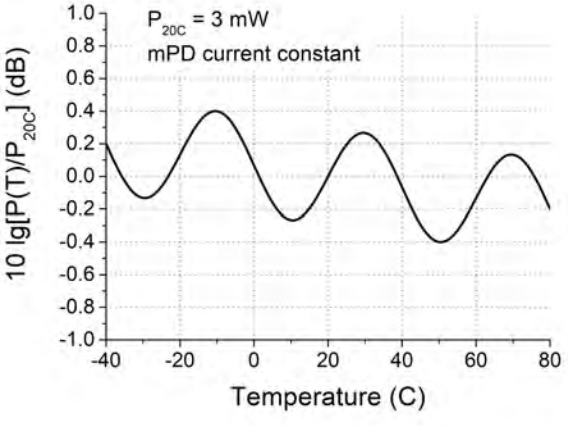
LDI-1310-DFB-2.5G-20/80











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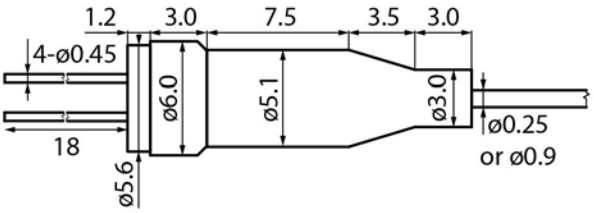
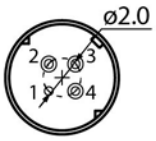
LDI-1310-DFB-2.5G-20/80

PACKAGE U

SIDE VIEW



BACK VIEW



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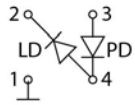
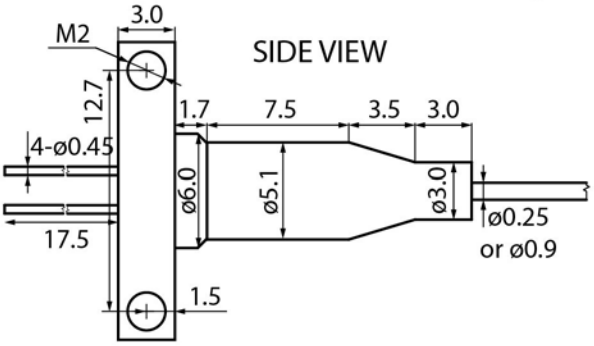


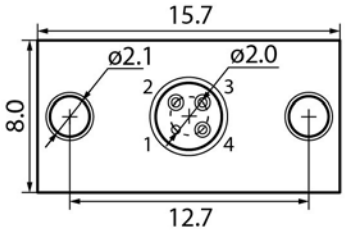
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE B



BACK VIEW



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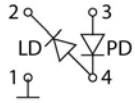
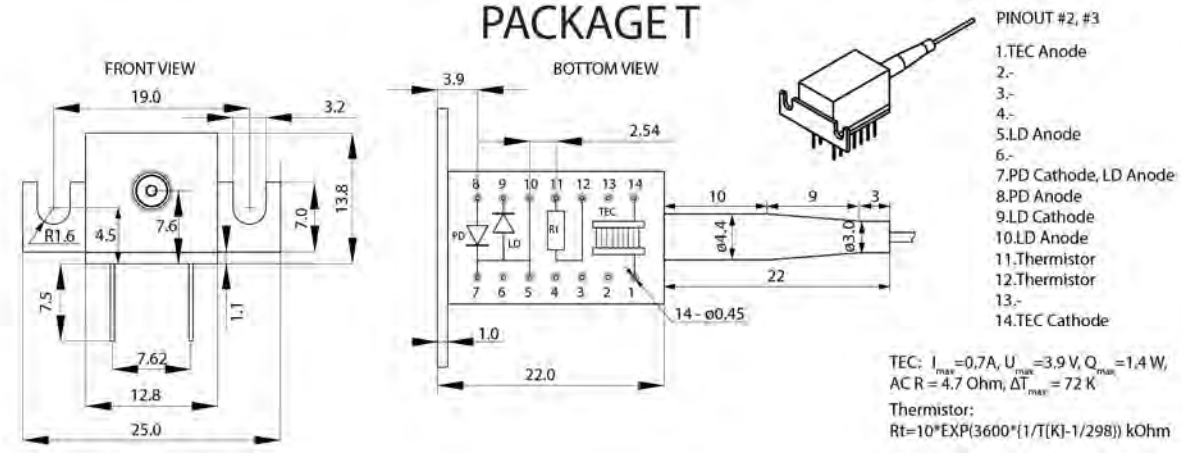


Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T



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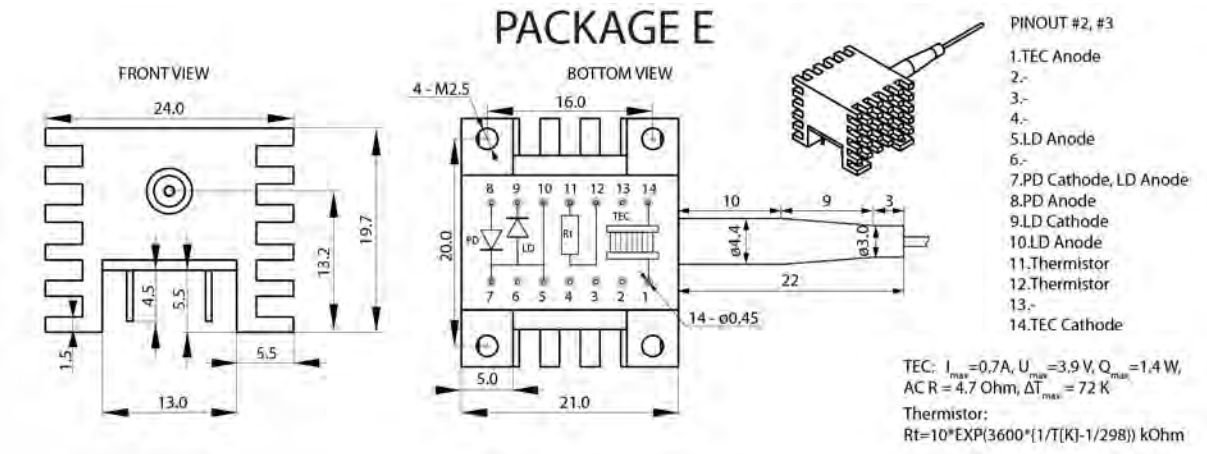

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LDI-1310-DFB-2.5G-20/80

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LDS-1310-DFB-10G-10/30

OVERVIEW

LDS-1310-DFB-10G-10/30 is the MQW laser diode coupled to an optical fiber and packaged into a hermetic case

The special feature of the LDS technology is the increased thermal stability of optical power

MAIN FEATURES

- Wavelength: 1310 nm
- Cavity type: DFB
- Linewidth: 1 MHz
- Data rate up to 10 Gbps
- Optical power: up to 10 mW in CW mode, up to 30 mW in pulse mode in SM fiber G.657.A1
- Package types: coaxial, coaxial with bracket
- Built-in monitor photodiode

APPLICATIONS

- Optical fiber communication systems with data rate up to 10 Gbps
- Laser systems

ORDERING INFORMATION

LDS-1310-DFB-10G-10/30-X-12-X-X-X-X

Case type

U: compact coaxial (pulse mode only)
B: compact coaxial with double-sided bracket
Other type on request

Fiber type

SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm or **BSM1** ∅0.25mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm or **BSM3** ∅0.25mm
SMP13: PM, Fujikura SM13, PANDA type, furcation tubing ∅0.9 mm
Other type on request

Connector type

FA: FC/APC (SM1,SM3, SMP13)
SA: SC/APC (SM1)
N: no connector
Other type: on request
FU: FC/UPC (SM1, SM3)
SU: SC/UPC (SM1)

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)
P: pulse mode (10 µs; duty cycle = 1%)
CWP: both CW and pulse modes

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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LDS-1310-DFB-10G-10/30

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current	I_{FL}	120	mA	CW
		250	mA	Pulse
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	20	V	
Photodiode forward current	I_{Fp}	2	mA	
Operating temperature	T_{OP}	-40 - +85	°C	Package U, B
Operating temperature	T_{OP}	-40 - +50	°C	Package T, E
Storage temperature	T_{stg}	-40 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 10 seconds

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Wavelength	λ	1305	1310	1315	nm	CW, P = 10 mW
Spectral width	$\Delta\lambda$		0.11		nm	CW, P = 10 mW, -20 dB, OSA
Spectral width	$\Delta\lambda$		1		MHz	CW, P = 10 mW, delayed self-heterodyne method
Wavelength-temperature coeff.	$d\lambda/dT$		0.10		nm/°C	
Side-mode suppression ratio	SMSR	40	55		dB	CW, P = 10 mW
Threshold current	I_{th}		8	10	mA	CW
Operating current	I_{op}		100	120	mA	CW, P = 10 mW, SM1
Slope efficiency	S_e	0.10	0.11		W/A	CW, SM1
Operating voltage	V_{op}		1.6	2.0	V	CW, P = 10 mW
Tracking error	E_r		0.15	0.30	dB	CW, P = 3 mW; T = -40 ÷ +80 °C
Pulse optical power	P_p	25	30		mW	Pulse, Iop = 250 mA
Rise and fall times	t_r, t_f			50	ps	20%-80%, package U, B
Resonance frequency	f_r		12.0		GHz	
Monitoring output current (PD)	I_m	0.20	0.80	5.00	mA	CW, P = 10 mW, V_{rd} = 5V
Capacitance (PD)	C_t		10	20	pF	V_{rd} = 1 V, f = 1 MHz
Dark current (PD)	I_d			100	nA	V_{rd} = 1 V
Polarization extinction ratio	PER	20			dB	CW, SMP13

Pulse mode: pulse duration 10 μs; duty cycle = 1%

Tracking error E_r = max |10 lg [P(T)/P(25°C)]|, I_m= const, T = T_{min} ÷ T_{max}

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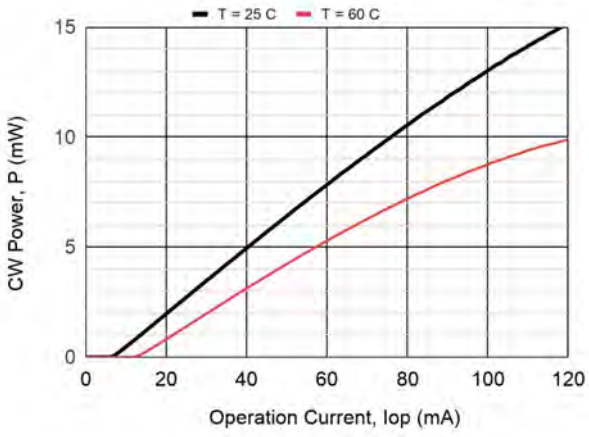
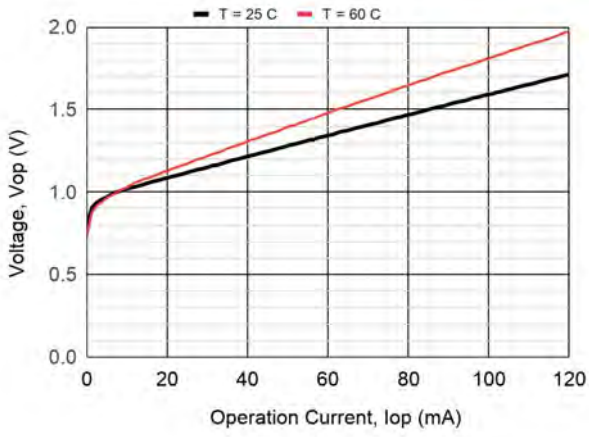
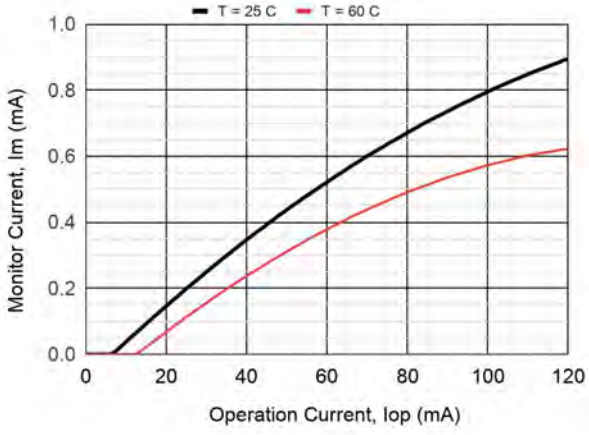
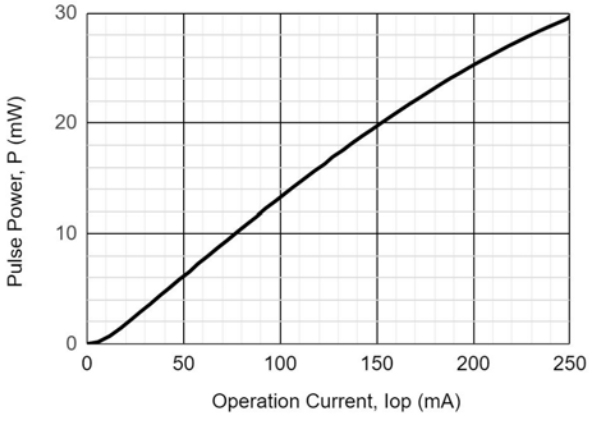
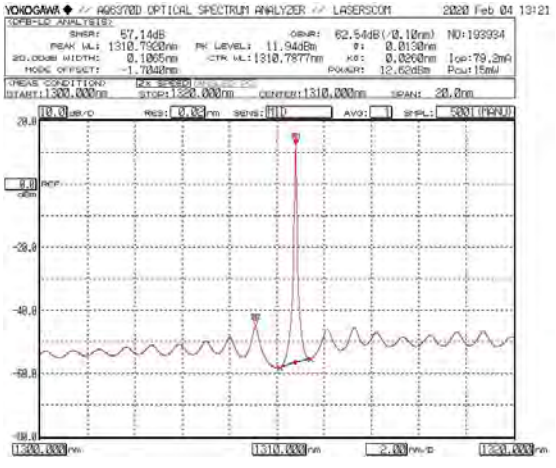
LDS-1310-DFB-10G-10/30

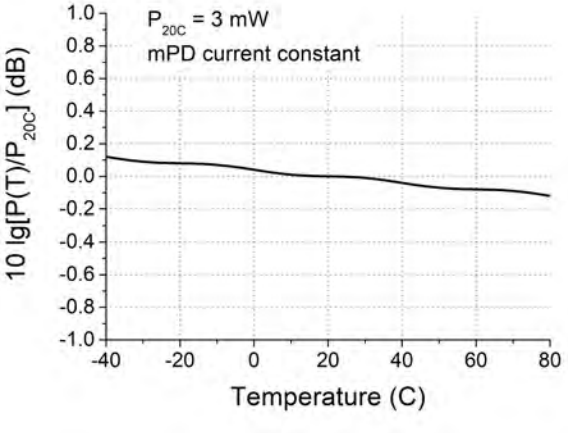










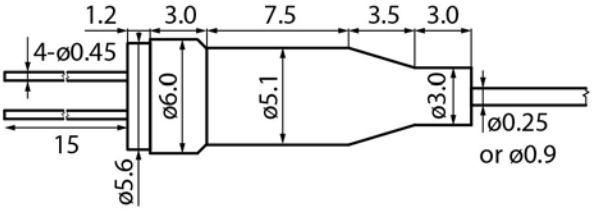


LASERSCOM
Coupling Light to Your Success

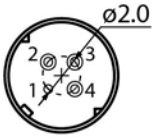
LDS-1310-DFB-10G-10/30

PACKAGE U

SIDE VIEW



BACK VIEW



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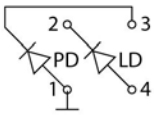
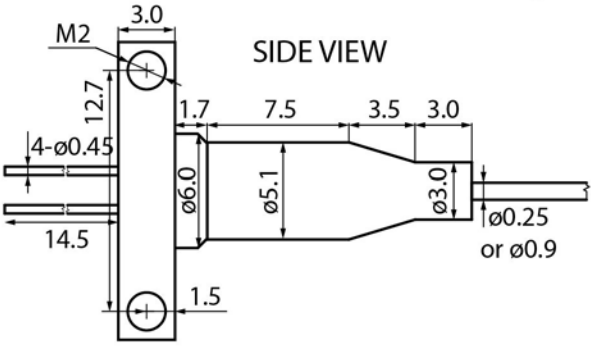


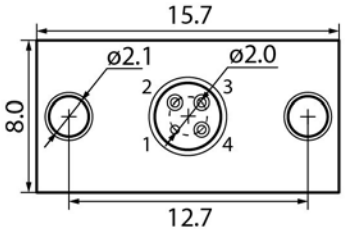
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE B



BACK VIEW



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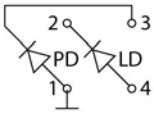

Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

LDS-1310-DFB-10G-10/30

Characteristics, data, materials and structures specified in this datasheet are subject to change without notice. Please refer to the latest specification before use of the products.

Safety and handling cautions

1. Avoid smashing and burning of the module. Avoid storing and using the module in conditions where water, organic solvents or aggressive acids or bases may contact the module or where there is a possibility of exposure to corrosive gases, explosive gases, dust, salinity or other harsh conditions. The module should be disposed as special industrial waste.
2. Exceeding absolute maximum ratings even for a short time can cause permanent damage of the module.
3. The module is sensitive to and can be broken by ESD (static electricity).

Conflict Minerals Policy Statement

LasersCom LLC achieves business objectives and customer needs with social responsibility. We do not support or contribute to the violence and human rights violations associated with the mining of conflict minerals coming from Conflict Regions according to US "Dodd-Frank Act". When possible, our suppliers' conflict mineral statements are reviewed. We do not directly purchase Conflict Minerals from any source and do not knowingly procure any parts and products containing Conflict Minerals from Conflict Regions.

RoHS Compliance Statement

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REACH Compliance Statement

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LDI-1310-DFB-10G-15/45

OVERVIEW

LDI-1310-DFB-10G-15/45 is the MQW laser diode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Wavelength: 1310 nm
- Cavity type: DFB
- Linewidth: 1 MHz
- Data rate up to 10 Gbps
- Optical power: up to 15 mW in CW mode, up to 45 mW in pulse mode in SM fiber G.657.A1
- Package types: coaxial, coaxial with bracket
- Built-in monitor photodiode

APPLICATIONS

- Optical fiber communication systems with data rate up to 10 Gbps
- Laser systems

ORDERING INFORMATION

LDI-1310-DFB-10G-15/45-X-12-X-X-X-X

Case type

U: compact coaxial (pulse mode only)
B: compact coaxial with double-sided bracket
Other type on request

Fiber type

SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm or **BSM1** ∅0.25mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm or **BSM3** ∅0.25mm
MM5: MM, 50/125, OM2, furcation tubing ∅0.9 mm
MM6: MM, 62.5/125, OM1, furcation tubing ∅0.9 mm
Other type on request

Connector type

FA: FC/APC (SM1,SM3)
SA: SC/APC (SM1)
N: no connector
Other type: on request

FU: FC/UPC (SM1, SM3, MM5, MM6)
SU: SC/UPC (SM1)

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)
P: pulse mode (10 µs; duty cycle = 1%)
CWP: both CW and pulse modes

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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LDI-1310-DFB-10G-15/45

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current	I_{FL}	120	mA	CW
		250	mA	Pulse
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	20	V	
Photodiode forward current	I_{Fp}	2	mA	
Operating temperature	T_{OP}	-40 - +85	°C	Package U, B
Operating temperature	T_{OP}	-40 - +50	°C	Package T, E
Storage temperature	T_{stg}	-40 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 10 seconds

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

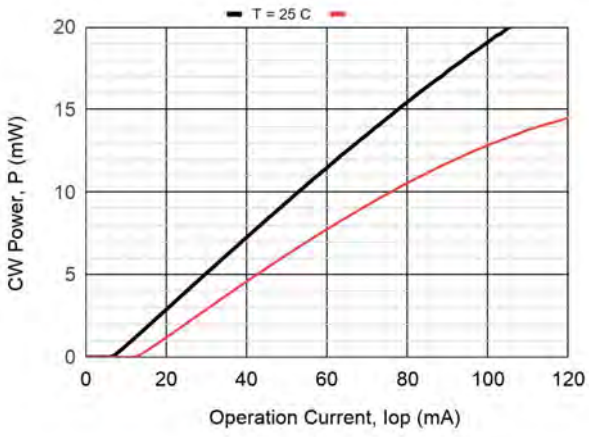
Parameter		MIN	TYP	MAX	Unit	Conditions
Wavelength	λ	1305	1310	1315	nm	CW, P = 15 mW
Spectral width	$\Delta\lambda$		0.11		nm	CW, P = 15 mW, -20 dB, OSA
Spectral width	$\Delta\lambda$		1		MHz	CW, P = 15 mW, delayed self-heterodyne method
Wavelength-temperature coeff.	$d\lambda/dT$		0.10		nm/°C	
Side-mode suppression ratio	SMSR	40	55		dB	CW, P = 15 mW
Threshold current	I_{th}		7	10	mA	CW
Operating current	I_{op}		90	120	mA	CW, P = 15 mW, SM1
Slope efficiency	S_e	0.13	0.18		W/A	CW, SM1
Operating voltage	V_{op}		1.5	2.0	V	CW, P = 15 mW
Tracking error	E_r		0.4	0.6	dB	CW, P = 3 mW; T = -40 ÷ +80 °C
Pulse optical power	P_p	40	45		mW	Pulse, Iop = 250 mA
Rise and fall times	t_r, t_f			50	ps	20%-80%, package U, B
Resonance frequency	f_r		12.0		GHz	2.5Gbps, Imod = 40mA, Ibias = Ith+2 mA
Monitoring output current (PD)	I_m	0.5	0.90	5.00	mA	CW, P = 15 mW, V_{rd} = 5V
Capacitance (PD)	C_t		10	20	pF	V_{rd} = 1 V, f = 1 MHz
Dark current (PD)	I_d			100	nA	V_{rd} = 1 V

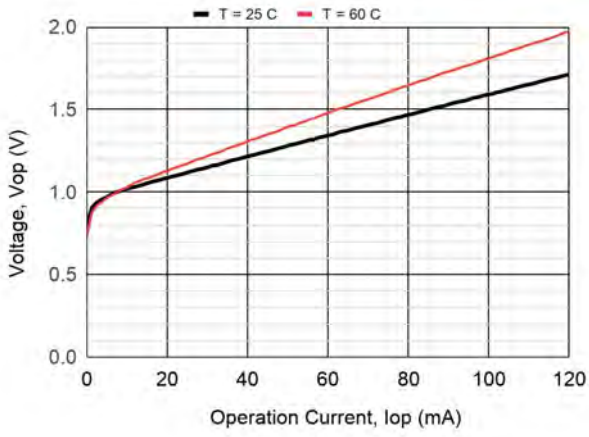
Pulse mode: pulse duration 10 μs; duty cycle = 1%

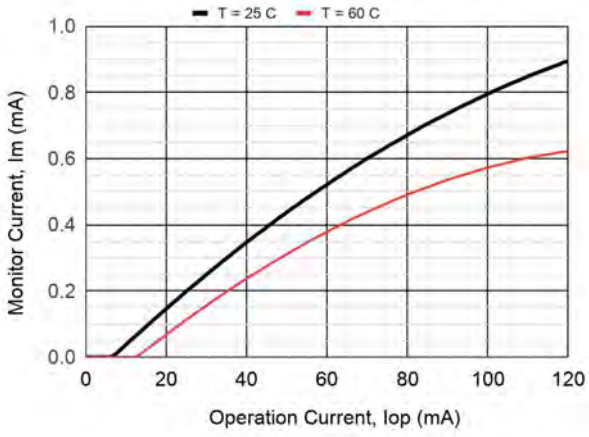
Tracking error E_r = max |10 lg [P(T)/P(25°C)]|, I_m = const, T = T_{min} ÷ T_{max}

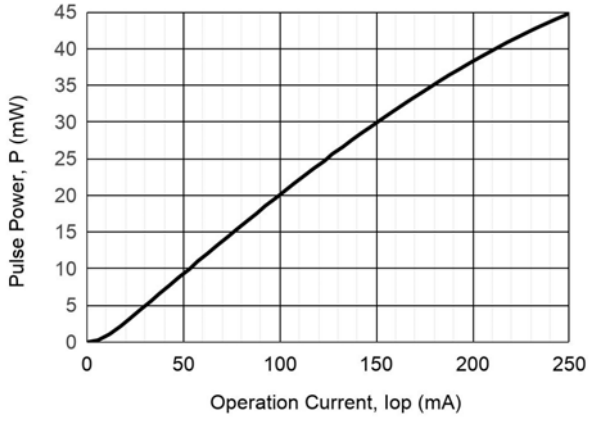
LASERSCOM
Coupling Light to Your Success

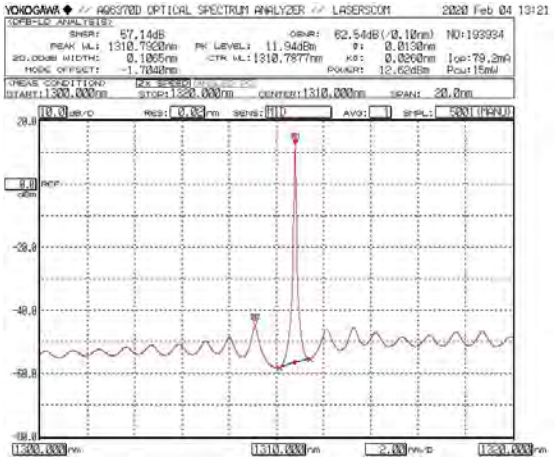
LDI-1310-DFB-10G-15/45

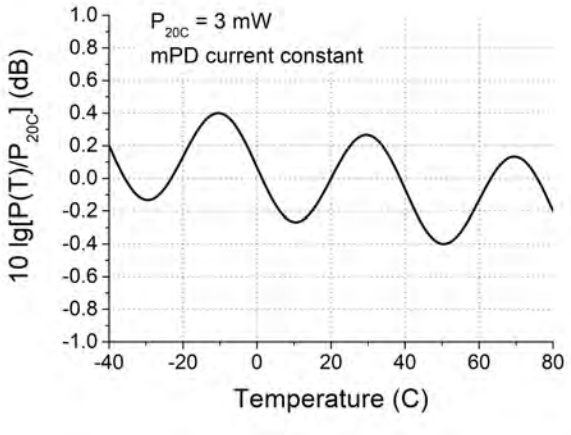










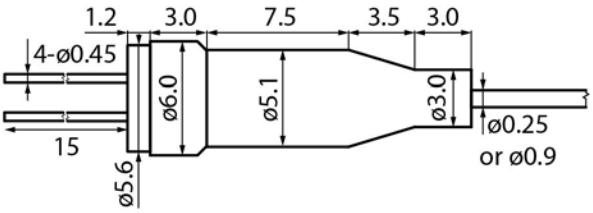


LASERSCOM
Coupling Light to Your Success

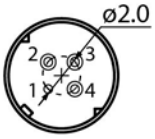
LDI-1310-DFB-10G-15/45

PACKAGE U

SIDE VIEW



BACK VIEW



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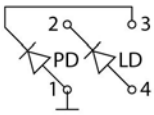
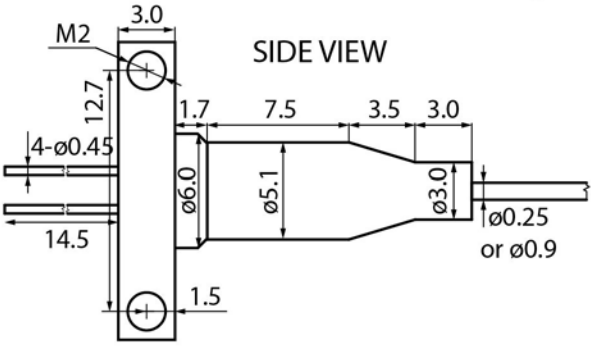


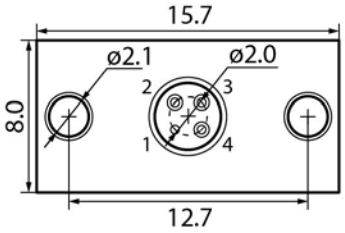
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE B



BACK VIEW



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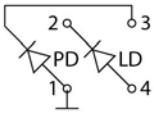

Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

LDI-1310-DFB-10G-15/45

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Safety and handling cautions

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LASERSCOM
Coupling Light to Your Success

LDS-1310-FP-1.25G-15/80

OVERVIEW

LDS-1310-FP-1.25G-15/80 is the MQW laser diode coupled to an optical fiber and packaged into a hermetic case. The special feature of the LDS technology is the increased thermal stability of optical power

MAIN FEATURES

- Wavelength: 1310 nm
- Cavity type: Fabry-Perot
- Data rate up to 1.25 Gbps
- Optical power: up to 15 mW in CW mode, up to 80 mW in pulse mode in SM fiber G.657.A1
- Package types: coaxial, coaxial with bracket, 14 pins DIL
- Built-in monitor photodiode

APPLICATIONS

- Optical fiber communication systems with data rate up to 1.25 Gbps
- Laser systems
- OTDR

ORDERING INFORMATION

LDS-1310-FP-1.25G-15/80-X-2-X-X-X-X

Case type

U: compact coaxial (pulse mode only)
B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SMT: SM, Corning Titania-Clad, furcation tubing ∅0.9 mm, ultrasmall bending radius 2.5 mm
SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm
SMP13: PM, Fujikura SM13, PANDA type, furcation tubing ∅0.9 mm
Other type on request

Connector type

FA: FC/APC (SM1,SM3, SMP13)
SA: SC/APC (SM1)
N: no connector
FU: FC/UPC (SM1, SM3)
SU: SC/UPC (SM1)
Other type: on request

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)
P: pulse mode (10 μs; duty cycle = 1%)
CWP: both CW and pulse modes

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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LASERSCOM
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LDS-1310-FP-1.25G-15/80

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current	I_{FL}	120	mA	CW
		450	mA	Pulse
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	20	V	
Photodiode forward current	I_{Fp}	2	mA	
Operating temperature	T_{OP}	-40 - +85	°C	Package U, B
Operating temperature	T_{OP}	-40 - +50	°C	Package T, E
Storage temperature	T_{stg}	-50 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 10 seconds

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

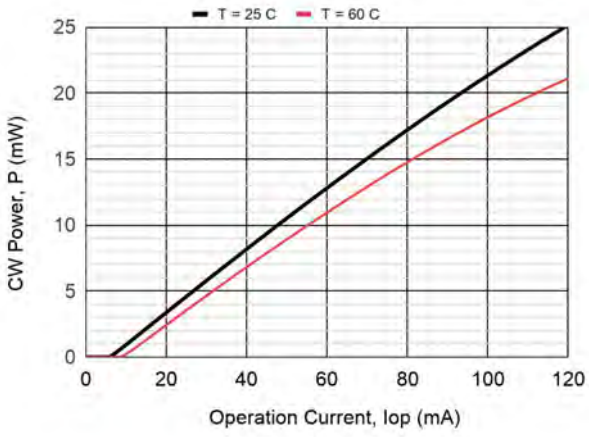
Parameter		MIN	TYP	MAX	Unit	Conditions
Wavelength	λ	1290	1310	1330	nm	CW, P = 15 mW
Spectral width	$\Delta\lambda$		1.2	2.5	nm	CW, P = 15 mW, FWHM
Spectral width	$\Delta\lambda$		10	20	nm	Pulse, P = 80 mW
Wavelength-temperature coeff.	$d\lambda/dT$		0.5		nm/°C	
Threshold current	I_{th}		7	12	mA	CW
Operating current	I_{op}		80	120	mA	CW, P = 15 mW, SM1
Slope efficiency	S_e	0.18	0.21		W/A	CW, SM1
Operating voltage	V_{op}		1.4	1.8	V	CW, P = 15 mW
Tracking error	E_r		0.15	0.30	dB	CW, P = 3 mW; T = -40 ÷ +80 °C
Pulse optical power	P_p	70	80		mW	Pulse, Iop = 450 mA
Rise and fall times	t_r, t_f		100	240	ps	20%-80%, package U, B
Monitoring output current (PD)	I_m	1.0	1.2	5.0	mA	CW, P = 15 mW, V_{rd} = 5V
Capacitance (PD)	C_t		10	20	pF	V_{rd} = 5V, f = 1 MHz
Dark current (PD)	I_d			100	nA	V_{rd} = 5V
Polarization extinction ratio	PER	20			dB	CW, SMP13

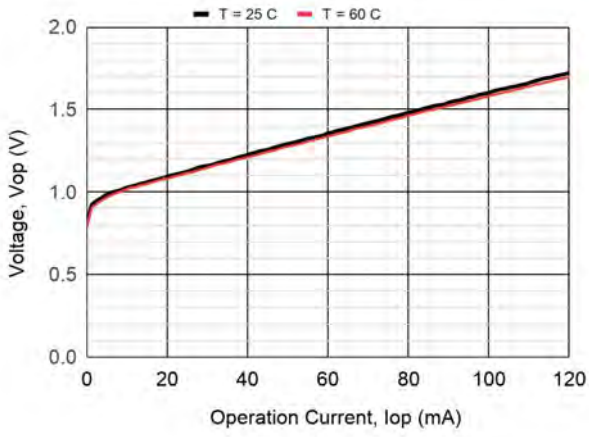
Pulse mode: pulse duration 10 μs; duty cycle = 1%

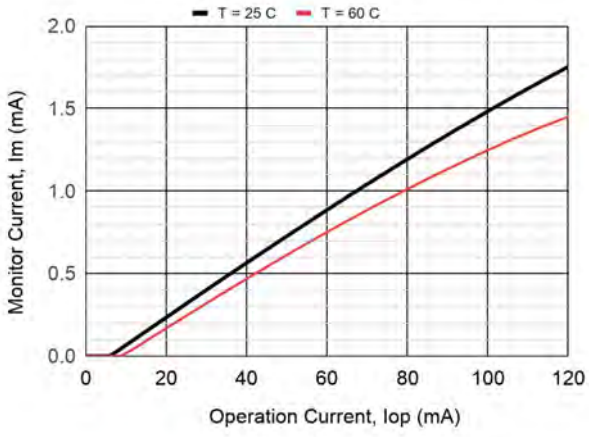
Tracking error E_r = max |10 lg [P(T)/P(25°C)]|, I_m = const, T = T_{min} ÷ T_{max}

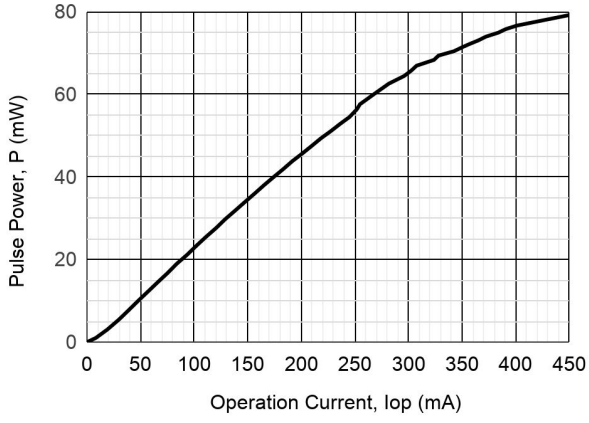
LASERSCOM
Coupling Light to Your Success

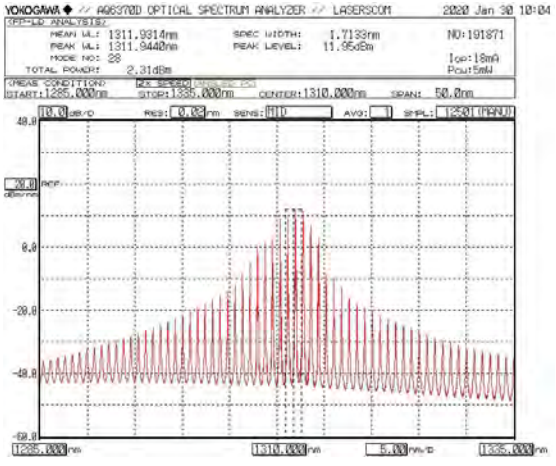
LDS-1310-FP-1.25G-15/80

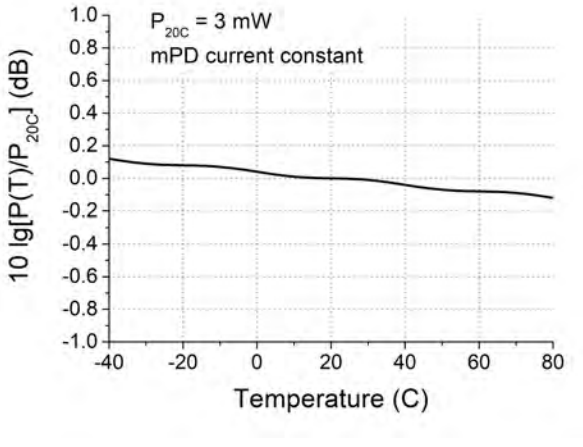












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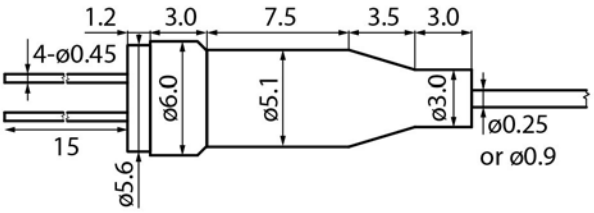
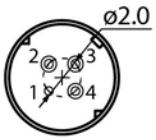
LDS-1310-FP-1.25G-15/80

PACKAGE U

SIDE VIEW



BACK VIEW



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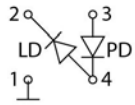
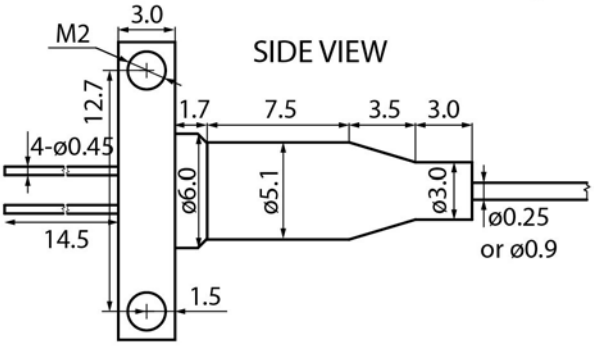


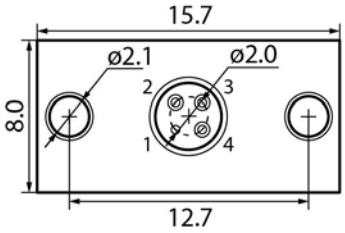
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE B



BACK VIEW



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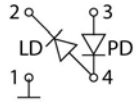
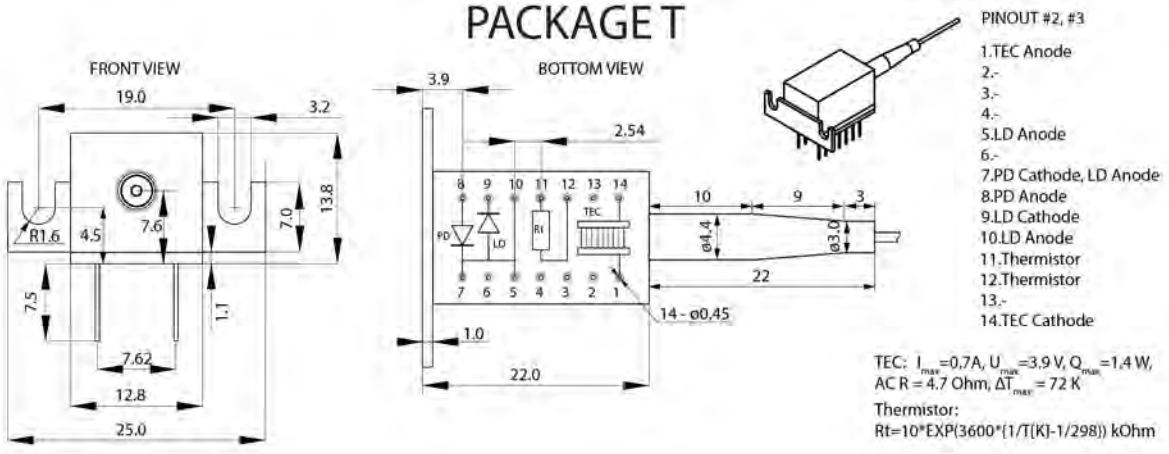


Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T



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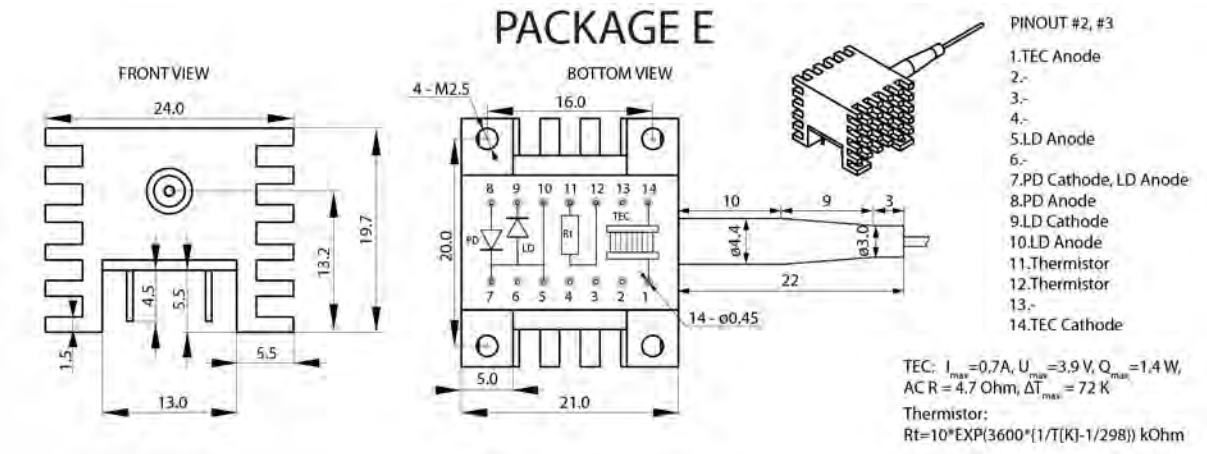

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LDS-1310-FP-1.25G-15/80

Characteristics, data, materials and structures specified in this datasheet are subject to change without notice. Please refer to the latest specification before use of the products.

Safety and handling cautions

1. Avoid smashing and burning of the module. Avoid storing and using the module in conditions where water, organic solvents or aggressive acids or bases may contact the module or where there is a possibility of exposure to corrosive gases, explosive gases, dust, salinity or other harsh conditions. The module should be disposed as special industrial waste.
2. Exceeding absolute maximum ratings even for a short time can cause permanent damage of the module.
3. The module is sensitive to and can be broken by ESD (static electricity).

Conflict Minerals Policy Statement

LasersCom LLC achieves business objectives and customer needs with social responsibility. We do not support or contribute to the violence and human rights violations associated with the mining of conflict minerals coming from Conflict Regions according to US "Dodd-Frank Act". When possible, our suppliers' conflict mineral statements are reviewed. We do not directly purchase Conflict Minerals from any source and do not knowingly procure any parts and products containing Conflict Minerals from Conflict Regions.

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LDI-1310-FP-1.25G-20/100

OVERVIEW

LDI-1310-FP-1.25G-20/100 is the MQW laser diode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Wavelength: 1310 nm
- Cavity type: Fabry-Perot
- Data rate up to 1.25 Gbps
- Optical power: up to 20 mW in CW mode, up to 100 mW in pulse mode in SM fiber G.657.A1
- Package types: coaxial, coaxial with bracket, 14 pins DIL
- Built-in monitor photodiode

APPLICATIONS

- Optical fiber communication systems with data rate up to 1.25 Gbps
- Laser systems
- OTDR

ORDERING INFORMATION

LDI-1310-FP-1.25G-20/100-X-2-X-X-X-X

Case type

U: compact coaxial (pulse mode only)
B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm or **BSM1** ∅0.25mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm or **BSM3** ∅0.25mm
MM5: MM, 50/125, OM2, furcation tubing ∅0.9 mm
MM6: MM, 62.5/125, OM1, furcation tubing ∅0.9 mm
Other type on request

Connector type

FA: FC/APC (SM1,SM3)
FU: FC/UPC (SM1, SM3, MM5, MM6)
SA: SC/APC (SM1)
SU: SC/UPC (SM1)
N: no connector
Other type: on request

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)
P: pulse mode (10 µs; duty cycle = 1%)
CWP: both CW and pulse modes

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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LDI-1310-FP-1.25G-20/100

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current	I_{FL}	120	mA	CW
		450	mA	Pulse
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	20	V	
Photodiode forward current	I_{Fp}	2	mA	
Operating temperature	T_{OP}	-40 - +85	°C	Package U, B
Operating temperature	T_{OP}	-40 - +50	°C	Package T, E
Storage temperature	T_{stg}	-40 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 10 seconds

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Wavelength	λ	1290	1310	1330	nm	CW, P = 20 mW
Spectral width	$\Delta\lambda$		1.2	2.5	nm	CW, P = 20 mW, FWHM
Spectral width	$\Delta\lambda$		10	20	nm	Pulse, P = 100 mW
Wavelength-temperature coeff.	$d\lambda/dT$		0.5		nm/°C	
Threshold current	I_{th}		6	12	mA	CW
Operating current	I_{op}		65	120	mA	CW, P = 20 mW, SM1
Slope efficiency	S_e	0.24	0.34		W/A	CW, SM1
Operating voltage	V_{op}		1.4	1.8	V	CW, P = 20 mW
Tracking error	E_r		0.4	0.6	dB	CW, P = 3 mW; T = -40 ÷ +80 °C
Pulse optical power	P_p	85	100		mW	Pulse, Iop = 450 mA
Rise and fall times	t_r, t_f		100	240	ps	20%-80%, package U, B
Monitoring output current (PD)	I_m	0.2	1.3	5.0	mA	CW, P = 20 mW, V_{rd} = 5V
Capacitance (PD)	C_t		10	20	pF	V_{rd} = 5V, f = 1 MHz
Dark current (PD)	I_d			100	nA	V_{rd} = 5V

Pulse mode: pulse duration 10 μs; duty cycle = 1%

Tracking error E_r = max |10 lg [P(T)/P(25°C)]|, I_m= const, T = T_{min} ÷ T_{max}

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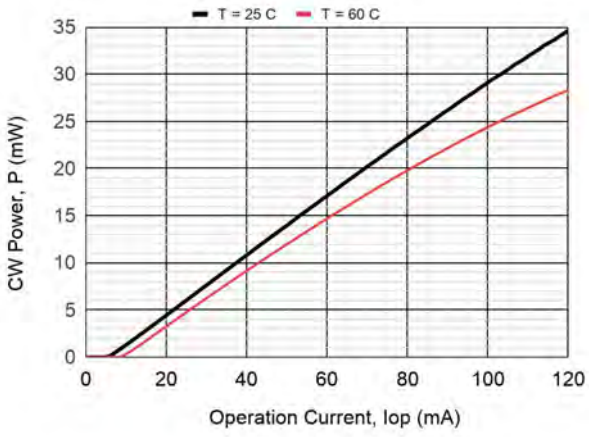
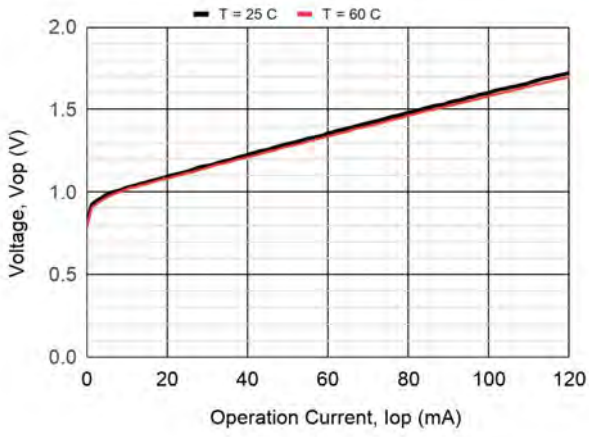
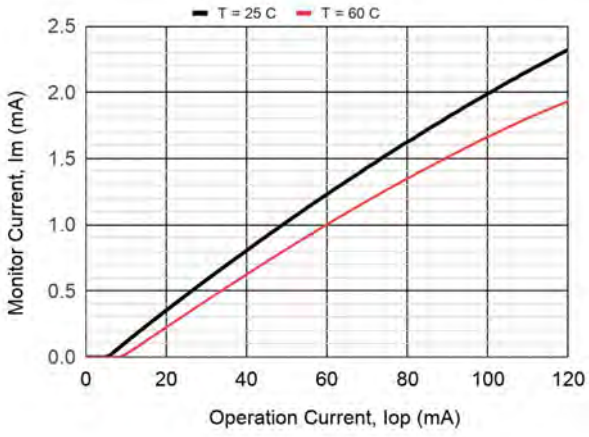
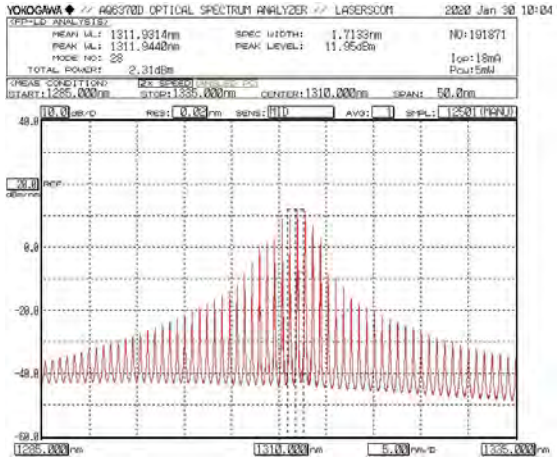
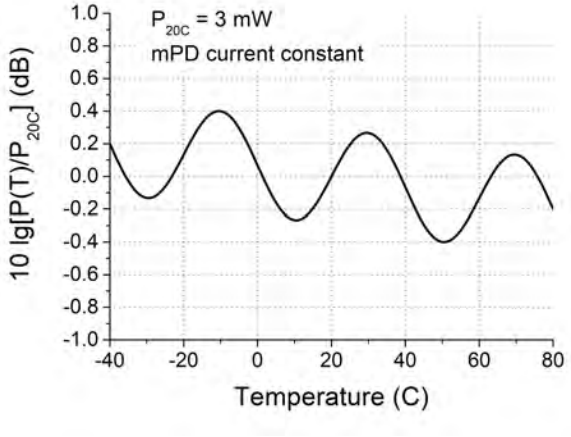
LDI-1310-FP-1.25G-20/100











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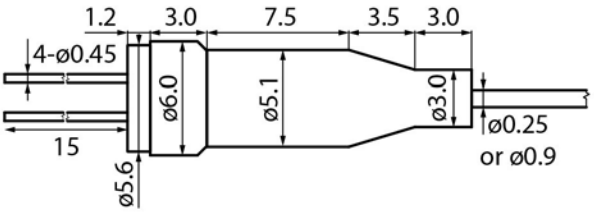
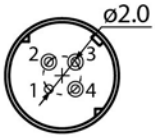
LDI-1310-FP-1.25G-20/100

PACKAGE U

SIDE VIEW



BACK VIEW



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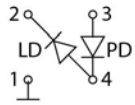
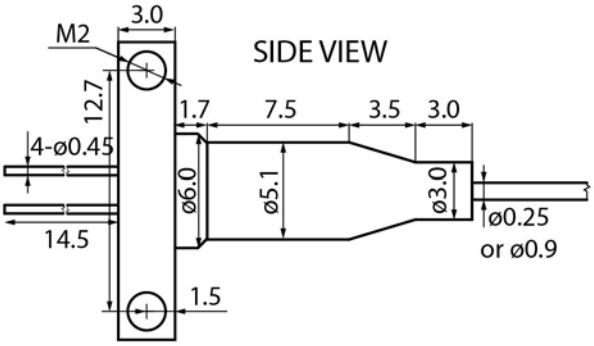


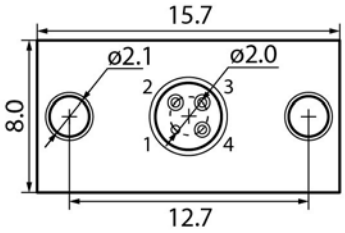
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE B



BACK VIEW



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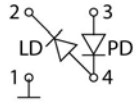
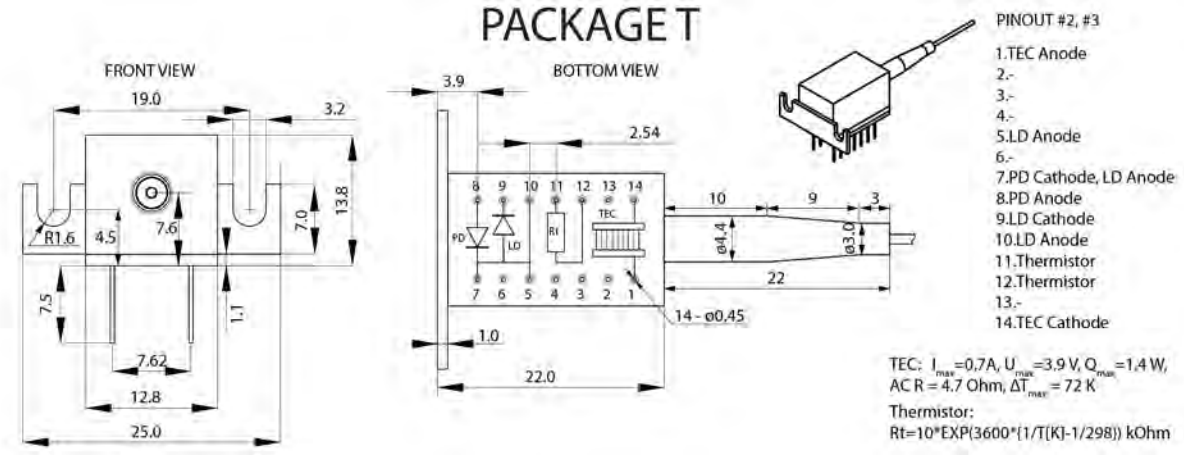


Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T



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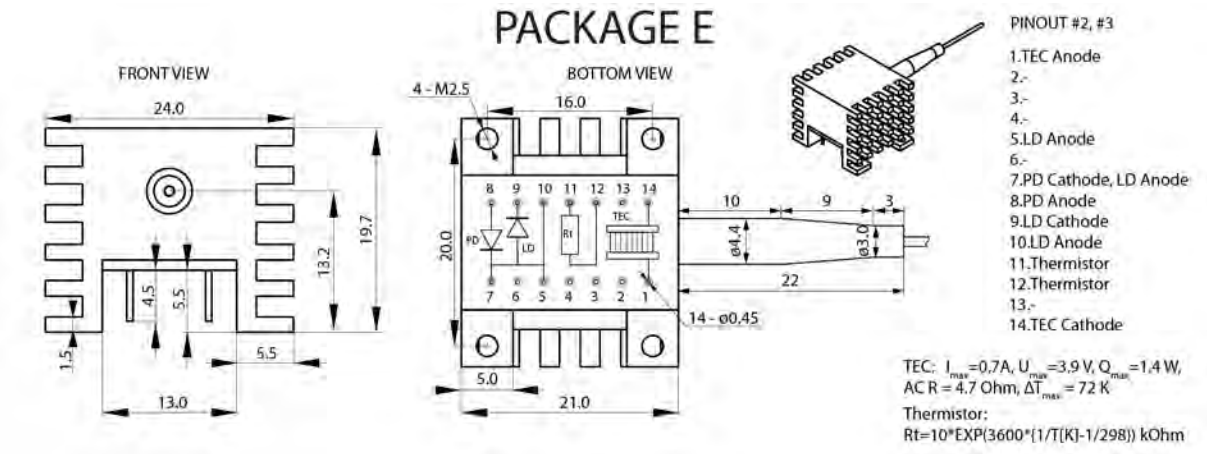
LDI-1310-FP-1.25G-20/100



LDI-1310-FP-1.25G-20/100

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Safety and handling cautions

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LDS-1330-DFB-2.5G-15/40

OVERVIEW

LDS-1330-DFB-2.5G-15/40 is the MQW laser diode coupled to an optical fiber and packaged into a hermetic case

The special feature of the LDS technology is the increased thermal stability of optical power

MAIN FEATURES

- Wavelength: 1330 nm
- Cavity type: DFB
- Linewidth: <500 kHz
- Data rate up to 2.5 Gbps
- Optical power: up to 15 mW in CW mode, up to 40 in pulse mode in SM fiber G.657.A1
- Package types: coaxial, coaxial with bracket, 14 pins DIL
- Built-in monitor photodiode

APPLICATIONS

- Optical fiber communication systems with data rate up to 2.5 Gbps
- Laser systems

ORDERING INFORMATION

LDS-1330-DFB-2.5G-15/40-X-2-X-X-X-X

Case type

U: compact coaxial (pulse mode only)
B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stability
E: 14 pins DIL with thermal stability
Other type on request

Fiber type

SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm or **BSM1** ∅0.25mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm or **BSM3** ∅0.25mm
SMP13: PM, Fujikura SM13, PANDA type, furcation tubing ∅0.9 mm
Other type on request

Connector type

FA: FC/APC (SM1,SM3, SMP13)
SA: SC/APC (SM1)
N: no connector
FU: FC/UPC (SM1, SM3)
SU: SC/UPC (SM1)
Other type: on request

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)
P: pulse mode (10 µs; duty cycle = 1%)
CWP: both CW and pulse modes

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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LDS-1330-DFB-2.5G-15/40

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current	I_{FL}	120	mA	CW
		450	mA	Pulse
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	20	V	
Photodiode forward current	I_{Fp}	2	mA	
Operating temperature	T_{OP}	-40 - +85	°C	Package U, B
Operating temperature	T_{OP}	-40 - +50	°C	Package T, E
Storage temperature	T_{stg}	-40 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 10 seconds

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Wavelength	λ	1325	1330	1335	nm	CW, P = 15 mW
Spectral width	$\Delta\lambda$		0.11		nm	CW, P = 15 mW, -20 dB, OSA
Spectral width	Δf			500	kHz	CW, P = 15 mW, delayed self-heterodyne method
Wavelength-temperature coeff.	dλ/dT		0.10		nm/°C	
Side-mode suppression ratio	SMSR	40	55		dB	CW, P = 15 mW
Threshold current	I_{th}		8	12	mA	CW
Operating current	I_{op}		100	120	mA	CW, P = 15 mW, SM1
Slope efficiency	S_e	0.13	0.16		W/A	CW, SM1
Operating voltage	V_{op}		1.3	1.8	V	CW, P = 15 mW
Tracking error	E_r		0.15	0.30	dB	CW, P = 3 mW; T = -40 ÷ +80 °C
Pulse optical power	P_p	35	40		mW	Pulse, Iop = 450 mA
Rise and fall times	t_r, t_f		80	120	ps	20%-80%, package U, B
Resonance frequency	f_r		4.3		GHz	
Monitoring output current (PD)	I_m	0.2	3.5	5.0	mA	CW, P = 15 mW, V_{rd} = 5V
Capacitance (PD)	C_t		10	20	pF	V_{rd} = 5V, f = 1 MHz
Dark current (PD)	I_d			100	nA	V_{rd} = 5V
Polarization extinction ratio	PER	20			dB	CW, SMP13

Pulse mode: pulse duration 10 μs; duty cycle = 1%

Tracking error E_r = max |10 lg [P(T)/P(25°C)]]|, I_m= const, T = T_{min}÷ T_{max}

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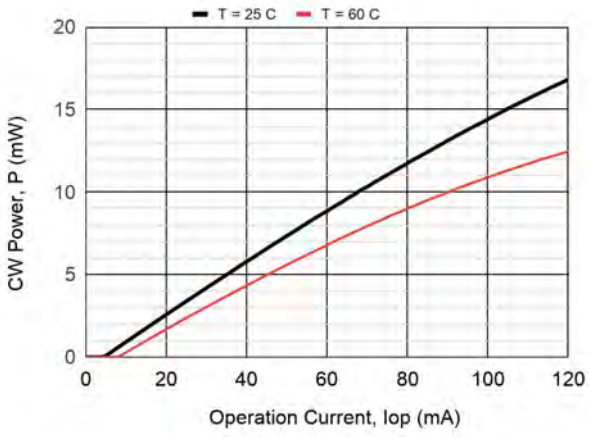
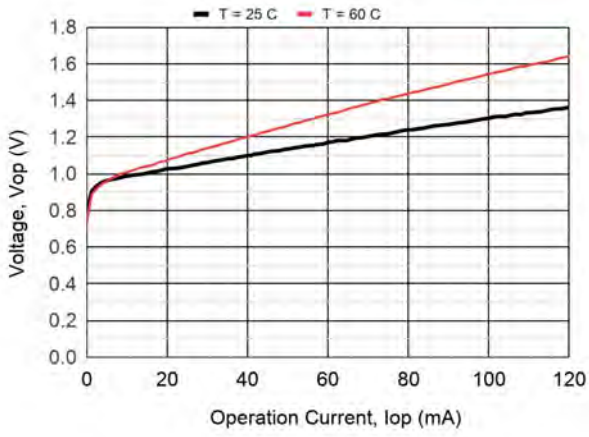
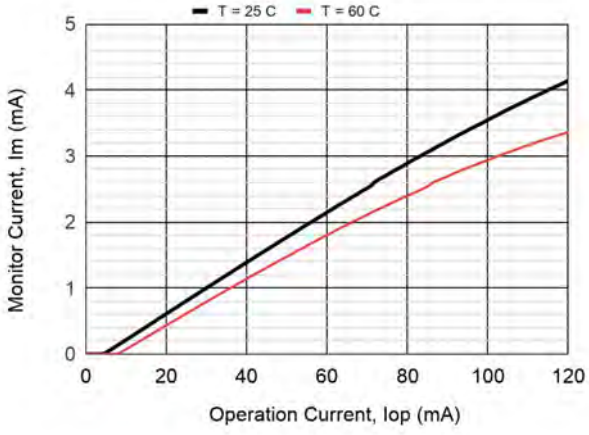
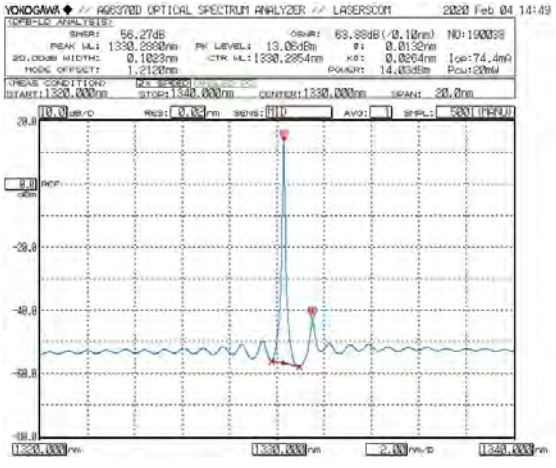
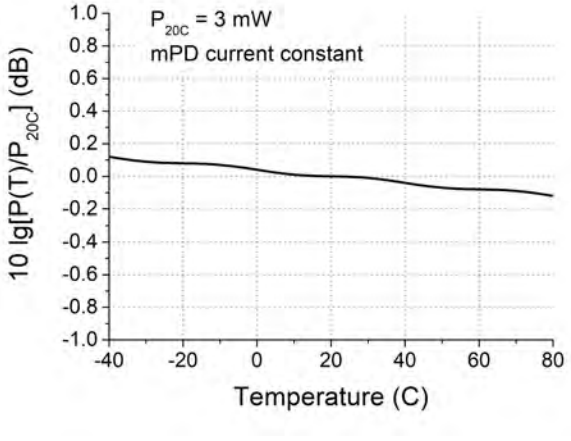
LDS-1330-DFB-2.5G-15/40











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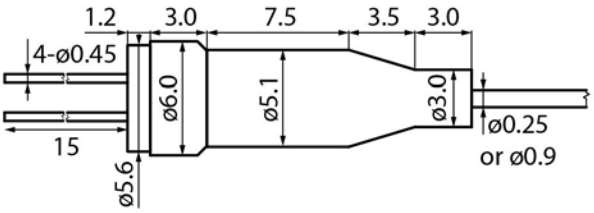
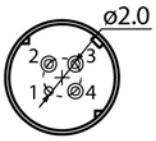
LDS-1330-DFB-2.5G-15/40

PACKAGE U

SIDE VIEW



BACK VIEW



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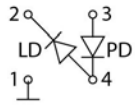
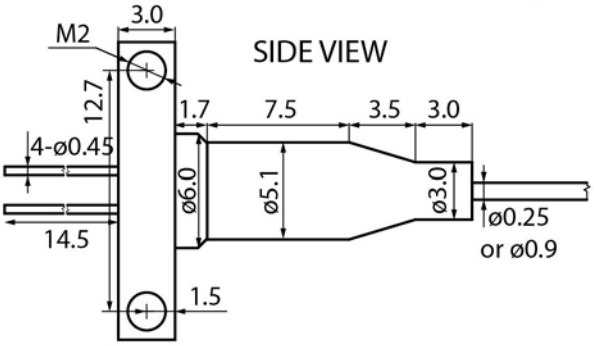


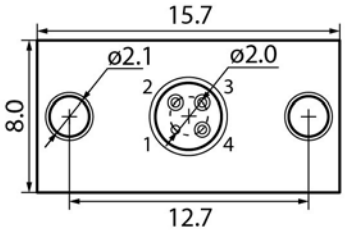
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

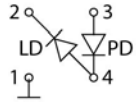
PACKAGE B



BACK VIEW



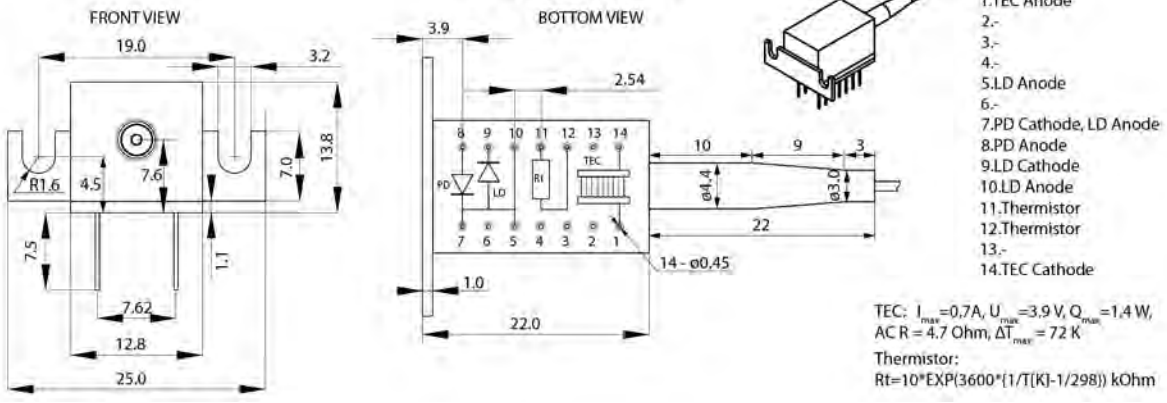
PINOUT #2



Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T



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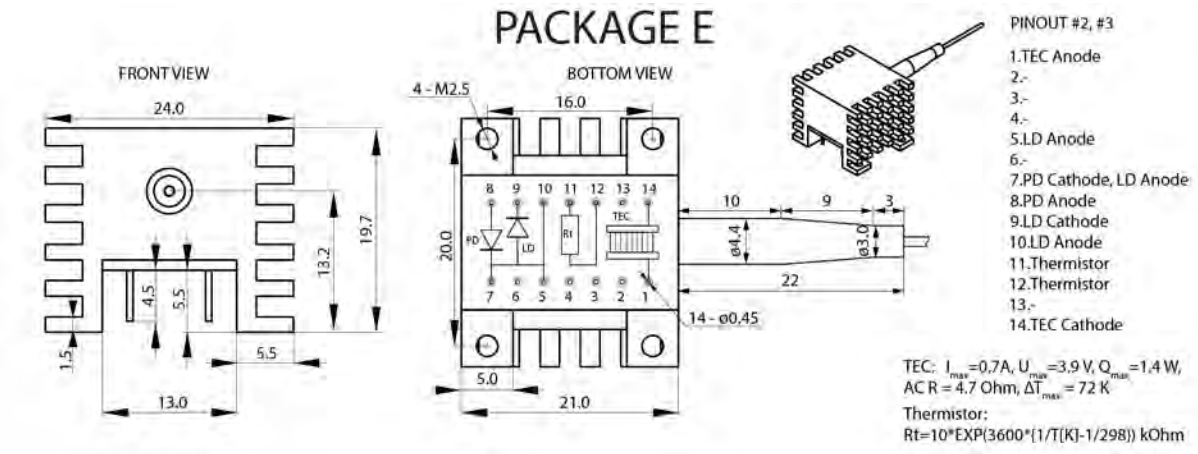
LDS-1330-DFB-2.5G-15/40



LDS-1330-DFB-2.5G-15/40

Characteristics, data, materials and structures specified in this datasheet are subject to change without notice. Please refer to the latest specification before use of the products.

Safety and handling cautions

1. Avoid smashing and burning of the module. Avoid storing and using the module in conditions where water, organic solvents or aggressive acids or bases may contact the module or where there is a possibility of exposure to corrosive gases, explosive gases, dust, salinity or other harsh conditions. The module should be disposed as special industrial waste.
2. Exceeding absolute maximum ratings even for a short time can cause permanent damage of the module.
3. The module is sensitive to and can be broken by ESD (static electricity).

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LDI-1330-DFB-2.5G-20/50

OVERVIEW

LDI-1330-DFB-2.5G-20/50 is the MQW laser diode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Wavelength: 1330 nm
- Cavity type: DFB
- Linewidth: <500 kHz
- Data rate up to 2.5 Gbps
- Optical power: up to 20 mW in CW mode, up to 50 in pulse mode in SM fiber G.657.A1
- Package types: coaxial, coaxial with bracket, 14 pins DIL
- Built-in monitor photodiode

APPLICATIONS

- Optical fiber communication systems with data rate up to 2.5 Gbps
- Laser systems

ORDERING INFORMATION

LDI-1330-DFB-2.5G-20/50-X-2-X-X-X-X

Case type

U: compact coaxial (pulse mode only)
B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm or **BSM1** ∅0.25mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm or **BSM3** ∅0.25mm
MM5: MM, 50/125, OM2, furcation tubing ∅0.9 mm
MM6: MM, 62.5/125, OM1, furcation tubing ∅0.9 mm
Other type on request

Connector type

FA: FC/APC (SM1,SM3)
SA: SC/APC (SM1)
N: no connector
Other type: on request

FU: FC/UPC (SM1, SM3, MM5, MM6)
SU: SC/UPC (SM1)

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)
P: pulse mode (10 µs; duty cycle = 1%)
CWP: both CW and pulse modes

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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LDI-1330-DFB-2.5G-20/50

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current	I_{FL}	120	mA	CW
		450	mA	Pulse
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	20	V	
Photodiode forward current	I_{Fp}	2	mA	
Operating temperature	T_{OP}	-40 - +85	°C	Package U, B
Operating temperature	T_{OP}	-40 - +50	°C	Package T, E
Storage temperature	T_{stg}	-40 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 10 seconds

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Wavelength	λ	1325	1330	1335	nm	CW, P = 20 mW
Spectral width	$\Delta\lambda$		0.11		nm	CW, P = 20 mW, -20 dB, OSA
Spectral width	Δf			500	kHz	CW, P = 20 mW, delayed self-heterodyne method
Wavelength-temperature coeff.	dλ/dT		0.10		nm/°C	
Side-mode suppression ratio	SMSR	40	55		dB	CW, P = 20 mW
Threshold current	I_{th}		8	12	mA	CW
Operating current	I_{op}		110	120	mA	CW, P = 20 mW, SM1
Slope efficiency	S_e	0.18	0.20		W/A	CW, SM1
Operating voltage	V_{op}		1.3	3.0	V	CW, P = 20 mW
Tracking error	E_r		0.4	0.6	dB	CW, P = 3 mW; T = -40 ÷ +80 °C
Pulse optical power	P_p	45	50		mW	Pulse, Iop = 450 mA
Rise and fall times	t_r, t_f		80	120	ps	20%-80%, package U, B
Resonance frequency	f_r		4.3		GHz	2.5Gbps, Imod = 40mA, Ibias = Ith+2 mA
Monitoring output current (PD)	I_m	1.0	2.5	5.0	mA	CW, P = 20 mW, V_{rd} = 5V
Dark current (PD)	I_d			200	nA	V_{rd} = 5V

Pulse mode: pulse duration 10 μs; duty cycle = 1%

Tracking error E_r = max |10 lg [P(T)/P(25°C)]|, I_m= const, T = T_{min} ÷ T_{max}

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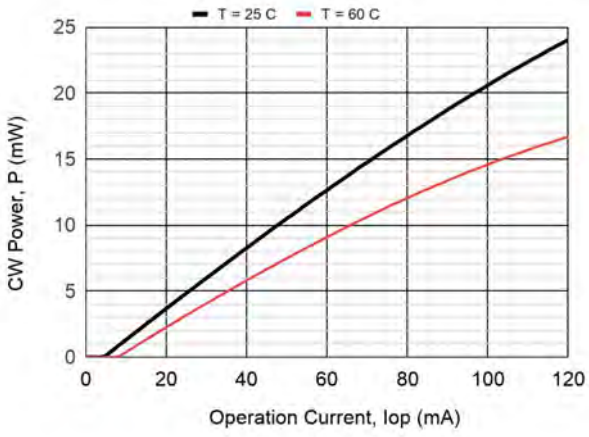
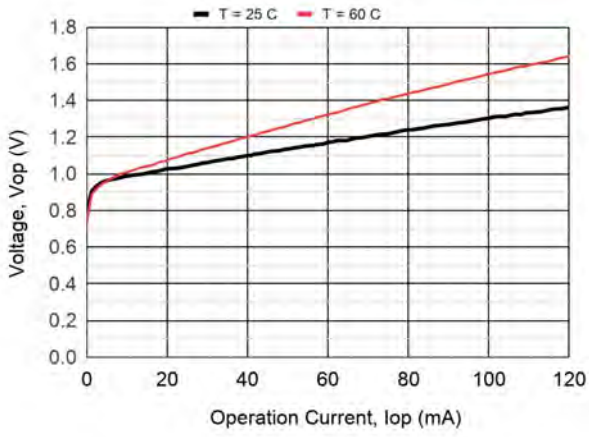
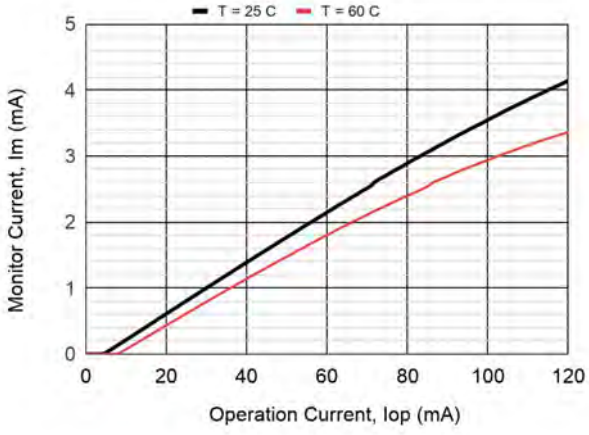
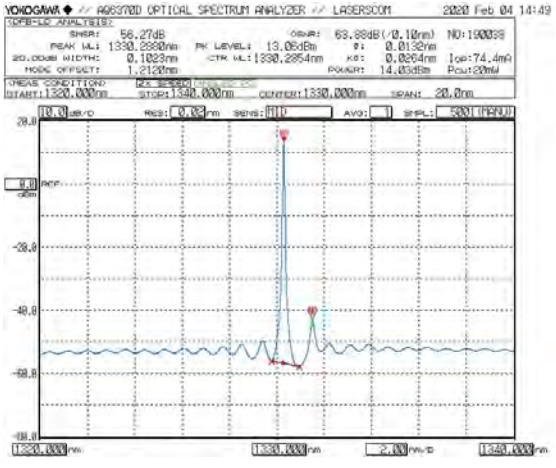
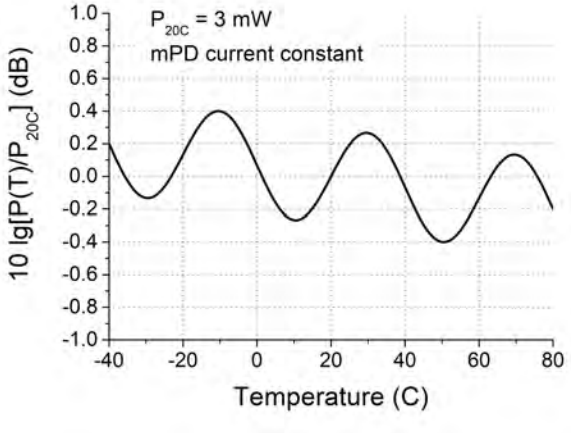
LDI-1330-DFB-2.5G-20/50











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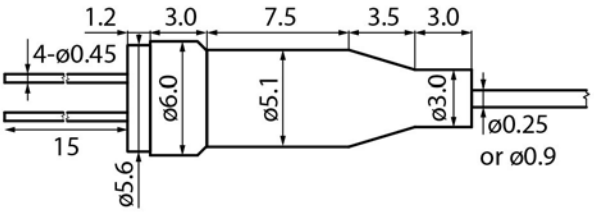
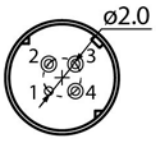
LDI-1330-DFB-2.5G-20/50

PACKAGE U

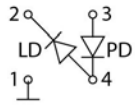
SIDE VIEW



BACK VIEW



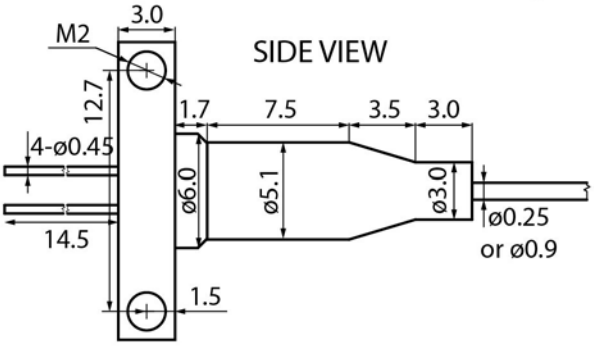
PINOUT #2



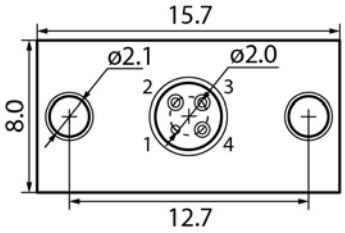
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

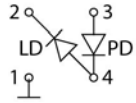
PACKAGE B



BACK VIEW



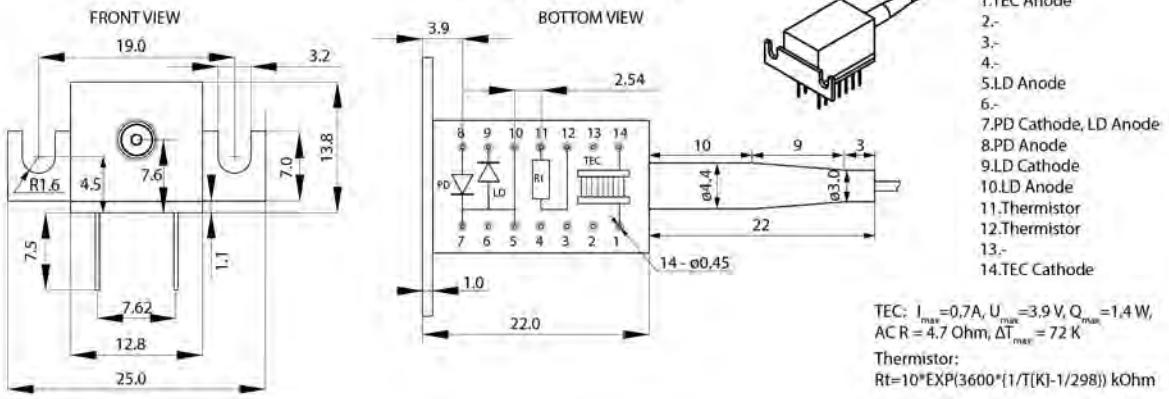
PINOUT #2



Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T



PINOUT #2, #3

1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.PD Cathode, LD Anode
8.PD Anode
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

TEC: I_{max}=0,7A, U_{max}=3.9 V, Q_{max}=1,4 W,
AC R = 4.7 Ohm, ΔT_{max} = 72 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

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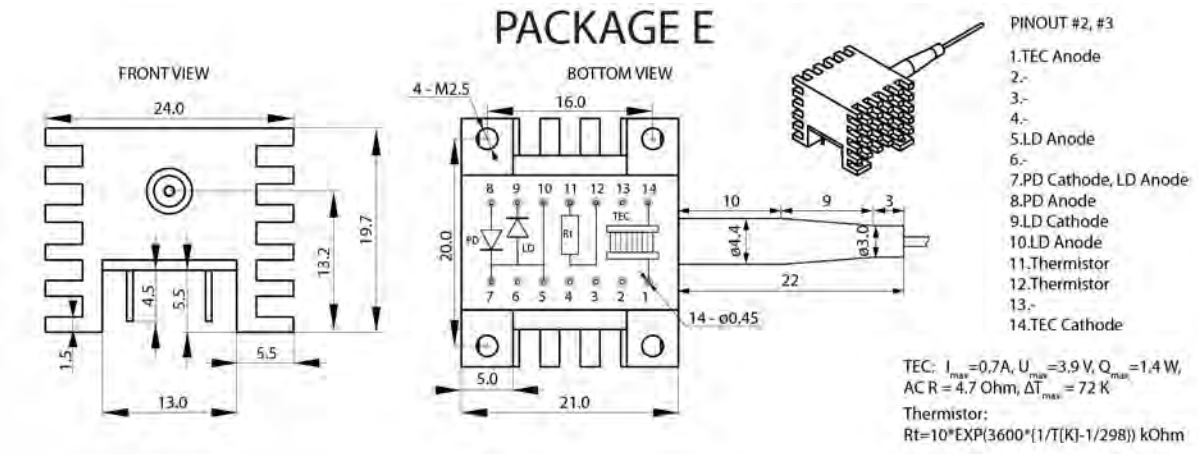

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LDI-1330-DFB-2.5G-20/50

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LASERSCOM
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LDS-1330-DFB-10G-10/30

OVERVIEW

LDS-1330-DFB-10G-10/30 is the MQW laser diode coupled to an optical fiber and packaged into a hermetic case. The special feature of the LDS technology is the increased thermal stability of optical power

MAIN FEATURES

- Wavelength: 1330 nm
- Cavity type: DFB
- Linewidth: 1 MHz
- Data rate up to 10 Gbps
- Optical power: up to 10 mW in CW mode, up to 30 mW in pulse mode in SM fiber G.657.A1
- Package types: coaxial, coaxial with bracket
- Built-in monitor photodiode

APPLICATIONS

- Optical fiber communication systems with data rate up to 10 Gbps
- Laser systems

ORDERING INFORMATION

LDS-1330-DFB-10G-10/30-X-12-X-X-X-X

Case type

U: compact coaxial (pulse mode only)
B: compact coaxial with double-sided bracket
Other type on request

Fiber type

SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm or **BSM1** ∅0.25mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm or **BSM3** ∅0.25mm
SMP13: PM, Fujikura SM13, PANDA type, furcation tubing ∅0.9 mm
Other type on request

Connector type

FA: FC/APC (SM1,SM3, SMP13)
FU: FC/UPC (SM1, SM3)
SA: SC/APC (SM1)
SU: SC/UPC (SM1)
N: no connector
Other type: on request

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)
P: pulse mode
CWP: both CW and pulse modes

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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LDS-1330-DFB-10G-10/30

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current	I_{FL}	120	mA	CW
		250	mA	Pulse
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	20	V	
Photodiode forward current	I_{Fp}	2	mA	
Operating temperature	T_{OP}	-40 - +85	°C	Package U, B
Operating temperature	T_{OP}	-40 - +50	°C	Package T, E
Storage temperature	T_{stg}	-50 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 10 seconds

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Wavelength	λ	1325	1330	1335	nm	CW, P = 10 mW
Spectral width	$\Delta\lambda$		0.11		nm	CW, P = 10 mW, -20 dB, OSA
Spectral width	Δf		1		MHz	CW, P = 10 mW, delayed self-heterodyne method
Wavelength-temperature coeff.	dλ/dT		0.12		nm/°C	
Side-mode suppression ratio	SMSR	40	55		dB	CW, P = 10 mW
Threshold current	I_{th}		5	10	mA	CW
Operating current	I_{op}		100	120	mA	CW, P = 10 mW, SM1
Slope efficiency	S_e	0.10	0.11		W/A	CW, SM1
Operating voltage	V_{op}		1.7	2.0	V	CW, P = 10 mW
Tracking error	E_r		0.15	0.30	dB	CW, P = 3 mW; T = -40 ÷ +80 °C
Pulse optical power	P_p	25	30		mW	Pulse, Iop = 250 mA
Resonance frequency	f_r		12.0		GHz	
Monitoring output current (PD)	I_m	0.5	0.7	5.00	mA	CW, P = 10 mW, V_{rd} = 5V
Capacitance (PD)	C_t		10	20	pF	V_{rd} = 1 V, f = 1 MHz
Dark current (PD)	I_d			200	nA	V_{rd} = 1 V
Polarization extinction ratio	PER	20			dB	CW, SMP13

Pulse mode: pulse duration 10 μs; duty cycle = 1%

Tracking error E_r = max |10 lg [P(T)/P(25°C)]]|, I_m= const, T = T_{min} ÷ T_{max}

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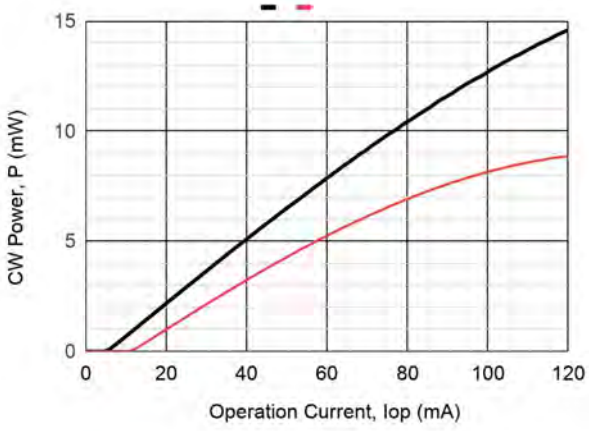
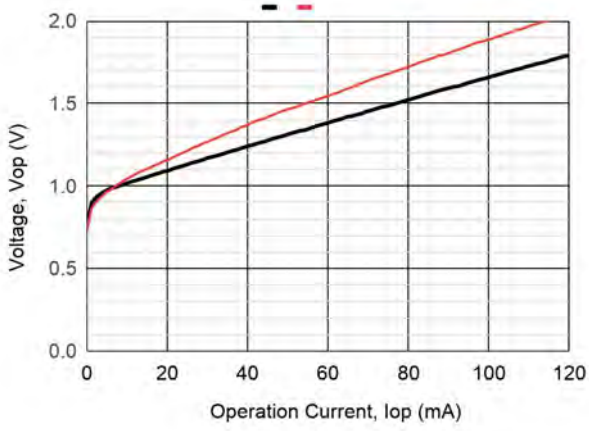
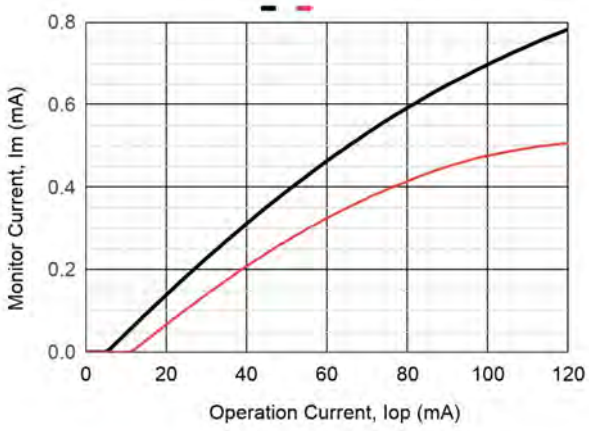
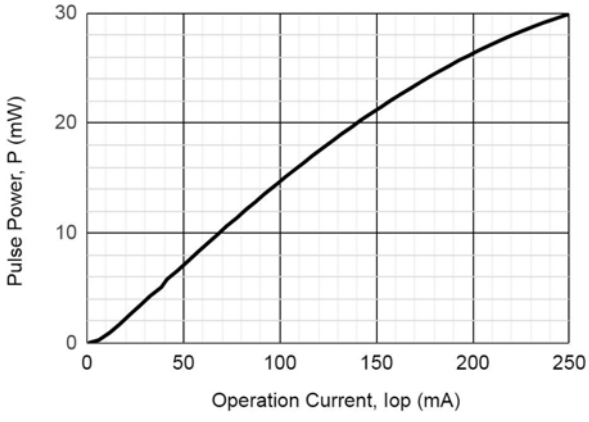
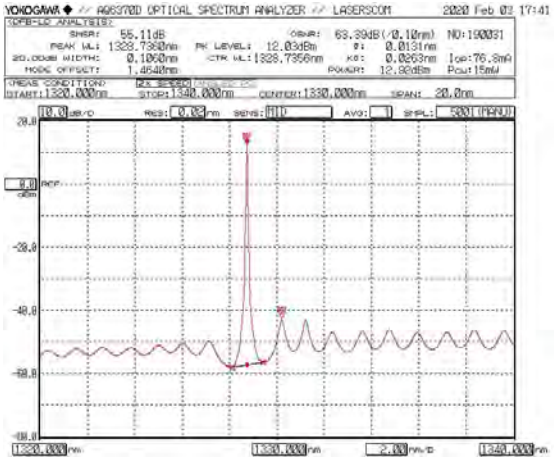
LDS-1330-DFB-10G-10/30

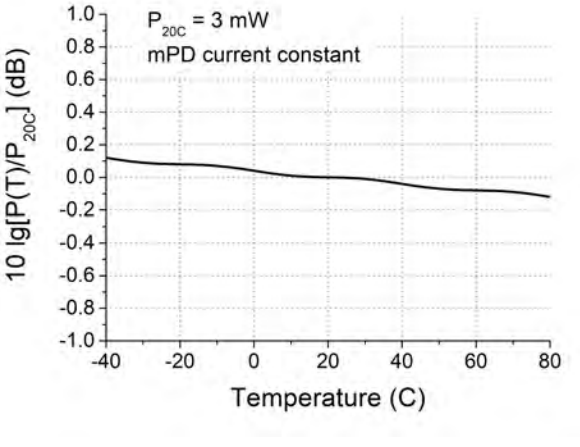












LASERSCOM
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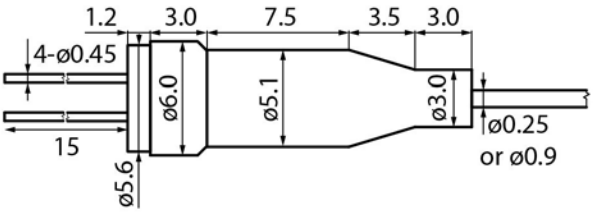
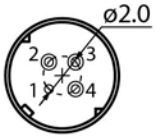
LDS-1330-DFB-10G-10/30

PACKAGE U

SIDE VIEW



BACK VIEW



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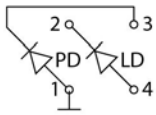
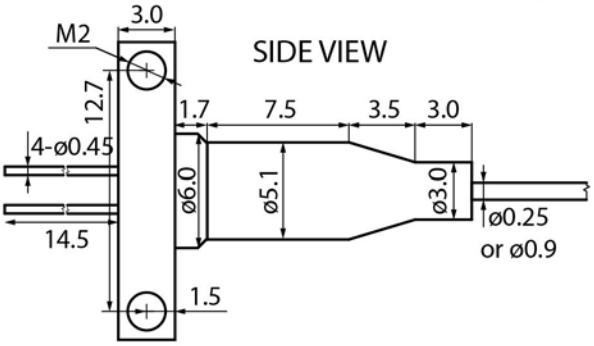


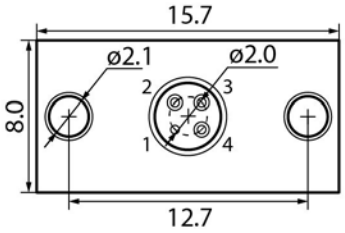
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE B



BACK VIEW



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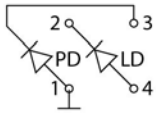

Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

LDS-1330-DFB-10G-10/30

Characteristics, data, materials and structures specified in this datasheet are subject to change without notice. Please refer to the latest specification before use of the products.

Safety and handling cautions

1. Avoid smashing and burning of the module. Avoid storing and using the module in conditions where water, organic solvents or aggressive acids or bases may contact the module or where there is a possibility of exposure to corrosive gases, explosive gases, dust, salinity or other harsh conditions. The module should be disposed as special industrial waste.
2. Exceeding absolute maximum ratings even for a short time can cause permanent damage of the module.
3. The module is sensitive to and can be broken by ESD (static electricity).

Conflict Minerals Policy Statement

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LDI-1330-DFB-10G-15/45

OVERVIEW

LDI-1330-DFB-10G-15/45 is the MQW laser diode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Wavelength: 1330 nm
- Cavity type: DFB
- Linewidth: 1 MHz
- Data rate up to 10 Gbps
- Optical power: up to 15 mW in CW mode, up to 45 mW in pulse mode in SM fiber G.657.A1
- Package types: coaxial, coaxial with bracket
- Built-in monitor photodiode

APPLICATIONS

- Optical fiber communication systems with data rate up to 10 Gbps
- Laser systems

ORDERING INFORMATION

LDI-1330-DFB-10G-15/40-X-12-X-X-X-X

Case type

U: compact coaxial (pulse mode only)
B: compact coaxial with double-sided bracket
Other type on request

Fiber type

SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm or **BSM1** ∅0.25mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm or **BSM3** ∅0.25mm
MM5: MM, 50/125, OM2, furcation tubing ∅0.9 mm
MM6: MM, 62.5/125, OM1, furcation tubing ∅0.9 mm
Other type on request

Connector type

FA: FC/APC (SM1,SM3)
SA: SC/APC (SM1)
N: no connector
Other type: on request

FU: FC/UPC (SM1, SM3, MM5, MM6)
SU: SC/UPC (SM1)

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)
P: pulse mode
CWP: both CW and pulse modes

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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LDI-1330-DFB-10G-15/45

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current	I_{FL}	120	mA	CW
		250	mA	Pulse
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	20	V	
Photodiode forward current	I_{Fp}	2	mA	
Operating temperature	T_{OP}	-40 - +85	°C	Package U, B
Operating temperature	T_{OP}	-40 - +50	°C	Package T, E
Storage temperature	T_{stg}	-50 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 10 seconds

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Wavelength	λ	1325	1330	1335	nm	CW, P = 15 mW
Spectral width	$\Delta\lambda$		0.11		nm	CW, P = 15 mW, -20 dB, OSA
Spectral width	$\Delta\lambda$		1		MHz	CW, P = 15 mW, delayed self-heterodyne method
Wavelength-temperature coeff.	$d\lambda/dT$		0.12		nm/°C	
Side-mode suppression ratio	SMSR	40	55		dB	CW, P = 15 mW
Threshold current	I_{th}		5	10	mA	CW
Operating current	I_{op}		90	120	mA	CW, P = 15 mW, SM1
Slope efficiency	S_e	0.13	0.16		W/A	CW, SM1
Operating voltage	V_{op}		1.7	3.0	V	CW, P = 15 mW
Tracking error	E_r		0.4	0.6	dB	CW, P = 3 mW; T = -40 ÷ +80 °C
Pulse optical power	P_p	35	45		mW	Pulse, Iop = 250 mA
Resonance frequency	f_r		12.0		GHz	
Monitoring output current (PD)	I_m	0.5	0.8	5.00	mA	CW, P = 15 mW, V_{rd} = 5V
Capacitance (PD)	C_t		10	20	pF	V_{rd} = 1 V, f = 1 MHz
Dark current (PD)	I_d			200	nA	V_{rd} = 1 V

Pulse mode: pulse duration 10 μs; duty cycle = 1%

Tracking error E_r = max |10 lg [P(T)/P(25°C)]|, I_m= const, T = T_{min} ÷ T_{max}

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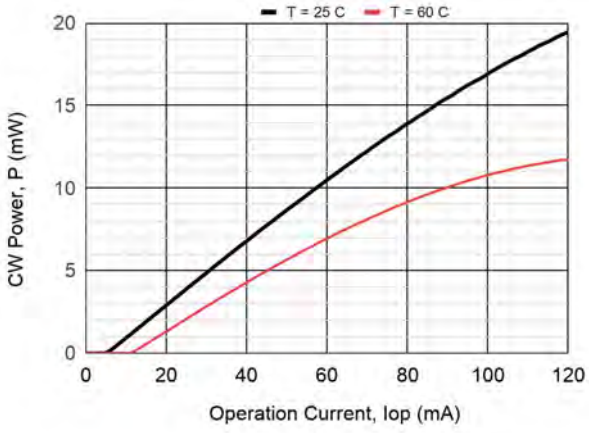
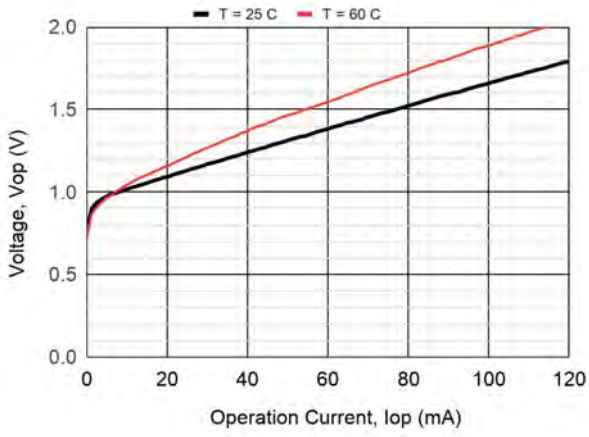
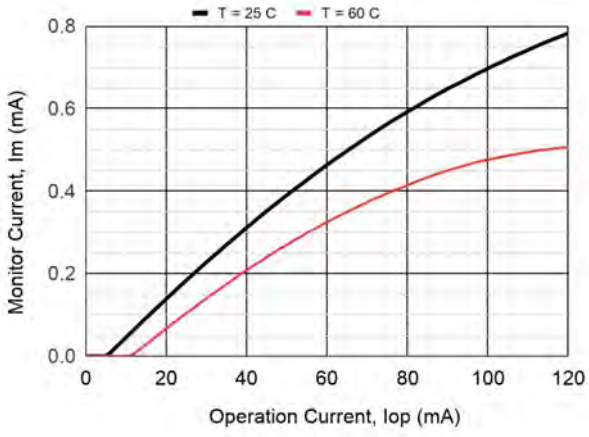
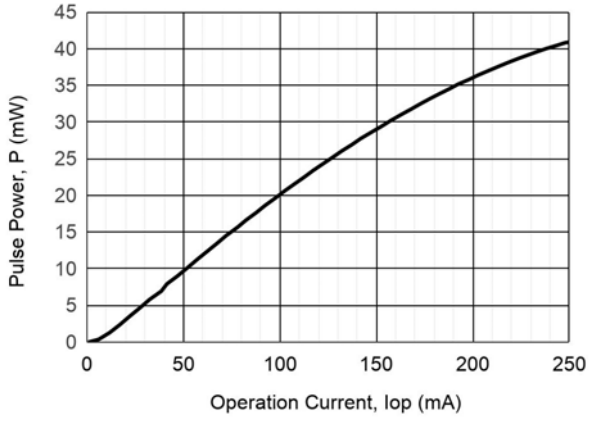
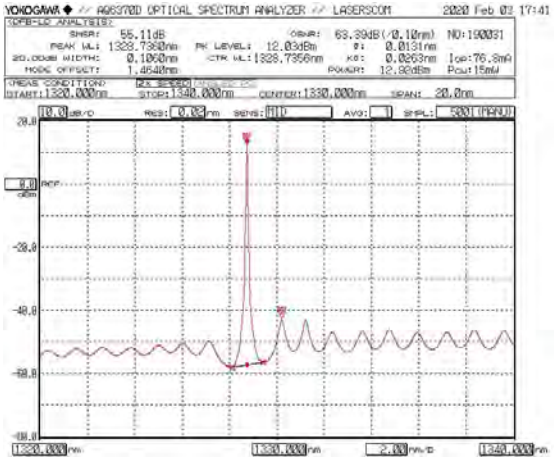
LDI-1330-DFB-10G-15/45

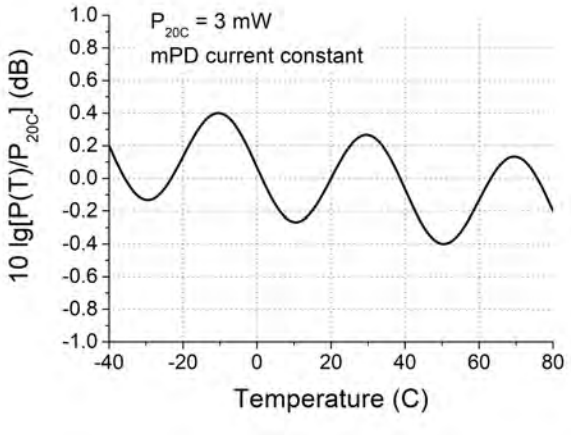












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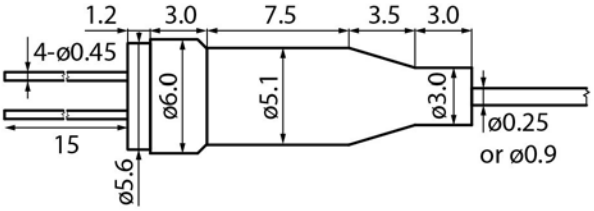
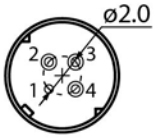
LDI-1330-DFB-10G-15/45

PACKAGE U

SIDE VIEW



BACK VIEW



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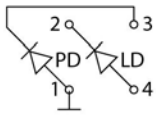
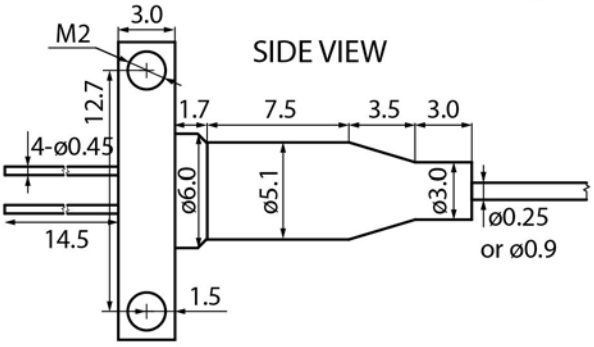


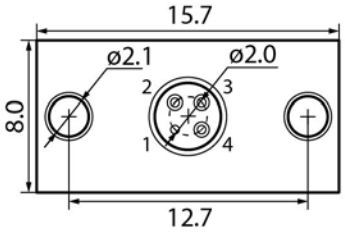
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE B



BACK VIEW



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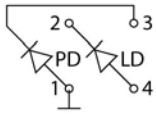

Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

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LDI-1330-DFB-10G-15/45

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LDS-1350-DFB-2.5G-15/40

OVERVIEW

LDS-1350-DFB-2.5G-15/40 is the MQW laser diode coupled to an optical fiber and packaged into a hermetic case. The special feature of the LDS technology is the increased thermal stability of optical power

MAIN FEATURES

- Wavelength: 1350 nm
- Cavity type: DFB
- Linewidth: <500 kHz
- Data rate up to 2.5 Gbps
- Optical power: up to 15 mW in CW mode, up to 40 mW in pulse mode in SM fiber G.657.A1
- Package types: coaxial, coaxial with bracket, 14 pins DIL
- Built-in monitor photodiode

APPLICATIONS

- Optical fiber communication systems with data rate up to 2.5 Gbps
- Laser systems

ORDERING INFORMATION

LDS-1350-DFB-2.5G-15/40-X-2-X-X-X-X

Case type

U: compact coaxial (pulse mode only)
B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm or **BSM1** ∅0.25mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm or **BSM3** ∅0.25mm
SMP13: PM, Fujikura SM13, PANDA type, furcation tubing ∅0.9 mm
Other type on request

Connector type

FA: FC/APC (SM1,SM3, SMP13)
FU: FC/UPC (SM1, SM3)
SA: SC/APC (SM1)
SU: SC/UPC (SM1)
N: no connector
Other type: on request

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)
P: pulse mode (10 µs; duty cycle = 1%)
CWP: both CW and pulse modes

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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LDS-1350-DFB-2.5G-15/40

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current	I_{FL}	120	mA	CW
		450	mA	Pulse
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	20	V	
Photodiode forward current	I_{Fp}	2	mA	
Operating temperature	T_{OP}	-40 - +85	°C	Package U, B
Operating temperature	T_{OP}	-40 - +50	°C	Package T, E
Storage temperature	T_{stg}	-50 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 10 seconds

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

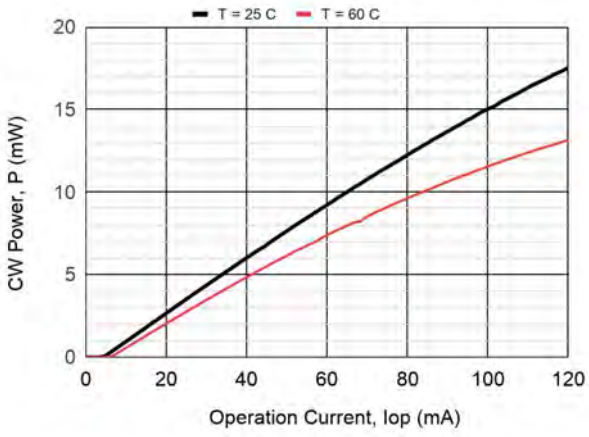
Parameter		MIN	TYP	MAX	Unit	Conditions
Wavelength	λ	1345	1350	1355	nm	CW, P = 15 mW
Spectral width	$\Delta\lambda$		0.11		nm	CW, P = 15 mW, -20 dB, OSA
Spectral width	Δf			500	kHz	CW, P = 15 mW, delayed self-heterodyne method
Wavelength-temperature coeff.	dλ/dT		0.11		nm/°C	
Side-mode suppression ratio	SMSR	40	55		dB	CW, P = 15 mW
Threshold current	I_{th}		8	12	mA	CW
Operating current	I_{op}		100	120	mA	CW, P = 15 mW, SM1
Slope efficiency	S_e	0.13	0.16		W/A	CW, SM1
Operating voltage	V_{op}		1.3	1.8	V	CW, P = 15 mW
Tracking error	E_r		0.15	0.30	dB	CW, P = 3 mW; T = -40 ÷ +80 °C
Pulse optical power	P_p	40	45		mW	Pulse, Iop = 450 mA
Rise and fall times	t_r, t_f		80	120	ps	20%-80%, package U, B
Resonance frequency	f_r		4.3		GHz	
Monitoring output current (PD)	I_m	1.0	2.0	5.0	mA	CW, P = 15 mW, V_{rd} = 5V
Capacitance (PD)	C_t		10	20	pF	V_{rd} = 5V, f = 1 MHz
Dark current (PD)	I_d			100	nA	V_{rd} = 5V
Polarization extinction ratio	PER	20			dB	CW, SMP13

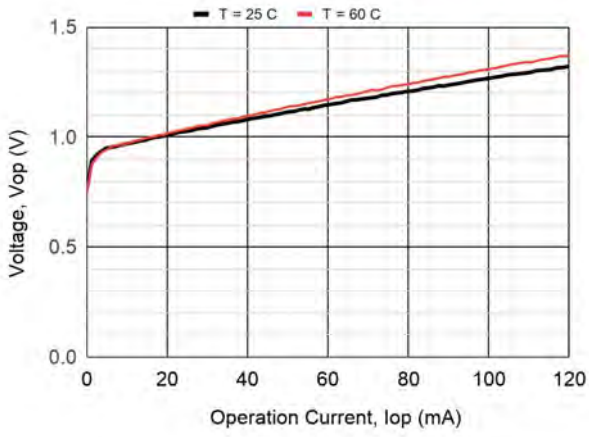
Pulse mode: pulse duration 10 μs; duty cycle = 1%

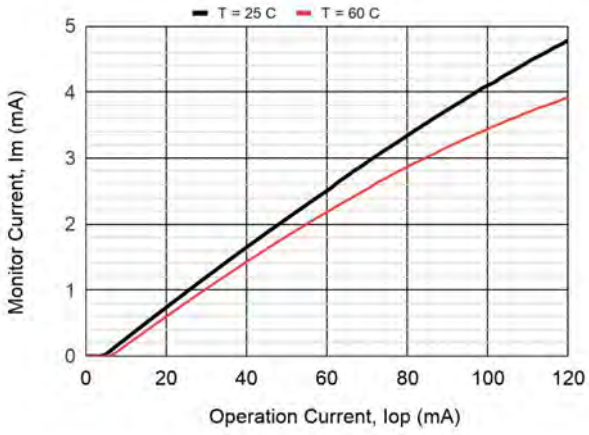
Tracking error E_r = max |10 lg [P(T)/P(25°C)]|, I_m= const, T = T_{min} ÷ T_{max}

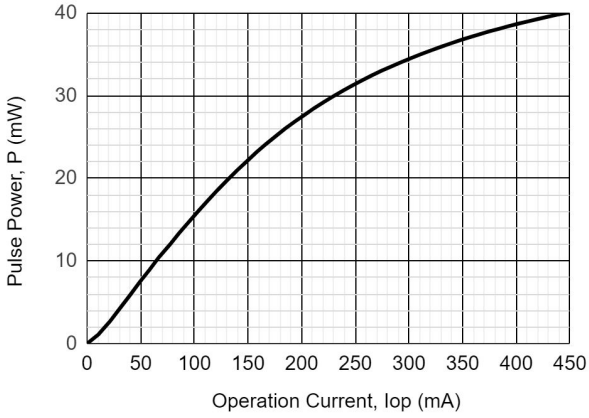
LASERSCOM
Coupling Light to Your Success

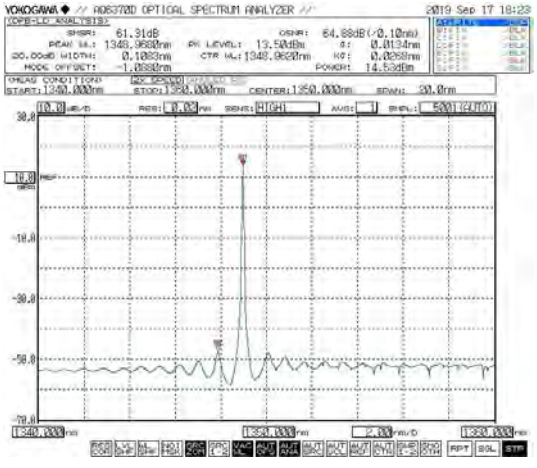
LDS-1350-DFB-2.5G-15/40

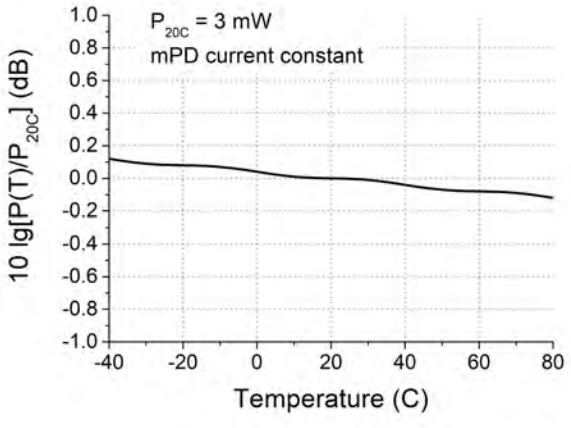












LASERSCOM
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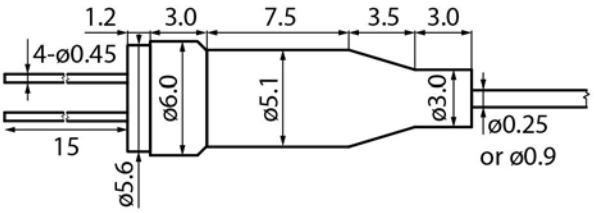
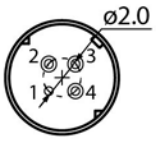
LDS-1350-DFB-2.5G-15/40

PACKAGE U

SIDE VIEW



BACK VIEW



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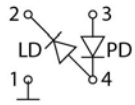
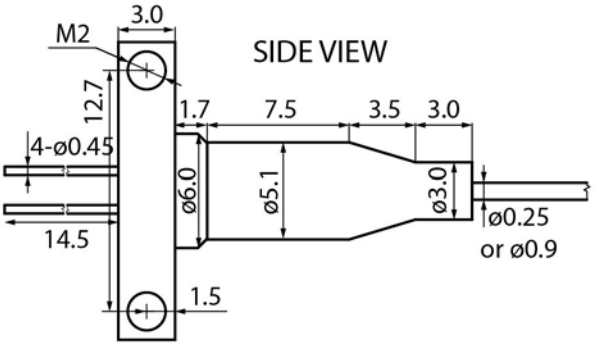


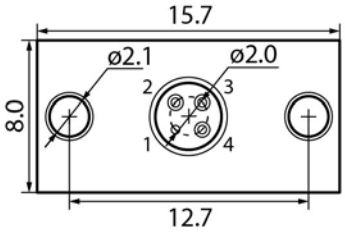
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE B



BACK VIEW



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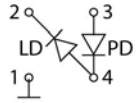
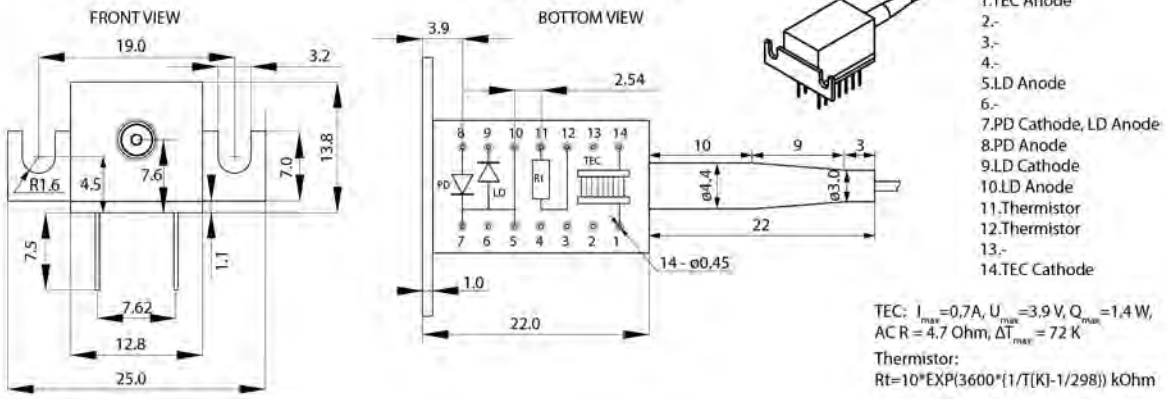


Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T



PINOUT #2, #3

1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.PD Cathode, LD Anode
8.PD Anode
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

TEC: I_{max}=0,7A, U_{max}=3.9 V, Q_{max}=1,4 W,
AC R = 4.7 Ohm, ΔT_{max} = 72 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

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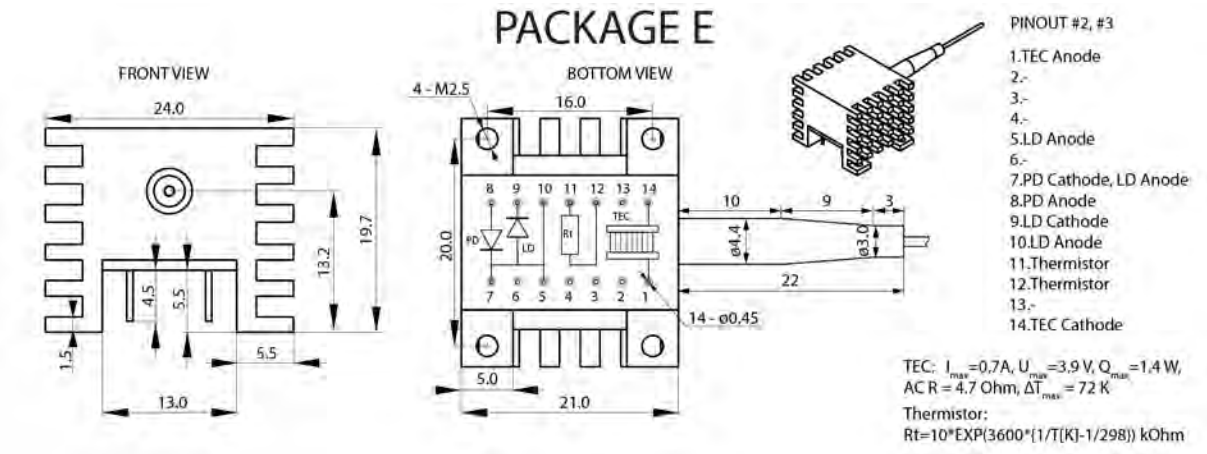
LDS-1350-DFB-2.5G-15/40



LDS-1350-DFB-2.5G-15/40

Characteristics, data, materials and structures specified in this datasheet are subject to change without notice. Please refer to the latest specification before use of the products.

Safety and handling cautions

1. Avoid smashing and burning of the module. Avoid storing and using the module in conditions where water, organic solvents or aggressive acids or bases may contact the module or where there is a possibility of exposure to corrosive gases, explosive gases, dust, salinity or other harsh conditions. The module should be disposed as special industrial waste.
2. Exceeding absolute maximum ratings even for a short time can cause permanent damage of the module.
3. The module is sensitive to and can be broken by ESD (static electricity).

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LasersCom LLC achieves business objectives and customer needs with social responsibility. We do not support or contribute to the violence and human rights violations associated with the mining of conflict minerals coming from Conflict Regions according to US "Dodd-Frank Act". When possible, our suppliers' conflict mineral statements are reviewed. We do not directly purchase Conflict Minerals from any source and do not knowingly procure any parts and products containing Conflict Minerals from Conflict Regions.

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Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) is a European Union regulation 1907/2006/EC that addresses the production and use of chemical substances, and their potential impacts on human health and the environment. Based on information received from our supply sources, LasersCom LLC hereby states compliance of the parts and materials used in manufacturing to REACH regulation. LasersCom LLC does not manufacture or import any substances or preparations as defined under REACH.

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LDI-1350-DFB-2.5G-20/50

OVERVIEW

LDI-1350-DFB-2.5G-20/50 is the MQW laser diode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Wavelength: 1350 nm
- Cavity type: DFB
- Linewidth: <500 kHz
- Data rate up to 2.5 Gbps
- Optical power: up to 20 mW in CW mode, up to 50 mW in pulse mode in SM fiber G.657.A1
- Package types: coaxial, coaxial with bracket, 14 pins DIL
- Built-in monitor photodiode

APPLICATIONS

- Optical fiber communication systems with data rate up to 2.5 Gbps
- Laser systems

ORDERING INFORMATION

LDI-1350-DFB-2.5G-20/50-X-2-X-X-X-X

Case type

U: compact coaxial (pulse mode only)
B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm or **BSM1** ∅0.25mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm or **BSM3** ∅0.25mm
MM5: MM, 50/125, OM2, furcation tubing ∅0.9 mm
MM6: MM, 62.5/125, OM1, furcation tubing ∅0.9 mm
Other type on request

Connector type

FA: FC/APC (SM1,SM3)
SA: SC/APC (SM1)
N: no connector
Other type: on request

FU: FC/UPC (SM1, SM3, MM5, MM6)
SU: SC/UPC (SM1)

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)
P: pulse mode (10 µs; duty cycle = 1%)
CWP: both CW and pulse modes

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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LDI-1350-DFB-2.5G-20/50

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current	I_{FL}	120	mA	CW
		450	mA	Pulse
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	20	V	
Photodiode forward current	I_{Fp}	2	mA	
Operating temperature	T_{OP}	-40 - +85	°C	Package U, B
Operating temperature	T_{OP}	-40 - +50	°C	Package T, E
Storage temperature	T_{stg}	-40 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 10 seconds

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Wavelength	λ	1345	1350	1355	nm	CW, P = 20 mW
Spectral width	$\Delta\lambda$		0.11		nm	CW, P = 20 mW, -20 dB, OSA
Spectral width	Δf			500	kHz	CW, P = 20 mW, delayed self-heterodyne method
Wavelength-temperature coeff.	dλ/dT		0.11		nm/°C	
Side-mode suppression ratio	SMSR	40	55		dB	CW, P = 20 mW
Threshold current	I_{th}		6	12	mA	CW
Operating current	I_{op}		110	120	mA	CW, P = 20 mW, SM1
Slope efficiency	S_e	0.18	0.20		W/A	CW, SM1
Operating voltage	V_{op}		1.3	1.8	V	CW, P = 20 mW
Tracking error	E_r		0.4	0.6	dB	CW, P = 3 mW; T = -40 ÷ +80 °C
Pulse optical power	P_p	45	50		mW	Pulse, Iop = 450 mA
Rise and fall times	t_r, t_f		80	120	ps	20%-80%, package U, B
Resonance frequency	f_r		4.3		GHz	
Monitoring output current (PD)	I_m	1.0	2.5	5.0	mA	CW, P = 20 mW, V_{rd} = 5V
Capacitance (PD)	C_t		10	20	pF	V_{rd} = 5V, f = 1 MHz
Dark current (PD)	I_d			100	nA	V_{rd} = 5V

Pulse mode: pulse duration 10 μs; duty cycle = 1%

Tracking error E_r = max |10 lg [P(T)/P(25°C)]]|, I_m= const, T = T_{min} ÷ T_{max}

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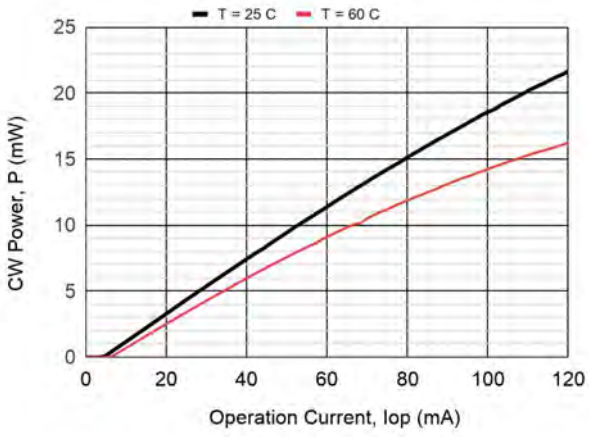
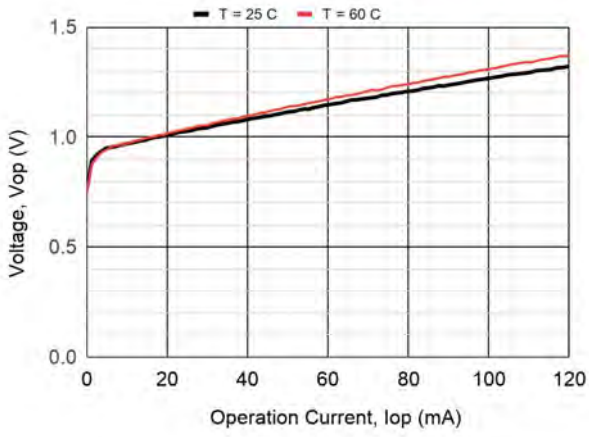
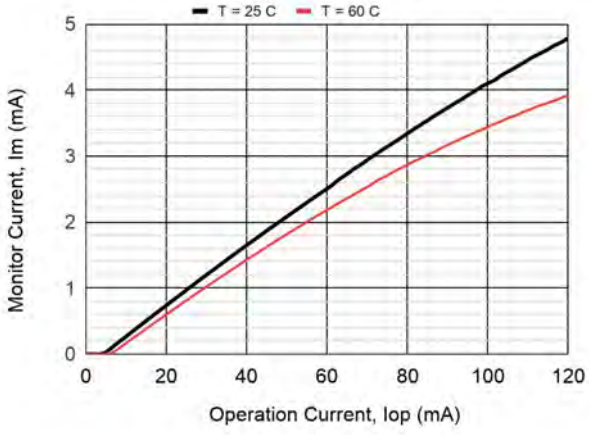
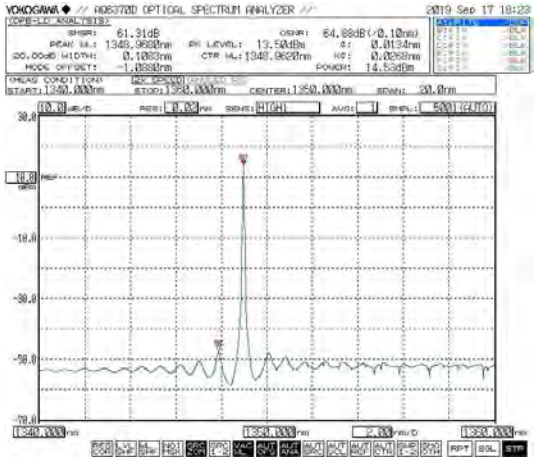
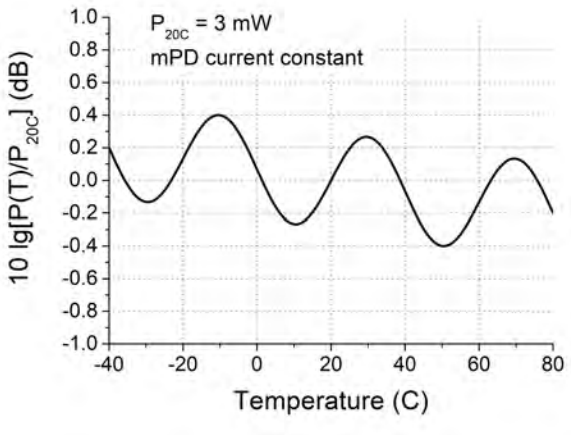
LDI-1350-DFB-2.5G-20/50











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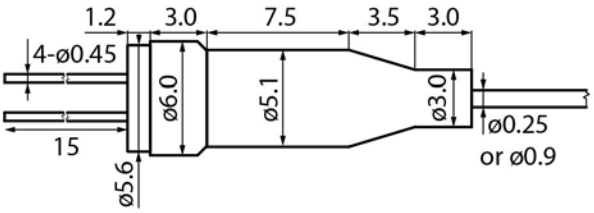
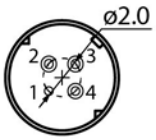
LDI-1350-DFB-2.5G-20/50

PACKAGE U

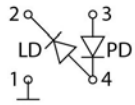
SIDE VIEW



BACK VIEW



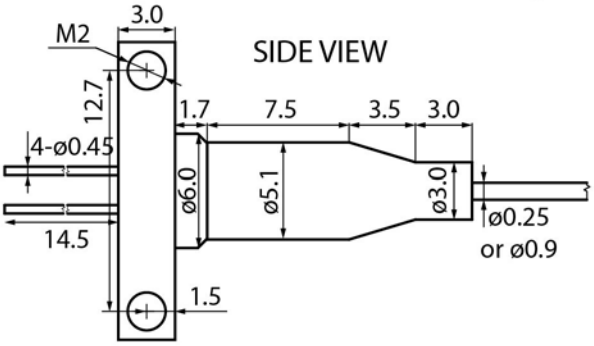
PINOUT #2



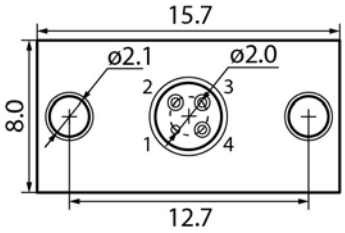
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE B



BACK VIEW



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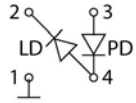
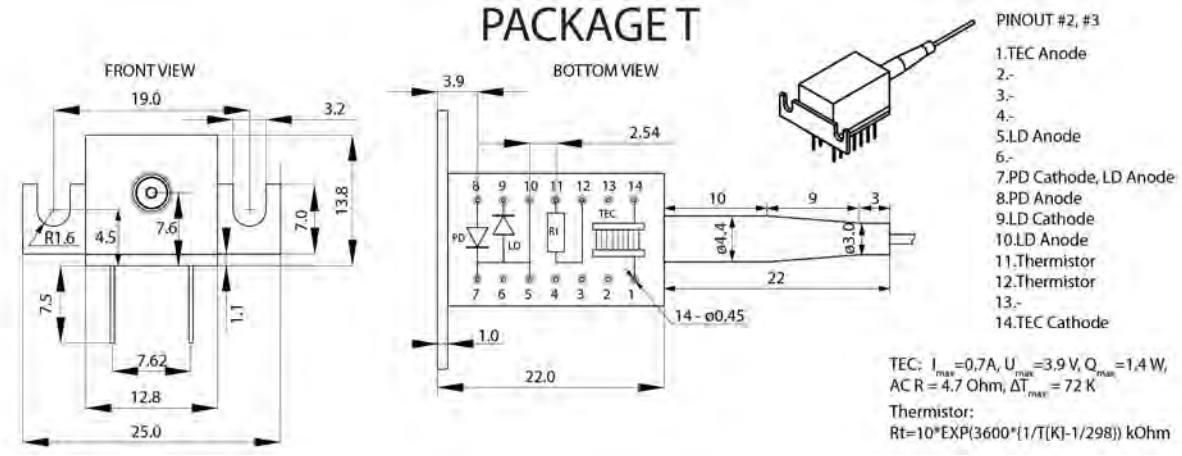


Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T



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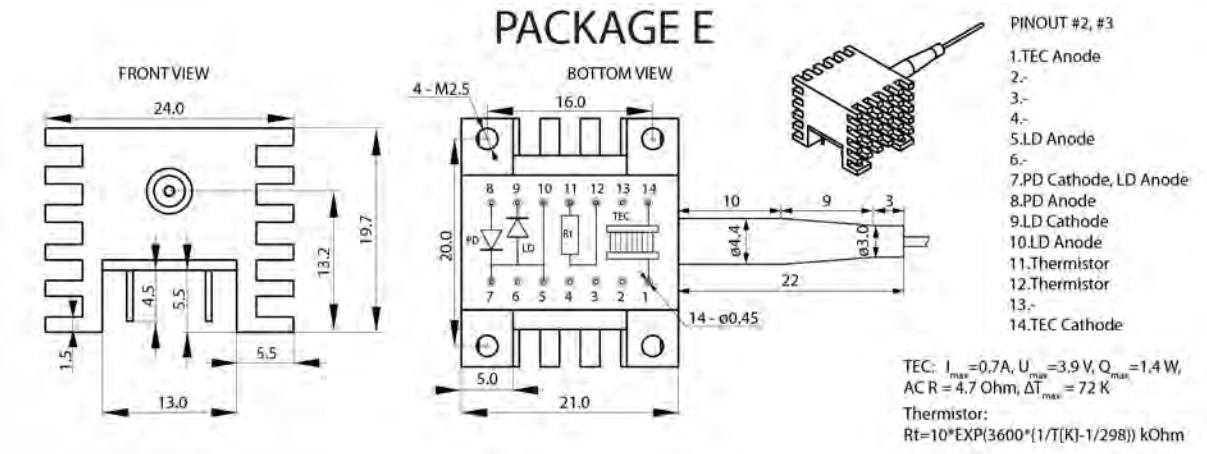

LASERSCOM
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LDI-1350-DFB-2.5G-20/50

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LASERSCOM
Coupling Light to Your Success

LDI-1350-DFB-2.5G-20/50

OVERVIEW

LDI-1350-DFB-2.5G-20/50 is the MQW laser diode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Wavelength: 1350 nm
- Cavity type: DFB
- Linewidth: <500 kHz
- Data rate up to 2.5 Gbps
- Optical power: up to 20 mW in CW mode, up to 50 mW in pulse mode in SM fiber G.657.A1
- Package types: coaxial, coaxial with bracket, 14 pins DIL
- Built-in monitor photodiode

APPLICATIONS

- Optical fiber communication systems with data rate up to 2.5 Gbps
- Laser systems

ORDERING INFORMATION

LDI-1350-DFB-2.5G-20/50-X-2-X-X-X-X

Case type

U: compact coaxial (pulse mode only)
B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm or **BSM1** ∅0.25mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm or **BSM3** ∅0.25mm
MM5: MM, 50/125, OM2, furcation tubing ∅0.9 mm
MM6: MM, 62.5/125, OM1, furcation tubing ∅0.9 mm
Other type on request

Connector type

FA: FC/APC (SM1,SM3)
SA: SC/APC (SM1)
N: no connector
Other type: on request

FU: FC/UPC (SM1, SM3, MM5, MM6)
SU: SC/UPC (SM1)

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)
P: pulse mode (10 µs; duty cycle = 1%)
CWP: both CW and pulse modes

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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LDI-1350-DFB-2.5G-20/50

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current	I_{FL}	120	mA	CW
		450	mA	Pulse
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	20	V	
Photodiode forward current	I_{Fp}	2	mA	
Operating temperature	T_{OP}	-40 - +85	°C	Package U, B
Operating temperature	T_{OP}	-40 - +50	°C	Package T, E
Storage temperature	T_{stg}	-40 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 10 seconds

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Wavelength	λ	1345	1350	1355	nm	CW, P = 20 mW
Spectral width	$\Delta\lambda$		0.11		nm	CW, P = 20 mW, -20 dB, OSA
Spectral width	Δf			500	kHz	CW, P = 20 mW, delayed self-heterodyne method
Wavelength-temperature coeff.	dλ/dT		0.11		nm/°C	
Side-mode suppression ratio	SMSR	40	55		dB	CW, P = 20 mW
Threshold current	I_{th}		6	12	mA	CW
Operating current	I_{op}		110	120	mA	CW, P = 20 mW, SM1
Slope efficiency	S_e	0.18	0.20		W/A	CW, SM1
Operating voltage	V_{op}		1.3	1.8	V	CW, P = 20 mW
Tracking error	E_r		0.4	0.6	dB	CW, P = 3 mW; T = -40 ÷ +80 °C
Pulse optical power	P_p	45	50		mW	Pulse, Iop = 450 mA
Rise and fall times	t_r, t_f		80	120	ps	20%-80%, package U, B
Resonance frequency	f_r		4.3		GHz	
Monitoring output current (PD)	I_m	1.0	2.5	5.0	mA	CW, P = 20 mW, V_{rd} = 5V
Capacitance (PD)	C_t		10	20	pF	V_{rd} = 5V, f = 1 MHz
Dark current (PD)	I_d			100	nA	V_{rd} = 5V

Pulse mode: pulse duration 10 μs; duty cycle = 1%

Tracking error E_r = max |10 lg [P(T)/P(25°C)]]|, I_m= const, T = T_{min} ÷ T_{max}

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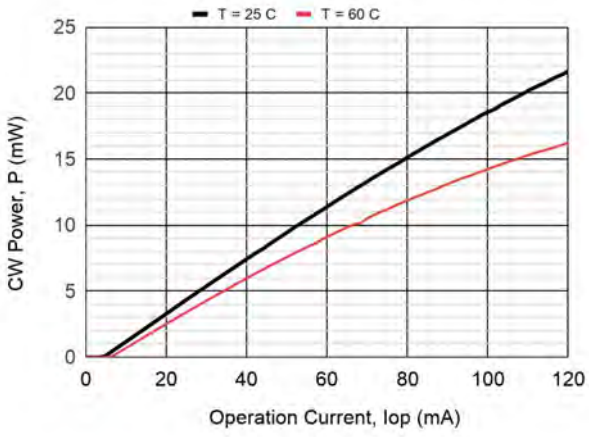
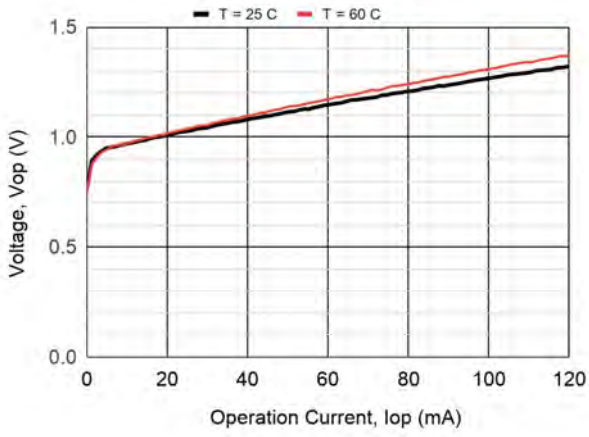
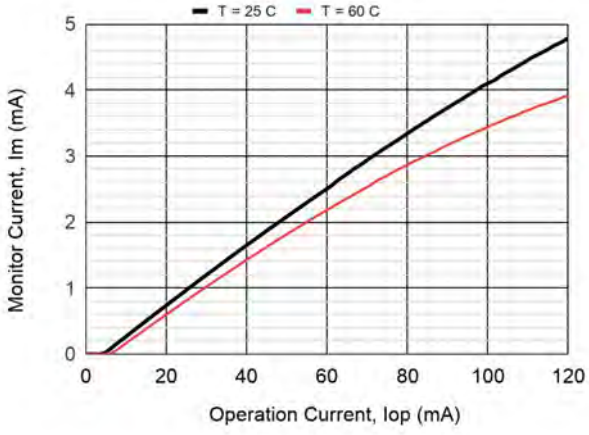
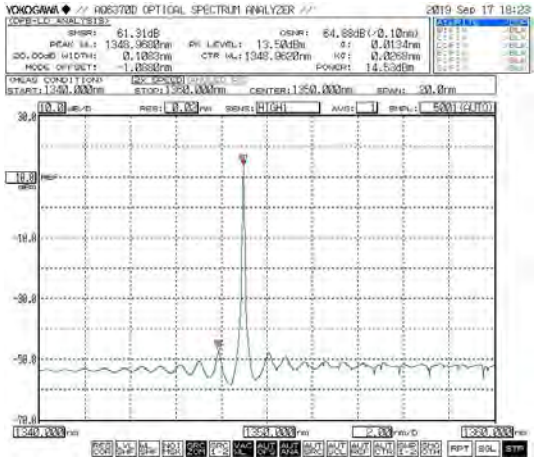
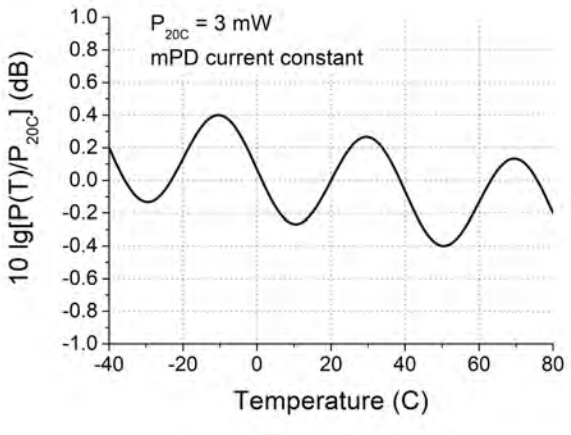
LDI-1350-DFB-2.5G-20/50











LASERSCOM
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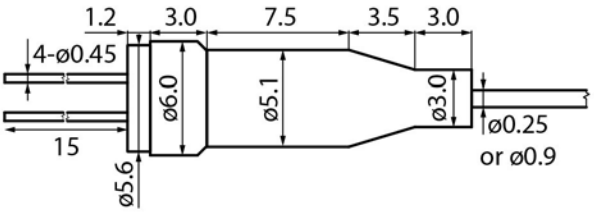
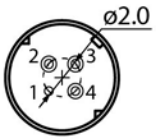
LDI-1350-DFB-2.5G-20/50

PACKAGE U

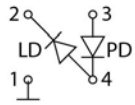
SIDE VIEW



BACK VIEW



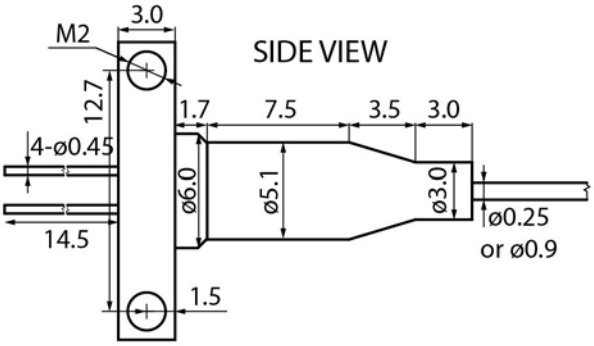
PINOUT #2



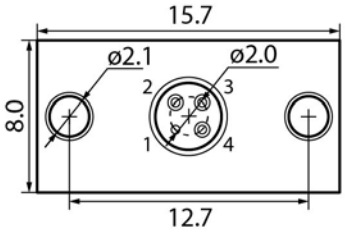
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE B



BACK VIEW



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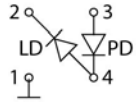
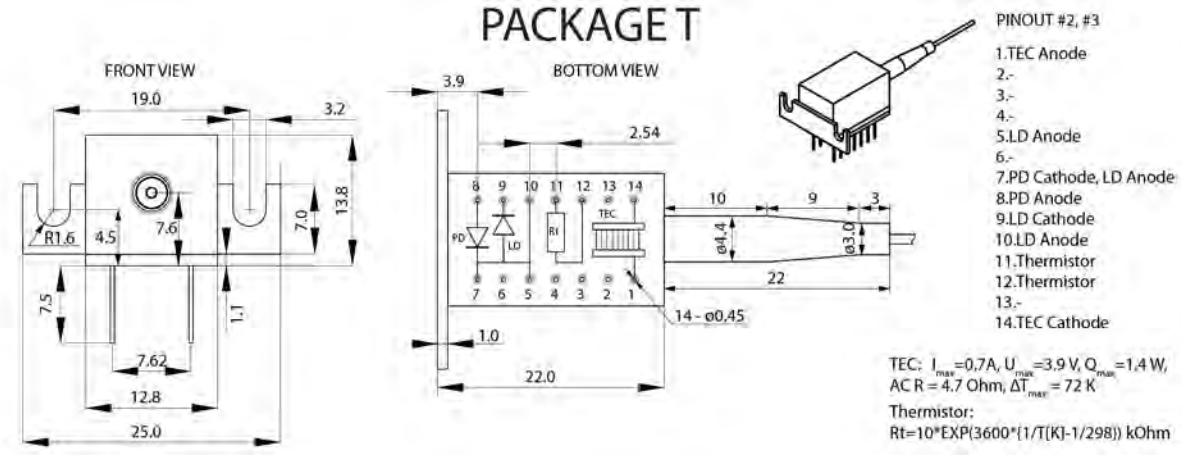


Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T



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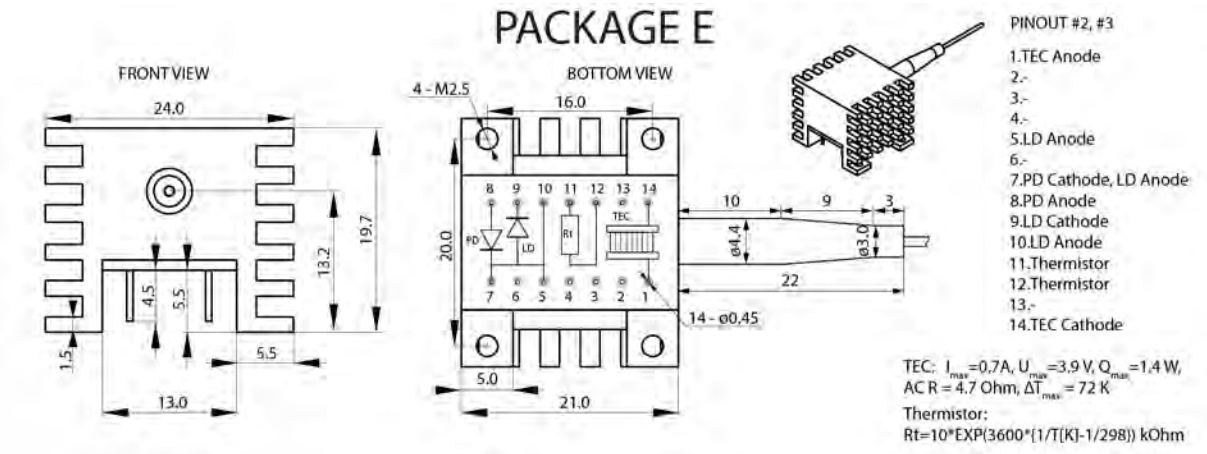
Coupling Light to Your Success

LDI-1350-DFB-2.5G-20/50



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LDI-1350-DFB-2.5G-20/50

Characteristics, data, materials and structures specified in this datasheet are subject to change without notice. Please refer to the latest specification before use of the products.

Safety and handling cautions

1. Avoid smashing and burning of the module. Avoid storing and using the module in conditions where water, organic solvents or aggressive acids or bases may contact the module or where there is a possibility of exposure to corrosive gases, explosive gases, dust, salinity or other harsh conditions. The module should be disposed as special industrial waste.
2. Exceeding absolute maximum ratings even for a short time can cause permanent damage of the module.
3. The module is sensitive to and can be broken by ESD (static electricity).

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LDS-1370-DFB-2.5G-15/40

OVERVIEW

LDS-1370-DFB-2.5G-15/40 is the MQW laser diode coupled to an optical fiber and packaged into a hermetic case. The special feature of the LDS technology is the increased thermal stability of optical power

MAIN FEATURES

- Wavelength: 1370 nm
- Cavity type: DFB
- Linewidth: <500 kHz
- Data rate up to 2.5 Gbps
- Optical power: up to 15 mW in CW mode, up to 40 mW in pulse mode in SM fiber G.657.A1
- Package types: coaxial, coaxial with bracket, 14 pins DIL
- Built-in monitor photodiode

APPLICATIONS

- Optical fiber communication systems with data rate up to 2.5 Gbps
- Laser systems

ORDERING INFORMATION

LDS-1370-DFB-2.5G-15/40-X-2-X-X-X-X

Case type

U: compact coaxial (pulse mode only)
B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm or **BSM1** ∅0.25mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm or **BSM3** ∅0.25mm
SMP13: PM, Fujikura SM13, PANDA type, furcation tubing ∅0.9 mm
Other type on request

Connector type

FA: FC/APC (SM1,SM3, SMP13)
SA: SC/APC (SM1)
N: no connector
Other type: on request
FU: FC/UPC (SM1, SM3)
SU: SC/UPC (SM1)

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)
P: pulse mode (10 µs; duty cycle = 1%)
CWP: both CW and pulse modes

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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LDS-1370-DFB-2.5G-15/40

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current	I_{FL}	120	mA	CW
		450	mA	Pulse
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	20	V	
Photodiode forward current	I_{Fp}	2	mA	
Operating temperature	T_{OP}	-40 - +85	°C	Package U, B
Operating temperature	T_{OP}	-40 - +50	°C	Package T, E
Storage temperature	T_{stg}	-50 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 10 seconds

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Wavelength	λ	1365	1370	1375	nm	CW, P = 15 mW
Spectral width	$\Delta\lambda$		0.11		nm	CW, P = 15 mW, -20 dB, OSA
Spectral width	Δf			500	kHz	CW, P = 15 mW, delayed self-heterodyne method
Wavelength-temperature coeff.	dλ/dT		0.11		nm/°C	
Side-mode suppression ratio	SMSR	40	55		dB	CW, P = 15 mW
Threshold current	I_{th}		8	12	mA	CW
Operating current	I_{op}		100	120	mA	CW, P = 15 mW, SM1
Slope efficiency	S_e	0.13	0.16		W/A	CW, SM1
Operating voltage	V_{op}		1.3	1.8	V	CW, P = 15 mW
Tracking error	E_r		0.15	0.30	dB	CW, P = 3 mW; T = -40 ÷ +80 °C
Pulse optical power	P_p	35	40		mW	Pulse, Iop = 450 mA
Rise and fall times	t_r, t_f		80	120	ps	20%-80%, package U, B
Resonance frequency	f_r		4.3		GHz	
Monitoring output current (PD)	I_m	1.0	2.0	5.0	mA	CW, P = 15 mW, V_{rd} = 5V
Capacitance (PD)	C_t		10	20	pF	V_{rd} = 5V, f = 1 MHz
Dark current (PD)	I_d			200	nA	V_{rd} = 5V
Polarization extinction ratio	PER	20			dB	CW, SMP13

Pulse mode: pulse duration 10 μs; duty cycle = 1%

Tracking error E_r = max |10 lg [P(T)/P(25°C)]]|, I_m= const, T = T_{min} ÷ T_{max}

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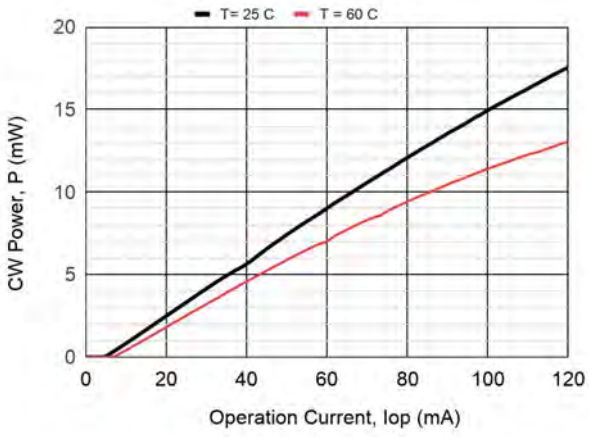
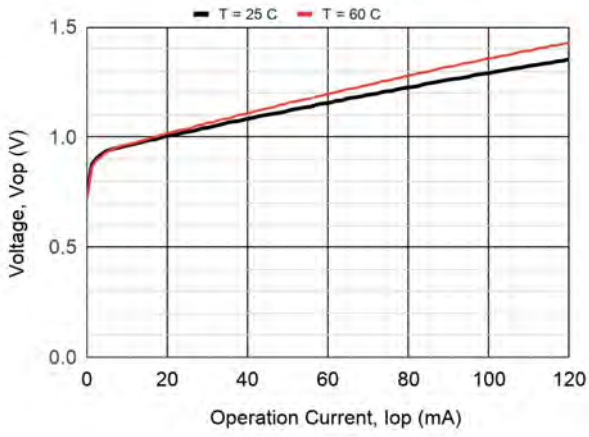
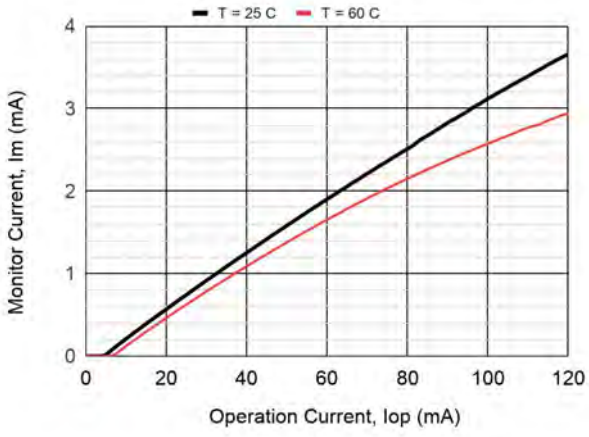
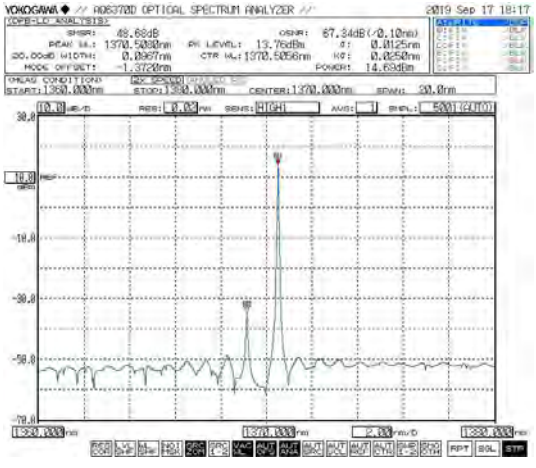
Coupling Light to Your Success

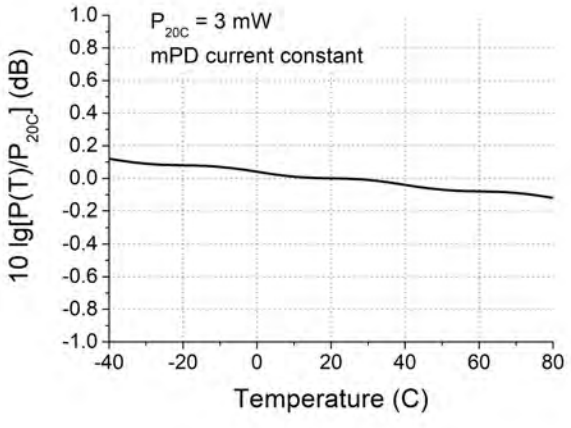
LDS-1370-DFB-2.5G-15/40











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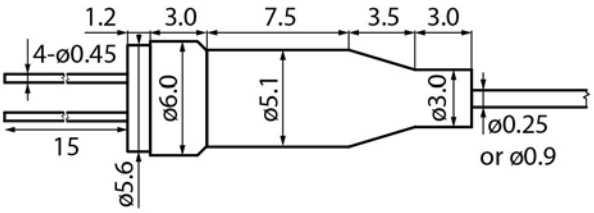
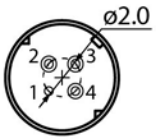
LDS-1370-DFB-2.5G-15/40

PACKAGE U

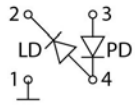
SIDE VIEW



BACK VIEW



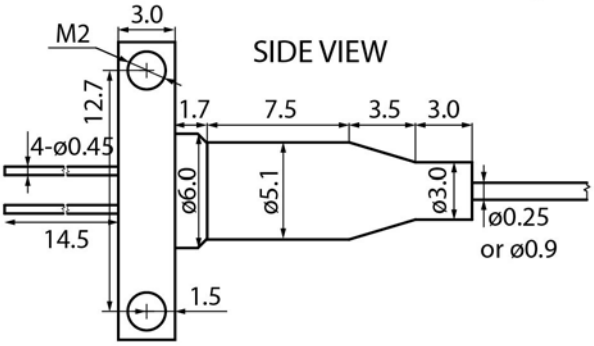
PINOUT #2



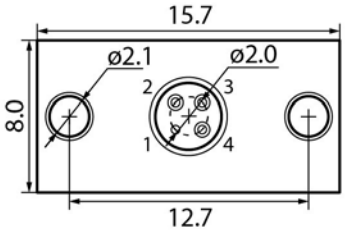
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE B



BACK VIEW



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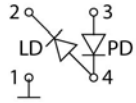
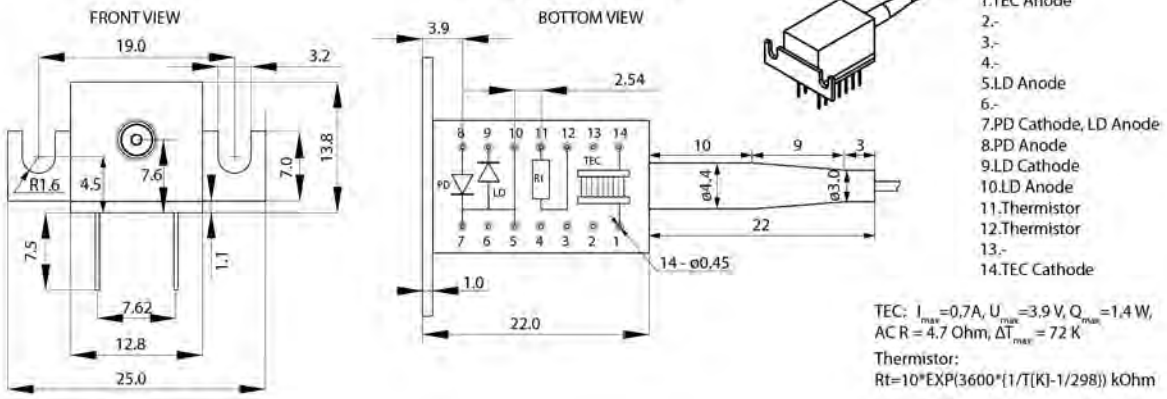


Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T



PINOUT #2, #3

1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.PD Cathode, LD Anode
8.PD Anode
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

TEC: I_{max}=0,7A, U_{max}=3.9 V, Q_{max}=1,4 W,
AC R = 4.7 Ohm, ΔT_{max} = 72 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

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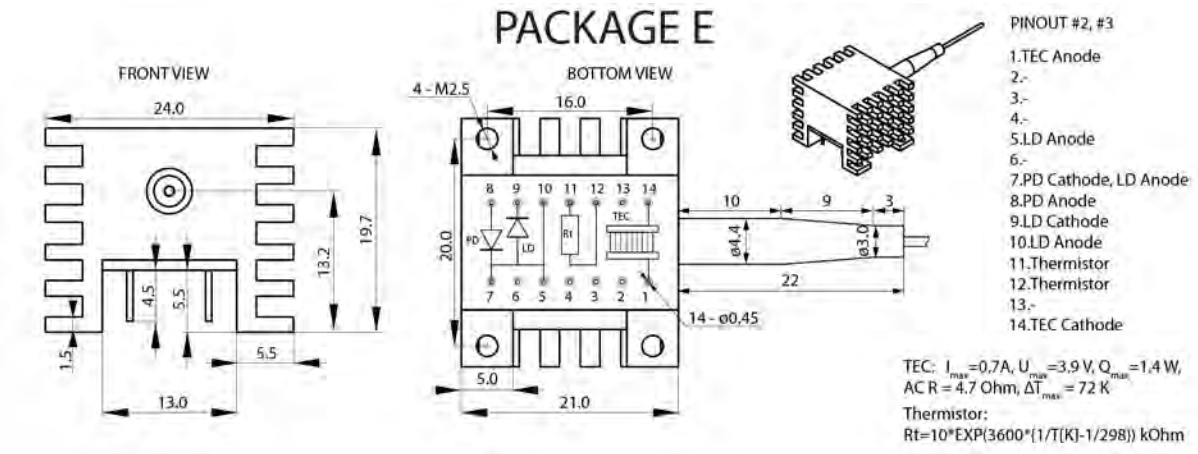

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LDS-1370-DFB-2.5G-15/40

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LASERSCOM
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LDI-1370-DFB-2.5G-20/50

OVERVIEW

LDI-1370-DFB-2.5G-20/50 is the MQW laser diode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Wavelength: 1370 nm
- Cavity type: DFB
- Linewidth: <500 kHz
- Data rate up to 2.5 Gbps
- Optical power: up to 20 mW in CW mode, up to 50 mW in pulse mode in SM fiber G.657.A1
- Package types: coaxial, coaxial with bracket, 14 pins DIL
- Built-in monitor photodiode

APPLICATIONS

- Optical fiber communication systems with data rate up to 2.5 Gbps
- Laser systems

ORDERING INFORMATION

LDI-1370-DFB-2.5G-20/50-X-2-X-X-X-X

Case type

U: compact coaxial (pulse mode only)
B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm or **BSM1** ∅0.25mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm or **BSM3** ∅0.25mm
MM5: MM, 50/125, OM2, furcation tubing ∅0.9 mm
MM6: MM, 62.5/125, OM1, furcation tubing ∅0.9 mm
Other type on request

Connector type

FA: FC/APC (SM1,SM3)
SA: SC/APC (SM1)
N: no connector
Other type: on request

FU: FC/UPC (SM1, SM3, MM5, MM6)
SU: SC/UPC (SM1)

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)
P: pulse mode (10 µs; duty cycle = 1%)
CWP: both CW and pulse modes

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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LDI-1370-DFB-2.5G-20/50

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current	I_{FL}	120	mA	CW
		450	mA	Pulse
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	20	V	
Photodiode forward current	I_{Fp}	2	mA	
Operating temperature	T_{OP}	-40 - +85	°C	Package U, B
Operating temperature	T_{OP}	-40 - +50	°C	Package T, E
Storage temperature	T_{stg}	-40 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 10 seconds

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

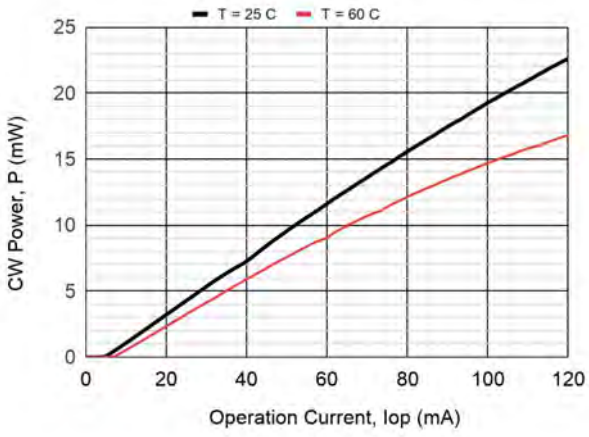
Parameter		MIN	TYP	MAX	Unit	Conditions
Wavelength	λ	1365	1370	1375	nm	CW, P = 20 mW
Spectral width	$\Delta\lambda$		0.11		nm	CW, P = 20 mW, -20 dB, OSA
Spectral width	Δf			500	kHz	CW, P = 20 mW, delayed self-heterodyne method
Wavelength-temperature coeff.	dλ/dT		0.11		nm/°C	
Side-mode suppression ratio	SMSR	40	55		dB	CW, P = 20 mW
Threshold current	I_{th}		6	12	mA	CW
Operating current	I_{op}		110	120	mA	CW, P = 20 mW, SM1
Slope efficiency	S_e	0.18	0.20		W/A	CW, SM1
Operating voltage	V_{op}		1.3	1.8	V	CW, P = 20 mW
Tracking error	E_r		0.4	0.6	dB	CW, P = 3 mW; T = -40 ÷ +80 °C
Pulse optical power	P_p	45	50		mW	Pulse, Iop = 450 mA
Rise and fall times	t_r, t_f		80	120	ps	20%-80%, package U, B
Resonance frequency	f_r		4.3		GHz	2.5Gbps, Imod = 40mA, Ibias = Ith+2 mA
Monitoring output current (PD)	I_m	1.0	2.5	5.0	mA	CW, P = 20 mW, V_{rd} = 5V
Dark current (PD)	I_d			200	nA	V_{rd} = 5V

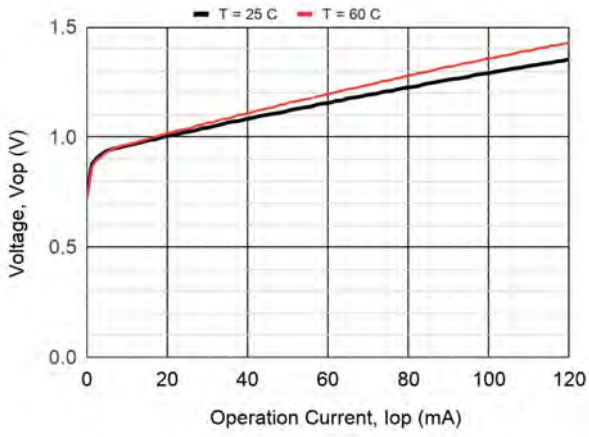
Pulse mode: pulse duration 10 μs; duty cycle = 1%

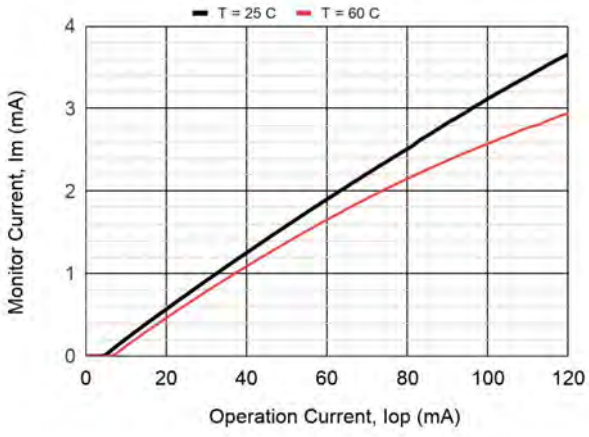
Tracking error E_r = max |10 lg [P(T)/P(25°C)]]|, I_m= const, T = T_{min} ÷ T_{max}

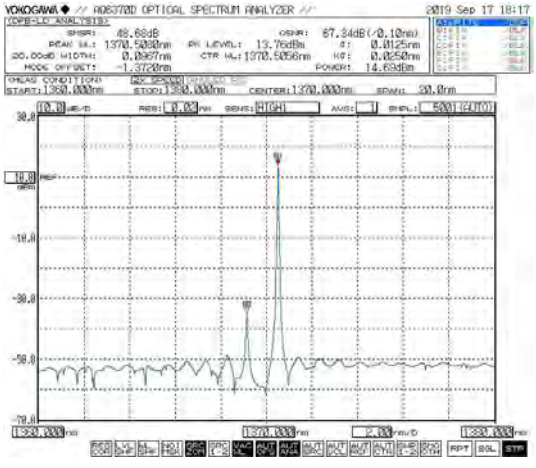
LASERSCOM
Coupling Light to Your Success

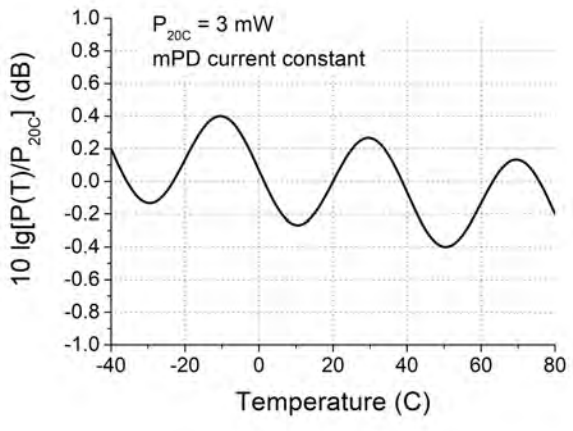
LDI-1370-DFB-2.5G-20/50











LASERSCOM
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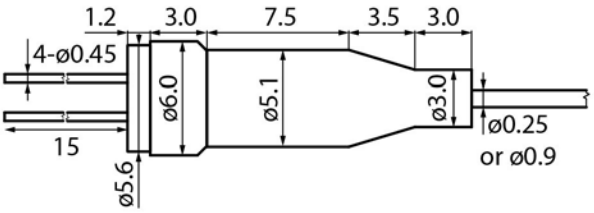
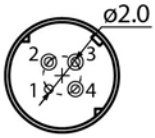
LDI-1370-DFB-2.5G-20/50

PACKAGE U

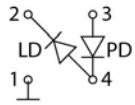
SIDE VIEW



BACK VIEW



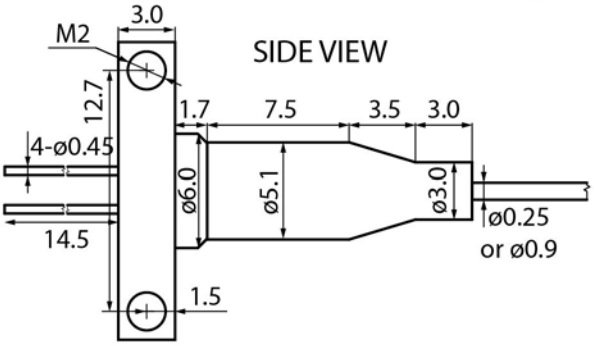
PINOUT #2



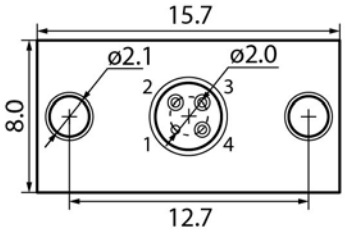
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE B



BACK VIEW



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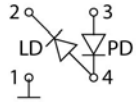
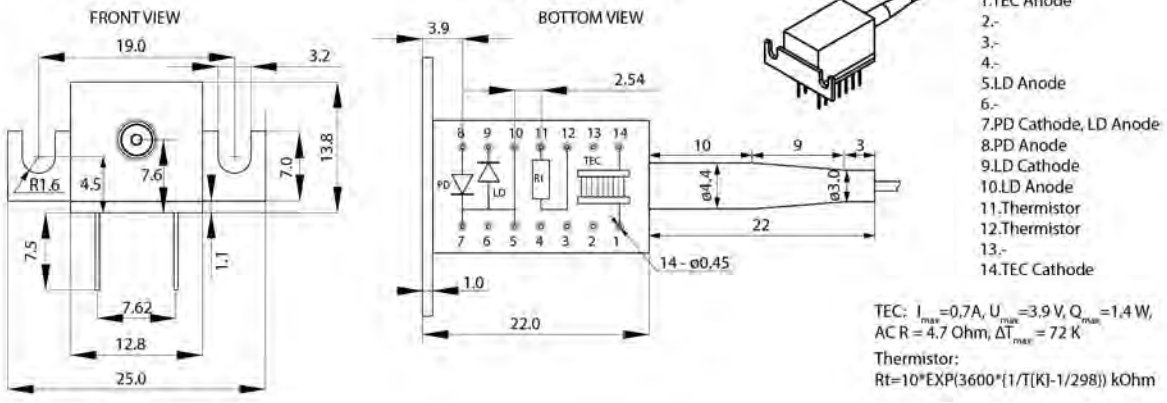


Connector FC/UPC, FC/APC, no connector, or by request

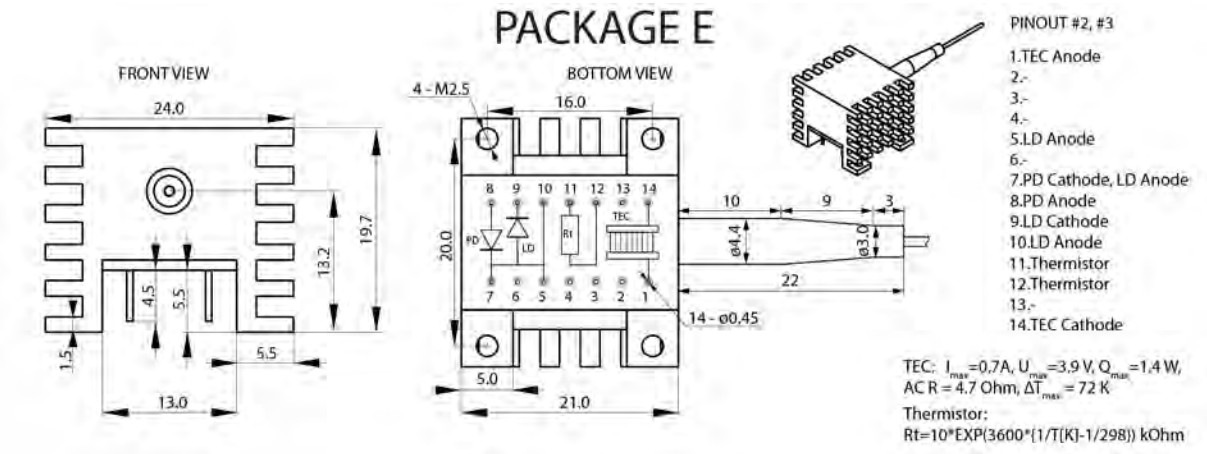
Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T



LASERSCOM
Coupling Light to Your Success

LDI-1370-DFB-2.5G-20/50



LDI-1370-DFB-2.5G-20/50

Characteristics, data, materials and structures specified in this datasheet are subject to change without notice. Please refer to the latest specification before use of the products.

Safety and handling cautions

1. Avoid smashing and burning of the module. Avoid storing and using the module in conditions where water, organic solvents or aggressive acids or bases may contact the module or where there is a possibility of exposure to corrosive gases, explosive gases, dust, salinity or other harsh conditions. The module should be disposed as special industrial waste.
2. Exceeding absolute maximum ratings even for a short time can cause permanent damage of the module.
3. The module is sensitive to and can be broken by ESD (static electricity).

Conflict Minerals Policy Statement

LasersCom LLC achieves business objectives and customer needs with social responsibility. We do not support or contribute to the violence and human rights violations associated with the mining of conflict minerals coming from Conflict Regions according to US "Dodd-Frank Act". When possible, our suppliers' conflict mineral statements are reviewed. We do not directly purchase Conflict Minerals from any source and do not knowingly procure any parts and products containing Conflict Minerals from Conflict Regions.

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Restriction of Hazardous Substances (RoHS) directive (Directive 2011/65/EC amended with Directive (EU) 2015/863) is the directive aimed at reducing the harmful environmental impact of waste electrical equipment by restricting the use of known dangerous substances. Based on information received from our supply sources, LasersCom LLC hereby states that the banned substances listed in the RoHS directive are not found in the parts and materials used above the threshold level listed other than exceptions approved by the European Commission.

REACH Compliance Statement

Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) is a European Union regulation 1907/2006/EC that addresses the production and use of chemical substances, and their potential impacts on human health and the environment. Based on information received from our supply sources, LasersCom LLC hereby states compliance of the parts and materials used in manufacturing to REACH regulation. LasersCom LLC does not manufacture or import any substances or preparations as defined under REACH.

LASERSCOM
Coupling Light to Your Success

LDS-1390-DFB-2.5G-15/40

OVERVIEW

LDS-1390-DFB-2.5G-15/40 is the MQW laser diode coupled to an optical fiber and packaged into a hermetic case. The special feature of the LDS technology is the increased thermal stability of optical power

MAIN FEATURES

- Wavelength: 1390 nm
- Cavity type: DFB
- Linewidth: <500 kHz
- Data rate up to 2.5 Gbps
- Optical power: up to 15 mW in CW mode, up to 40 in pulse mode in SM fiber G.657.A1
- Package types: coaxial, coaxial with bracket, 14 pins DIL
- Built-in monitor photodiode

APPLICATIONS

- Optical fiber communication systems with data rate up to 2.5 Gbps
- Laser systems

ORDERING INFORMATION

LDS-1390-DFB-2.5G-15/40-X-2-X-X-X-X

Case type

U: compact coaxial (pulse mode only)
B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm or **BSM1** ∅0.25mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm or **BSM3** ∅0.25mm
SMP13: PM, Fujikura SM13, PANDA type, furcation tubing ∅0.9 mm
Other type on request

Connector type

FA: FC/APC (SM1,SM3, SMP13)
SA: SC/APC (SM1)
N: no connector
Other type: on request
FU: FC/UPC (SM1, SM3)
SU: SC/UPC (SM1)

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)
P: pulse mode (10 µs; duty cycle = 1%)
CWP: both CW and pulse modes

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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LDS-1390-DFB-2.5G-15/40

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current	I_{FL}	120	mA	CW
		450	mA	Pulse
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	20	V	
Photodiode forward current	I_{Fp}	2	mA	
Operating temperature	T_{OP}	-40 - +85	°C	Package U, B
Operating temperature	T_{OP}	-40 - +50	°C	Package T, E
Storage temperature	T_{stg}	-50 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 10 seconds

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Wavelength	λ	1385	1390	1395	nm	CW, P = 15 mW
Spectral width	$\Delta\lambda$		0.11		nm	CW, P = 15 mW, -20 dB, OSA
Spectral width	Δf			500	kHz	CW, P = 15 mW, delayed self-heterodyne method
Wavelength-temperature coeff.	dλ/dT		0.13		nm/°C	
Side-mode suppression ratio	SMSR	40	55		dB	CW, P = 15 mW
Threshold current	I_{th}		8	12	mA	CW
Operating current	I_{op}		100	120	mA	CW, P = 15 mW, SM1
Slope efficiency	S_e	0.13	0.16		W/A	CW, SM1
Operating voltage	V_{op}		1.3	1.8	V	CW, P = 15 mW
Tracking error	E_r		0.15	0.30	dB	CW, P = 3 mW; T = -40 ÷ +80 °C
Pulse optical power	P_p	35	40		mW	Pulse, Iop = 450 mA
Rise and fall times	t_r, t_f		80	120	ps	20%-80%, package U, B
Resonance frequency	f_r		4.3		GHz	
Monitoring output current (PD)	I_m	1.0	2.0	5.0	mA	CW, P = 15 mW, V_{rd} = 5V
Capacitance (PD)	C_t		10	20	pF	V_{rd} = 5V, f = 1 MHz
Dark current (PD)	I_d			200	nA	V_{rd} = 5V
Polarization extinction ratio	PER	20			dB	CW, SMP13

Pulse mode: pulse duration 10 μs; duty cycle = 1%

Tracking error E_r = max |10 lg [P(T)/P(25°C)]|, I_m = const, T = T_{min} ÷ T_{max}

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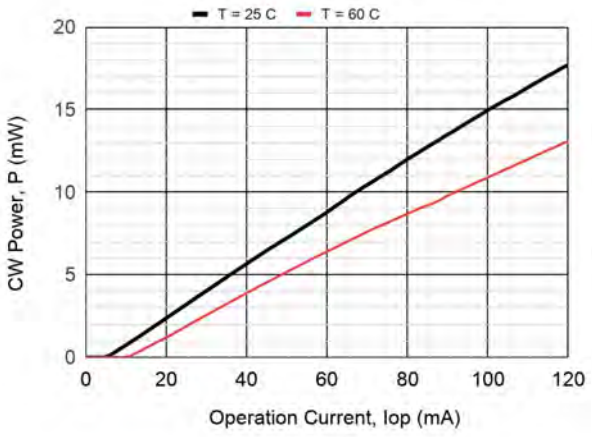
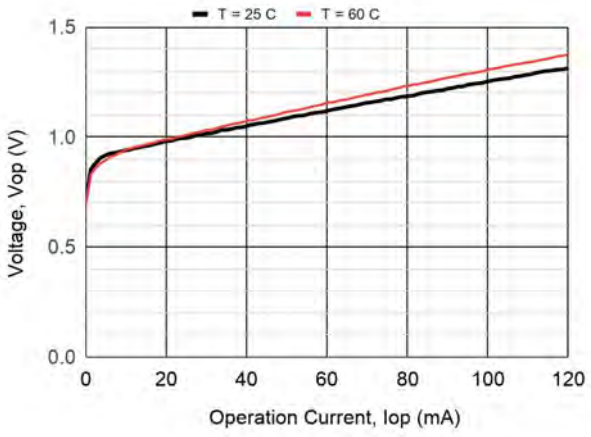
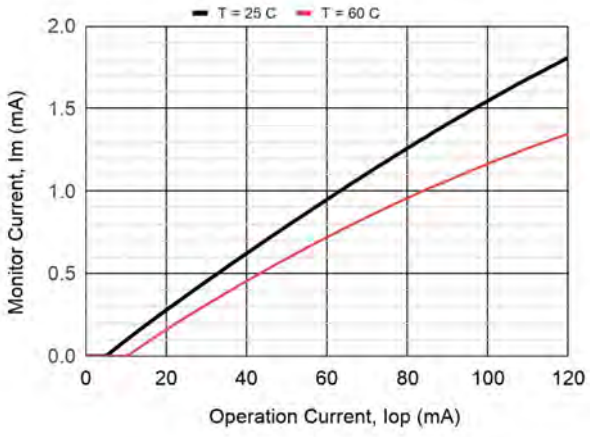
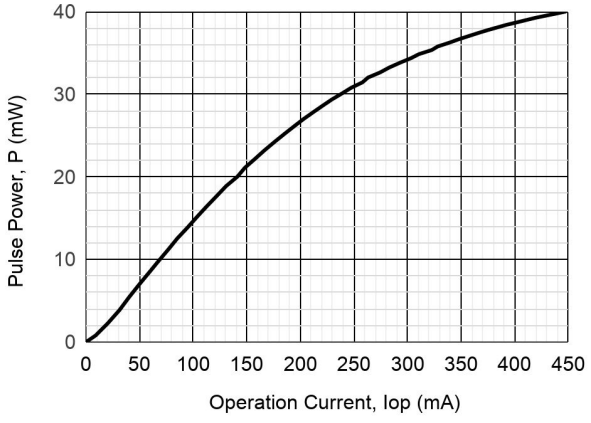
Coupling Light to Your Success

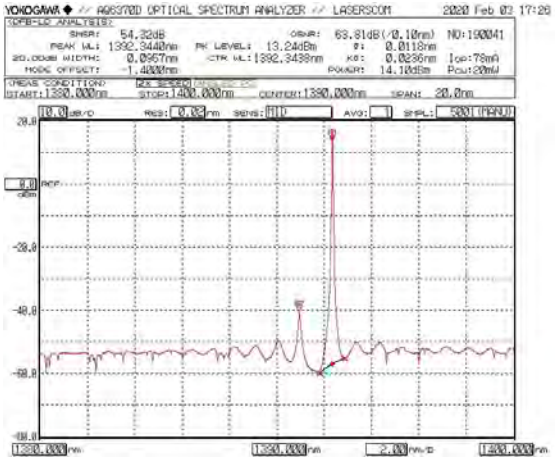
LDS-1390-DFB-2.5G-15/40

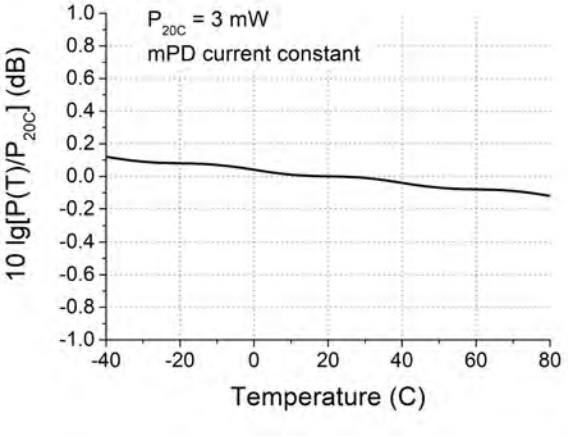












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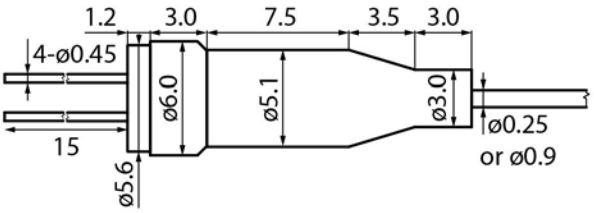
Coupling Light to Your Success

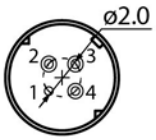
LDS-1390-DFB-2.5G-15/40

PACKAGE U

SIDE VIEW



BACK VIEW



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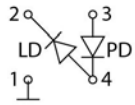
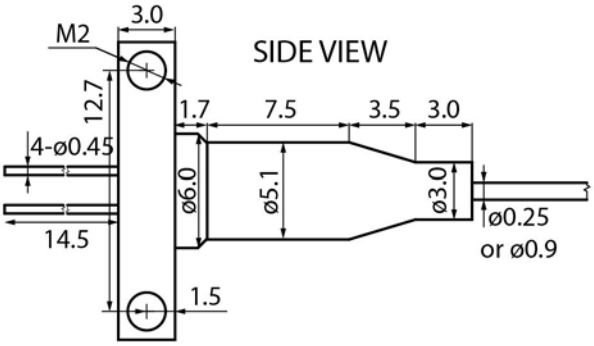


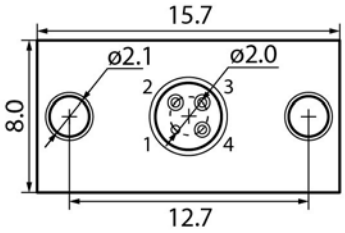
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE B



BACK VIEW



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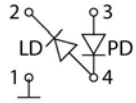
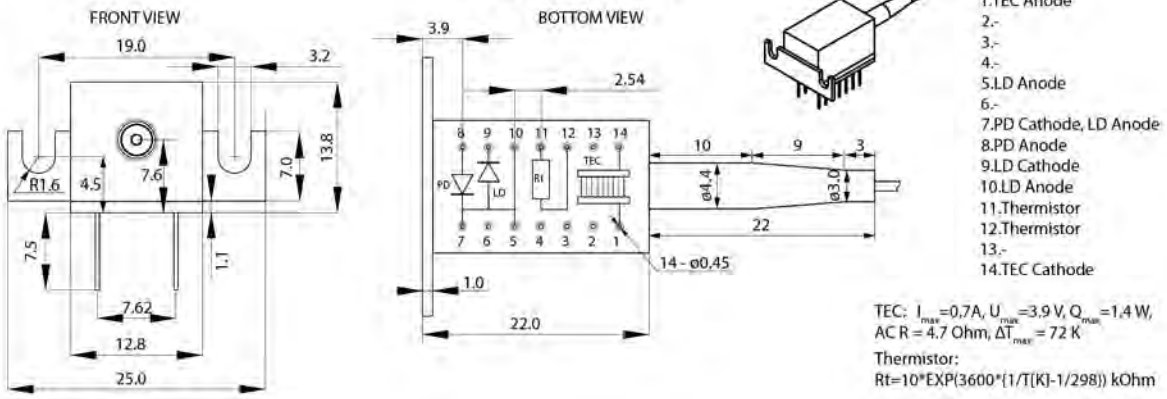


Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T



PINOUT #2, #3

1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.PD Cathode, LD Anode
8.PD Anode
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

TEC: I_{max}=0,7A, U_{max}=3.9 V, Q_{max}=1,4 W,
AC R = 4.7 Ohm, ΔT_{max} = 72 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

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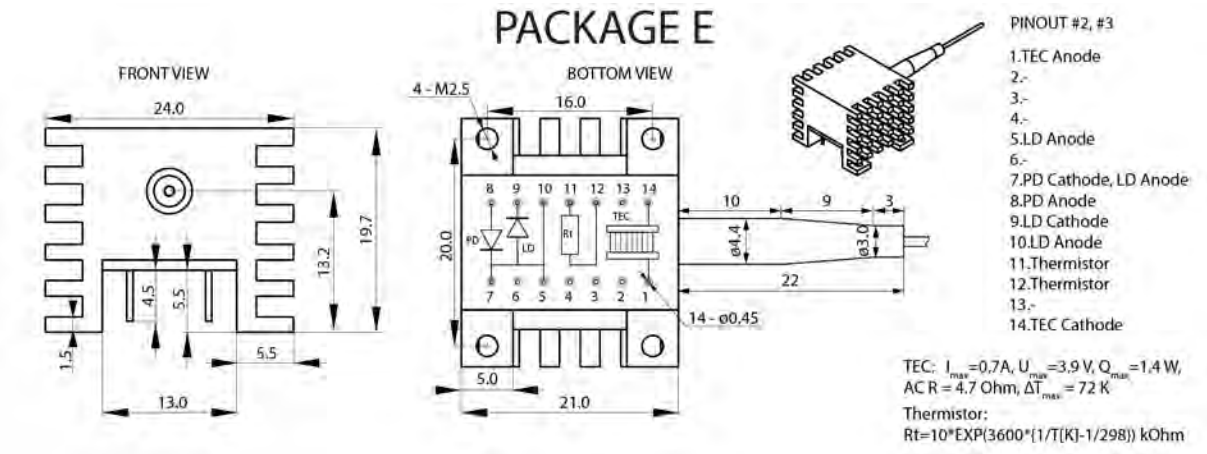

LASERSCOM
Coupling Light to Your Success

LDS-1390-DFB-2.5G-15/40

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LASERSCOM
Coupling Light to Your Success

LDI-1390-DFB-2.5G-20/50

OVERVIEW

LDI-1390-DFB-2.5G-20/50 is the MQW laser diode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Wavelength: 1390 nm
- Cavity type: DFB
- Linewidth: <500 kHz
- Data rate up to 2.5 Gbps
- Optical power: up to 20 mW in CW mode, up to 50 in pulse mode in SM fiber G.657.A1
- Package types: coaxial, coaxial with bracket, 14 pins DIL
- Built-in monitor photodiode

APPLICATIONS

- Optical fiber communication systems with data rate up to 2.5 Gbps
- Laser systems

ORDERING INFORMATION

LDI-1390-DFB-2.5G-20/50-X-2-X-X-X-X

Case type

U: compact coaxial (pulse mode only)
B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm or **BSM1** ∅0.25mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm or **BSM3** ∅0.25mm
MM5: MM, 50/125, OM2, furcation tubing ∅0.9 mm
MM6: MM, 62.5/125, OM1, furcation tubing ∅0.9 mm
Other type on request

Connector type

FA: FC/APC (SM1,SM3)
SA: SC/APC (SM1)
N: no connector
Other type: on request

FU: FC/UPC (SM1, SM3, MM5, MM6)
SU: SC/UPC (SM1)

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)
P: pulse mode (10 µs; duty cycle = 1%)
CWP: both CW and pulse modes

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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LDI-1390-DFB-2.5G-20/50

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current	I_{FL}	120	mA	CW
		450	mA	Pulse
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	20	V	
Photodiode forward current	I_{Fp}	2	mA	
Operating temperature	T_{OP}	-40 - +85	°C	Package U, B
Operating temperature	T_{OP}	-40 - +50	°C	Package T, E
Storage temperature	T_{stg}	-40 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 10 seconds

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

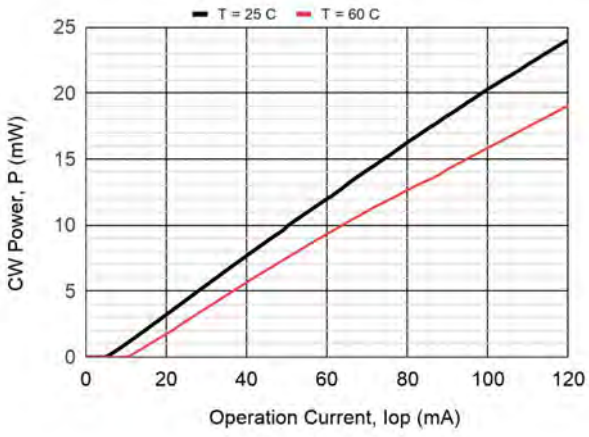
Parameter		MIN	TYP	MAX	Unit	Conditions
Wavelength	λ	1385	1390	1395	nm	CW, P = 20 mW
Spectral width	$\Delta\lambda$		0.11		nm	CW, P = 20 mW, -20 dB, OSA
Spectral width	Δf			500	kHz	CW, P = 20 mW, delayed self-heterodyne method
Wavelength-temperature coeff.	dλ/dT		0.13		nm/°C	
Side-mode suppression ratio	SMSR	40	55		dB	CW, P = 20 mW
Threshold current	I_{th}		6	12	mA	CW
Operating current	I_{op}		100	120	mA	CW, P = 20 mW, SM1
Slope efficiency	S_e	0.18	0.20		W/A	CW, SM1
Operating voltage	V_{op}		1.25	1.80	V	CW, P = 20 mW
Tracking error	E_r		0.4	0.6	dB	CW, P = 3 mW; T = -40 ÷ +80 °C
Pulse optical power	P_p	45	50		mW	Pulse, Iop = 450 mA
Rise and fall times	t_r, t_f		80	120	ps	20%-80%, package U, B
Resonance frequency	f_r		4.3		GHz	2.5Gbps, Imod = 40mA, Ibias = Ith+2 mA
Monitoring output current (PD)	I_m	1.0	2.5	5.0	mA	CW, P = 20 mW, V_{rd} = 5V
Dark current (PD)	I_d			200	nA	V_{rd} = 5V

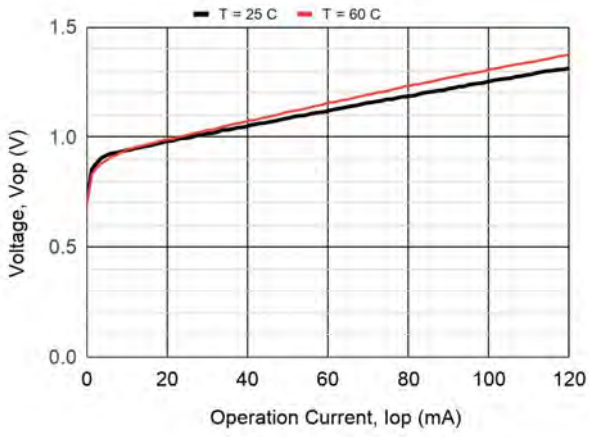
Pulse mode: pulse duration 10 μs; duty cycle = 1%

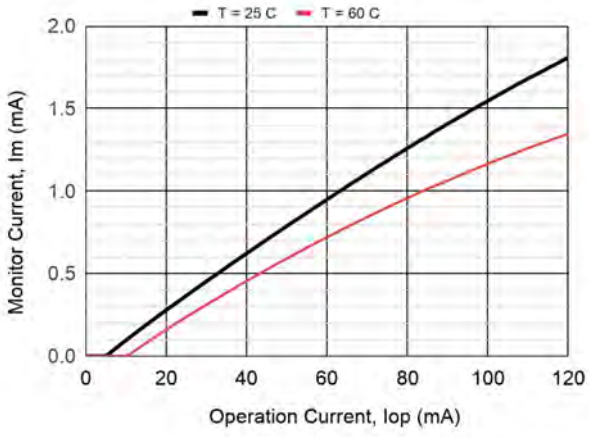
Tracking error E_r = max |10 lg [P(T)/P(25°C)]|, I_m = const, T = T_{min} ÷ T_{max}

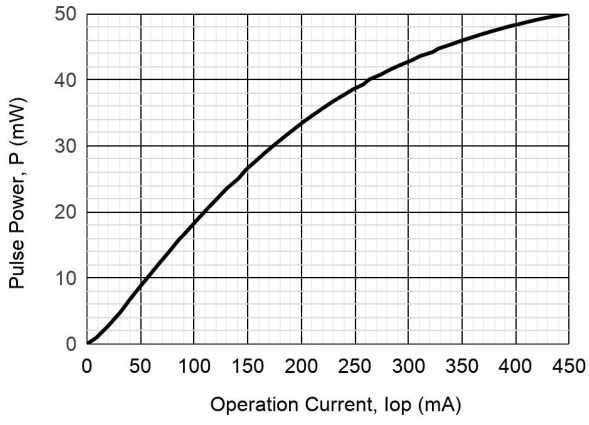
LASERSCOM
Coupling Light to Your Success

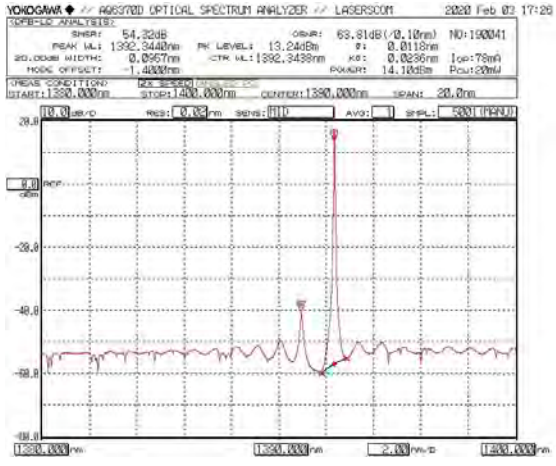
LDI-1390-DFB-2.5G-20/50

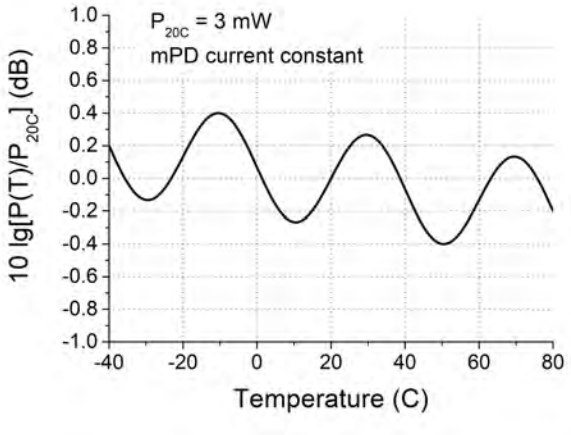












LASERSCOM
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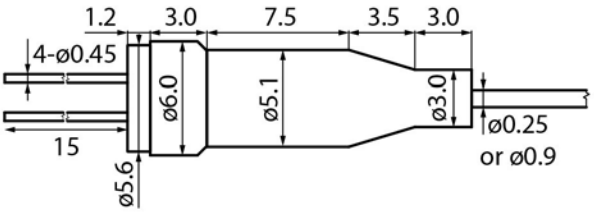
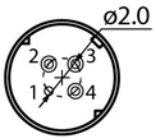
LDI-1390-DFB-2.5G-20/50

PACKAGE U

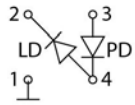
SIDE VIEW



BACK VIEW



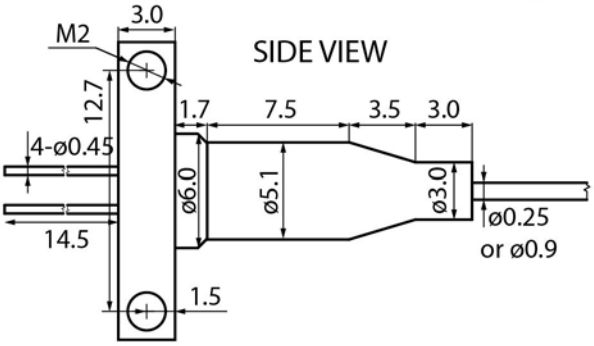
PINOUT #2



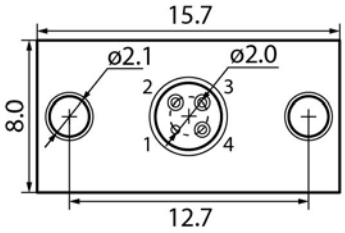
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE B



BACK VIEW



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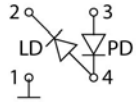
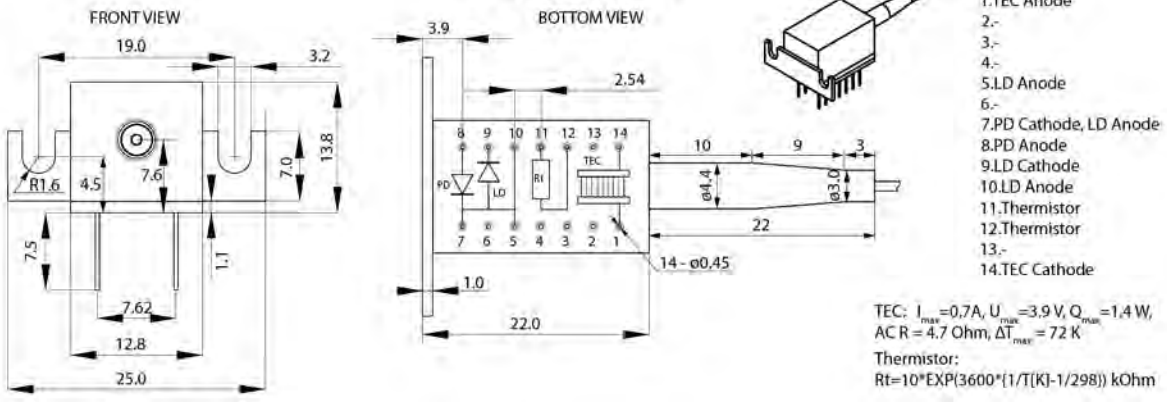


Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T



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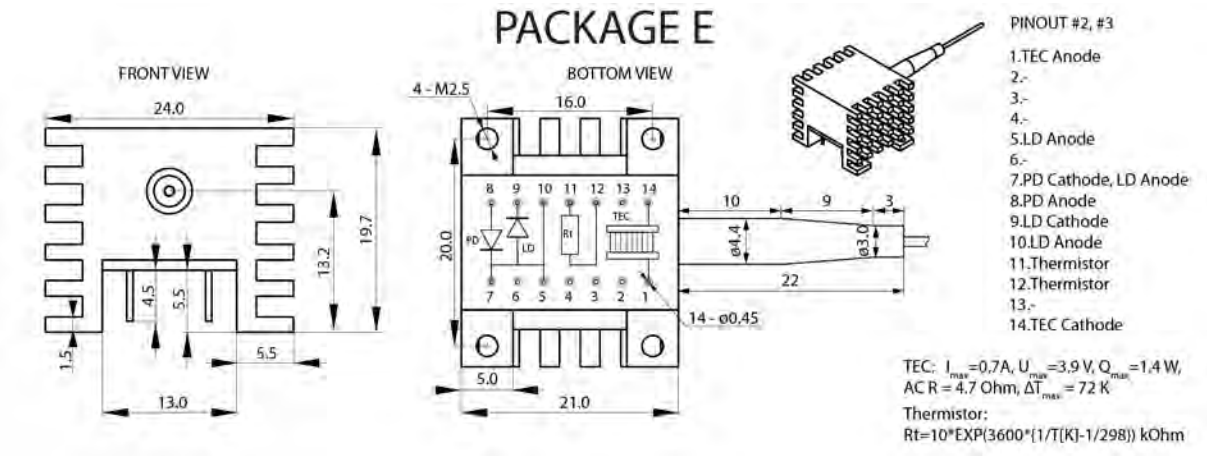
LDI-1390-DFB-2.5G-20/50



LASERSCOM
Coupling Light to Your Success

LDI-1390-DFB-2.5G-20/50

Characteristics, data, materials and structures specified in this datasheet are subject to change without notice. Please refer to the latest specification before use of the products.

Safety and handling cautions

1. Avoid smashing and burning of the module. Avoid storing and using the module in conditions where water, organic solvents or aggressive acids or bases may contact the module or where there is a possibility of exposure to corrosive gases, explosive gases, dust, salinity or other harsh conditions. The module should be disposed as special industrial waste.
2. Exceeding absolute maximum ratings even for a short time can cause permanent damage of the module.
3. The module is sensitive to and can be broken by ESD (static electricity).

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LasersCom LLC achieves business objectives and customer needs with social responsibility. We do not support or contribute to the violence and human rights violations associated with the mining of conflict minerals coming from Conflict Regions according to US "Dodd-Frank Act". When possible, our suppliers' conflict mineral statements are reviewed. We do not directly purchase Conflict Minerals from any source and do not knowingly procure any parts and products containing Conflict Minerals from Conflict Regions.

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Restriction of Hazardous Substances (RoHS) directive (Directive 2011/65/EC amended with Directive (EU) 2015/863) is the directive aimed at reducing the harmful environmental impact of waste electrical equipment by restricting the use of known dangerous substances. Based on information received from our supply sources, LasersCom LLC hereby states that the banned substances listed in the RoHS directive are not found in the parts and materials used above the threshold level listed other than exceptions approved by the European Commission.

REACH Compliance Statement

Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) is a European Union regulation 1907/2006/EC that addresses the production and use of chemical substances, and their potential impacts on human health and the environment. Based on information received from our supply sources, LasersCom LLC hereby states compliance of the parts and materials used in manufacturing to REACH regulation. LasersCom LLC does not manufacture or import any substances or preparations as defined under REACH.

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LDS-1450-DFB-2.5G-15/45

OVERVIEW

LDS-1450-DFB-2.5G-15/45 is the MQW laser diode coupled to an optical fiber and packaged into a hermetic case. The special feature of the LDS technology is the increased thermal stability of optical power

MAIN FEATURES

- Wavelength: 1450 nm
- Cavity type: DFB
- Linewidth: <500 kHz
- Data rate up to 2.5 Gbps
- Optical power: up to 15 mW in CW mode, up to 45 mW in pulse mode in SM fiber G.657.A1
- Package types: coaxial, coaxial with bracket, 14 pins DIL
- Built-in monitor photodiode

APPLICATIONS

- Optical fiber communication systems with data rate up to 2.5 Gbps
- Laser systems

ORDERING INFORMATION

LDS-1450-DFB-2.5G-15/45-X-2-X-X-X-X

Case type

U: compact coaxial (pulse mode only)
B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm or **BSM1** ∅0.25mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm or **BSM3** ∅0.25mm
SMP13: PM, Fujikura SM13, PANDA type, furcation tubing ∅0.9 mm
Other type on request

Connector type

FA: FC/APC (SM1,SM3, SMP13)
SA: SC/APC (SM1)
N: no connector
FU: FC/UPC (SM1, SM3)
SU: SC/UPC (SM1)
Other type: on request

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)
P: pulse mode (10 µs; duty cycle = 1%)
CWP: both CW and pulse modes

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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LDS-1450-DFB-2.5G-15/45

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current	I_{FL}	120	mA	CW
		450	mA	Pulse
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	20	V	
Photodiode forward current	I_{Fp}	2	mA	
Operating temperature	T_{OP}	-40 - +85	°C	Package U, B
Operating temperature	T_{OP}	-40 - +50	°C	Package T, E
Storage temperature	T_{stg}	-50 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 10 seconds

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Wavelength	λ	1447	1450	1453	nm	CW, P = 15 mW
Spectral width	$\Delta\lambda$		0.09		nm	CW, P = 15 mW, -20 dB, OSA
Spectral width	Δf			500	kHz	CW, P = 15 mW, delayed self-heterodyne method
Wavelength-temperature coeff.	dλ/dT		0.12		nm/°C	
Side-mode suppression ratio	SMSR	40	55		dB	CW, P = 15 mW
Threshold current	I_{th}		8	12	mA	CW
Operating current	I_{op}		100	120	mA	CW, P = 15 mW, SM1
Slope efficiency	S_e	0.13	0.16		W/A	CW, SM1
Operating voltage	V_{op}		1.4	1.8	V	CW, P = 15 mW
Tracking error	E_r		0.15	0.30	dB	CW, P = 3 mW; T = -40 ÷ +80 °C
Pulse optical power	P_p	40	45		mW	Pulse, Iop = 450 mA
Rise and fall times	t_r, t_f		80	120	ps	20%-80%, package U, B
Resonance frequency	f_r		6.0		GHz	2.5Gbps, Imod = 40mA, Ibias = Ith+2 mA
Monitoring output current (PD)	I_m	1.0	2.0	5.0	mA	CW, P = 15 mW, V_{rd} = 5V
Capacitance (PD)	C_t		10	20	pF	V_{rd} = 5V, f = 1 MHz
Dark current (PD)	I_d			100	nA	V_{rd} = 5V
Polarization extinction ratio	PER	20			dB	CW, SMP13

Pulse mode: pulse duration 10 μs; duty cycle = 1%

Tracking error E_r = max |10 lg [P(T)/P(25°C)]]|, I_m= const, T = T_{min} ÷ T_{max}

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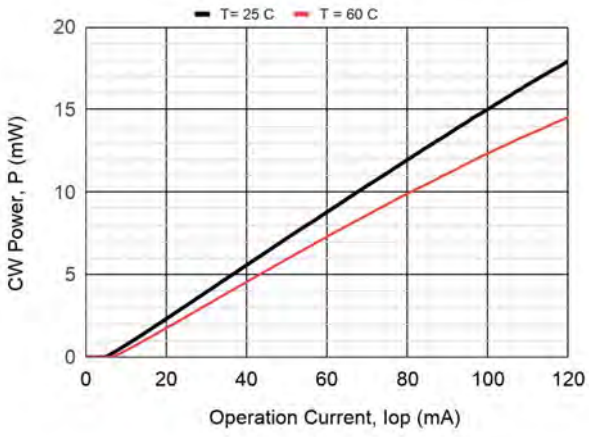
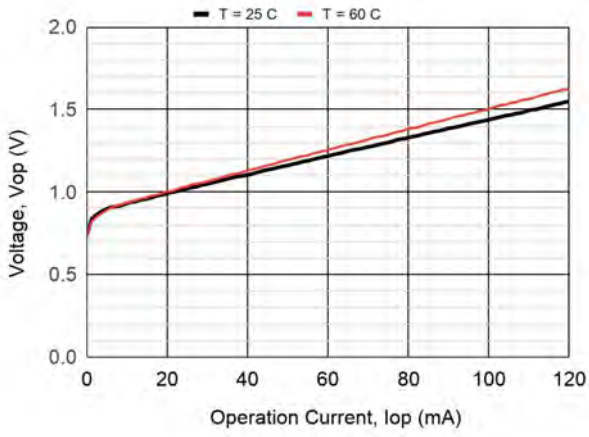
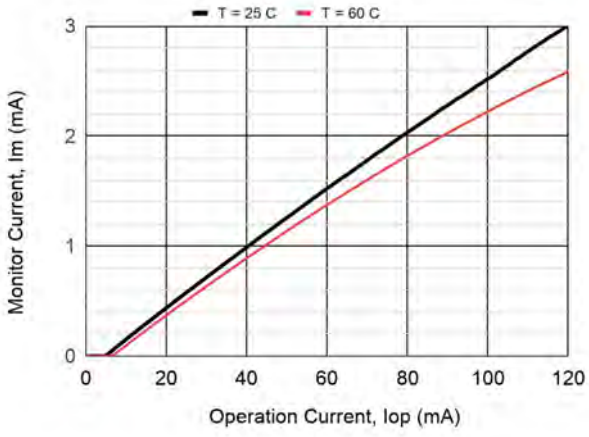
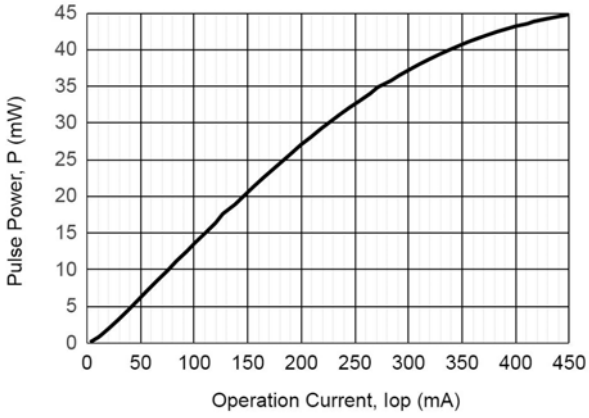
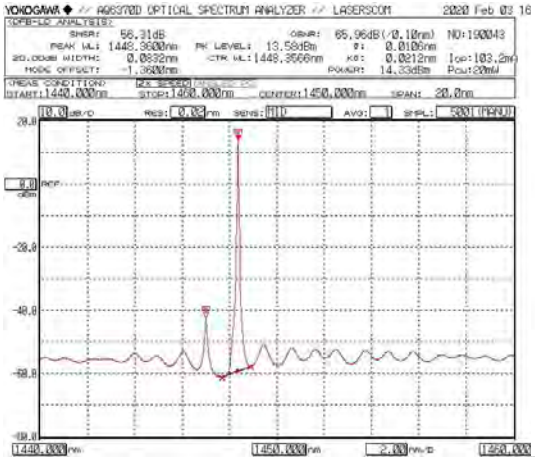
LDS-1450-DFB-2.5G-15/45

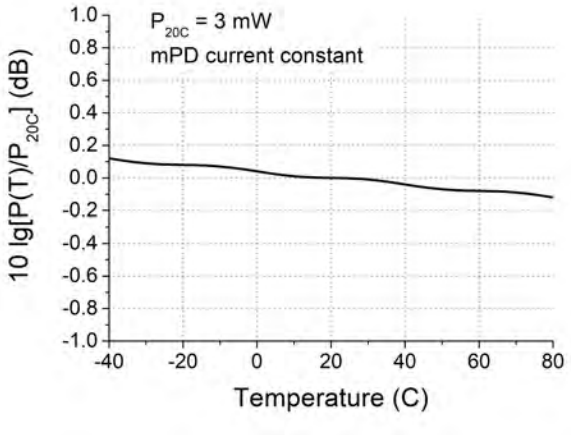












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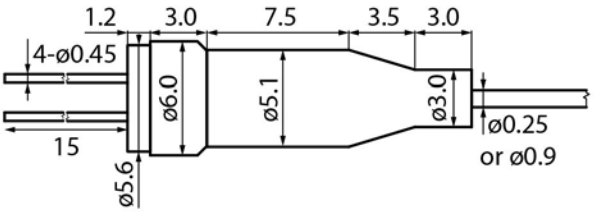
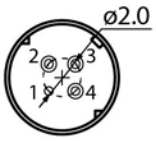
LDS-1450-DFB-2.5G-15/45

PACKAGE U

SIDE VIEW



BACK VIEW



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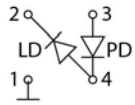
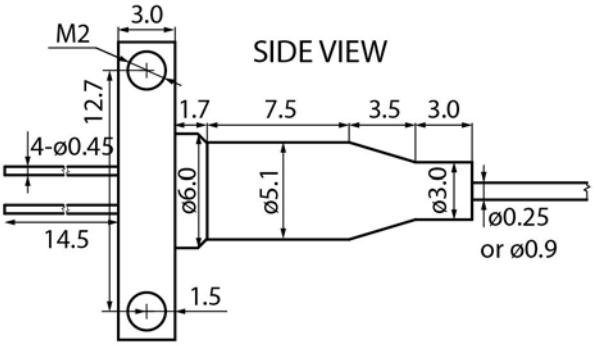


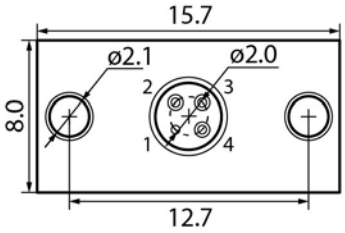
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE B



BACK VIEW



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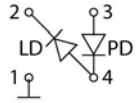
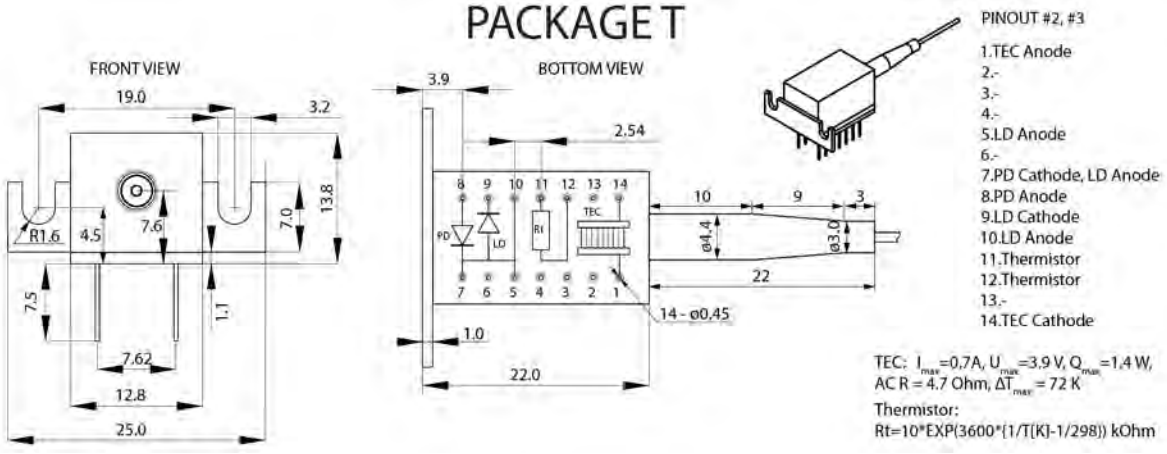


Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T



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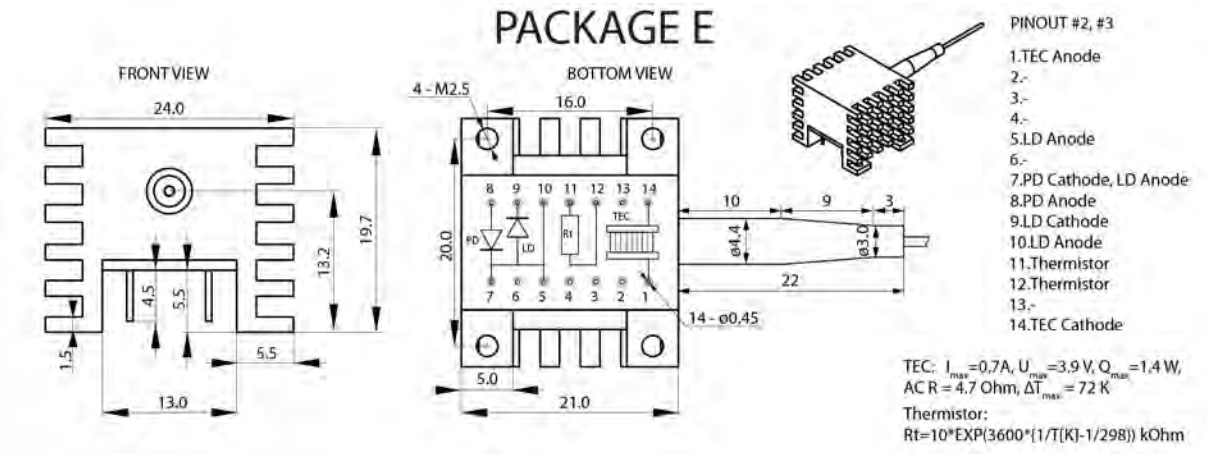
LDS-1450-DFB-2.5G-15/45



LDS-1450-DFB-2.5G-15/45

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LASERSCOM
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LDI-1450-DFB-2.5G-20/60

OVERVIEW

LDI-1450-DFB-2.5G-20/60 is the MQW laser diode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Wavelength: 1450 nm
- Cavity type: DFB
- Linewidth: <500 kHz
- Data rate up to 2.5 Gbps
- Optical power: up to 20 mW in CW mode, up to 60 mW in pulse mode in SM fiber G.657.A1
- Package types: coaxial, coaxial with bracket, 14 pins DIL
- Built-in monitor photodiode

APPLICATIONS

- Optical fiber communication systems with data rate up to 2.5 Gbps
- Laser systems

ORDERING INFORMATION

LDI-1450-DFB-2.5G-20/60-X-2-X-X-X-X

Case type

U: compact coaxial (pulse mode only)
B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm or **BSM1** ∅0.25mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm or **BSM3** ∅0.25mm
MM5: MM, 50/125, OM2, furcation tubing ∅0.9 mm
MM6: MM, 62.5/125, OM1, furcation tubing ∅0.9 mm
Other type on request

Connector type

FA: FC/APC (SM1,SM3)
SA: SC/APC (SM1)
N: no connector
Other type: on request

FU: FC/UPC (SM1, SM3, MM5, MM6)
SU: SC/UPC (SM1)

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)
P: pulse mode (10 µs; duty cycle = 1%)
CWP: both CW and pulse modes

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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LDI-1450-DFB-2.5G-20/60

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current	I_{FL}	120	mA	CW
		450	mA	Pulse
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	20	V	
Photodiode forward current	I_{Fp}	2	mA	
Operating temperature	T_{OP}	-40 - +85	°C	Package U, B
Operating temperature	T_{OP}	-40 - +50	°C	Package T, E
Storage temperature	T_{stg}	-40 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 10 seconds

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Wavelength	λ	1447	1450	1453	nm	CW, P = 20 mW
Spectral width	$\Delta\lambda$		0.09		nm	CW, P = 20 mW, -20 dB, OSA
Spectral width	Δf			500	kHz	CW, P = 20 mW, delayed self-heterodyne method
Wavelength-temperature coeff.	dλ/dT		0.12		nm/°C	
Side-mode suppression ratio	SMSR	40	55		dB	CW, P = 20 mW
Threshold current	I_{th}		8	12	mA	CW
Operating current	I_{op}		115	120	mA	CW, P = 20 mW, SM1
Slope efficiency	S_e	0.18	0.20		W/A	CW, SM1
Operating voltage	V_{op}		1.4	1.8	V	CW, P = 20 mW
Tracking error	E_r		0.4	0.6	dB	CW, P = 3 mW; T = -40 ÷ +80 °C
Pulse optical power	P_p	55	60		mW	Pulse, Iop = 450 mA
Rise and fall times	t_r, t_f		80	120	ps	20%-80%, package U, B
Resonance frequency	f_r		6.0		GHz	2.5Gbps, Imod = 40mA, Ibias = Ith+2 mA
Monitoring output current (PD)	I_m	1.0	2.9	5.0	mA	CW, P = 20 mW, V_{rd} = 5V
Capacitance (PD)	C_t		10	20	pF	V_{rd} = 5V, f = 1 MHz
Dark current (PD)	I_d			100	nA	V_{rd} = 5V

Pulse mode: pulse duration 10 μs; duty cycle = 1%

Tracking error E_r = max |10 lg [P(T)/P(25°C)]|, I_m= const, T = T_{min} ÷ T_{max}

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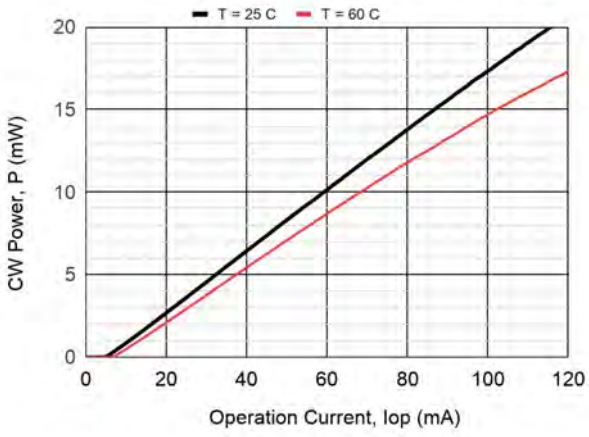
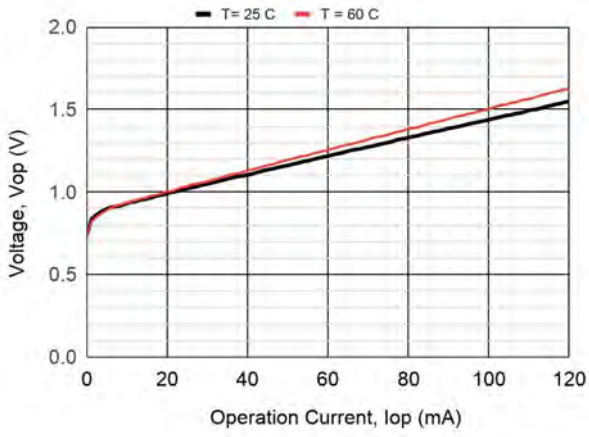
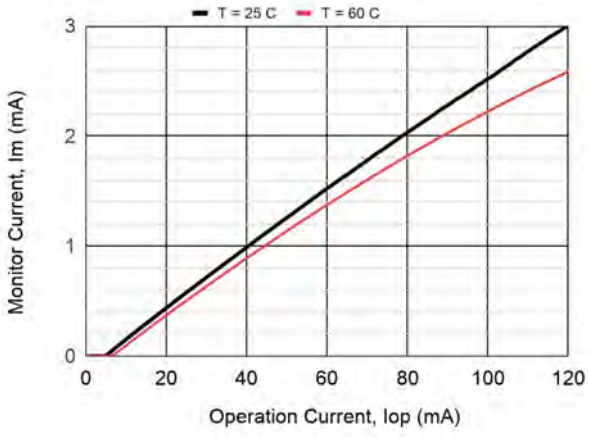
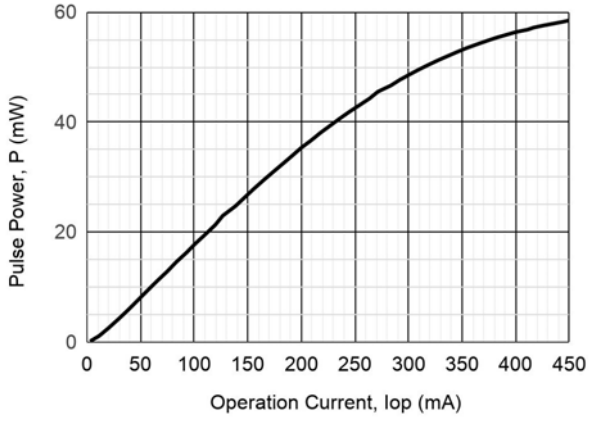
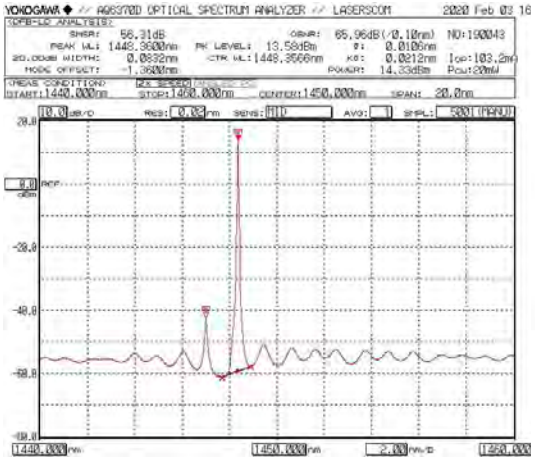
LDI-1450-DFB-2.5G-20/60

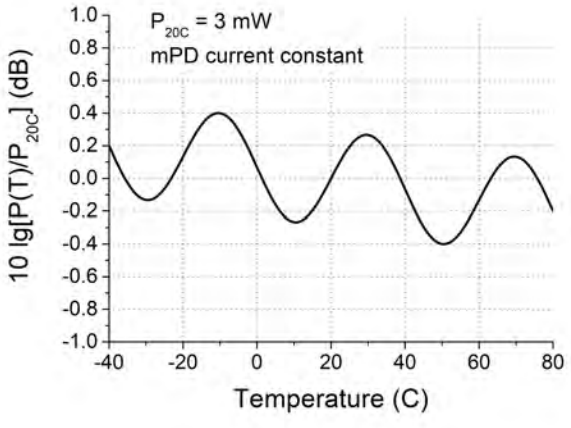












LASERSCOM
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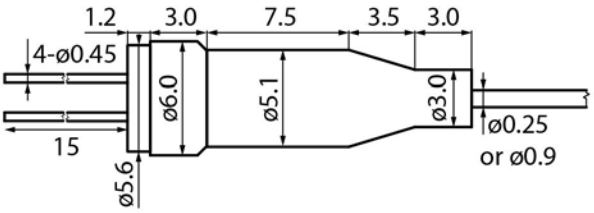
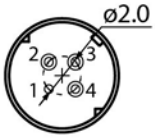
LDI-1450-DFB-2.5G-20/60

PACKAGE U

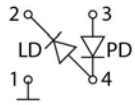
SIDE VIEW



BACK VIEW



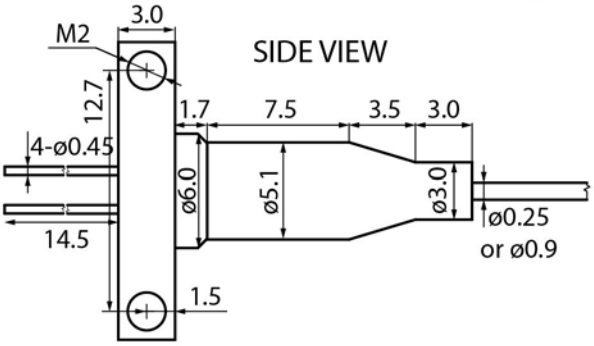
PINOUT #2



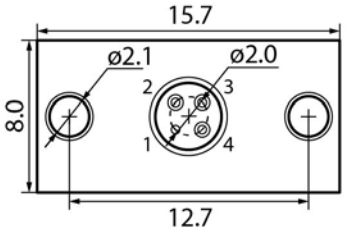
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE B



BACK VIEW



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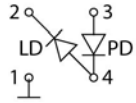
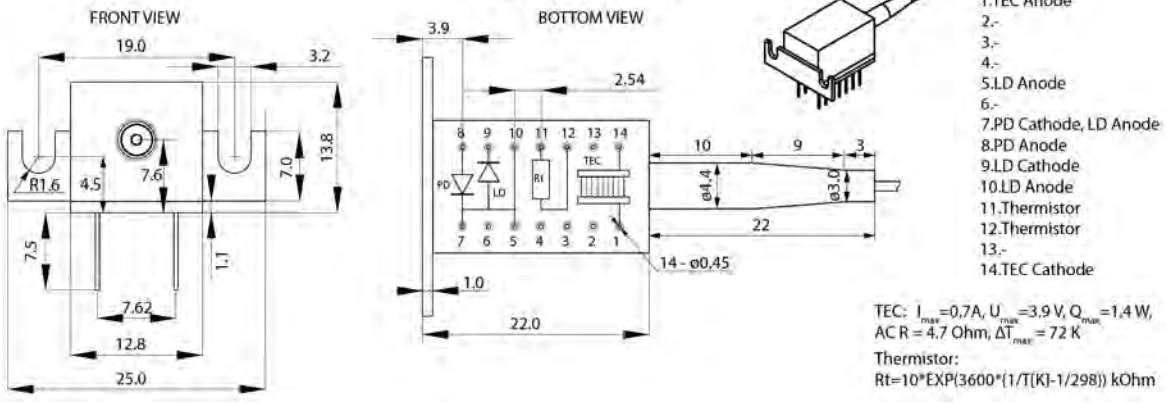


Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T



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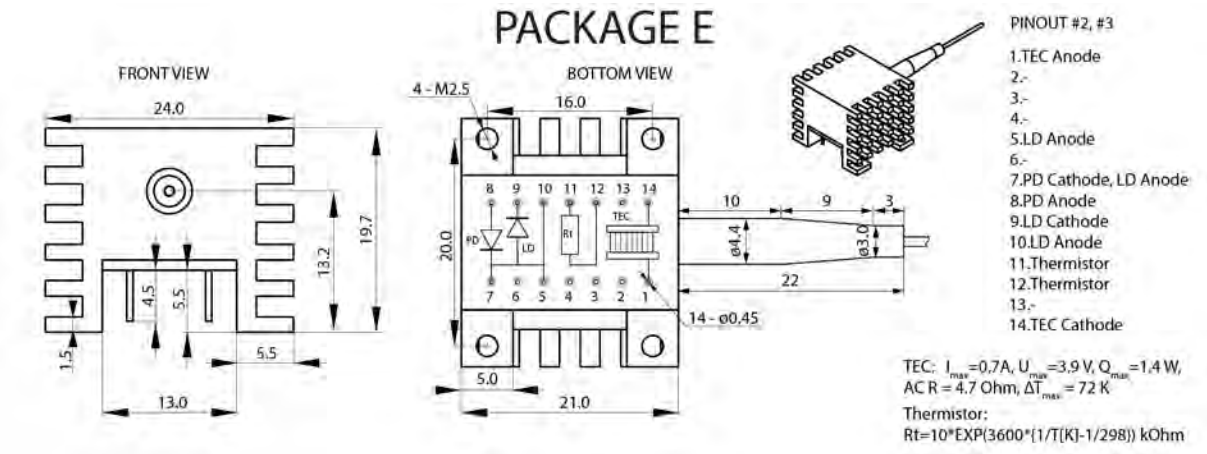
LDI-1450-DFB-2.5G-20/60



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LDI-1450-DFB-2.5G-20/60

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2. Exceeding absolute maximum ratings even for a short time can cause permanent damage of the module.
3. The module is sensitive to and can be broken by ESD (static electricity).

Conflict Minerals Policy Statement

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RoHS Compliance Statement

Restriction of Hazardous Substances (RoHS) directive (Directive 2011/65/EC amended with Directive (EU) 2015/863) is the directive aimed at reducing the harmful environmental impact of waste electrical equipment by restricting the use of known dangerous substances. Based on information received from our supply sources, LasersCom LLC hereby states that the banned substances listed in the RoHS directive are not found in the parts and materials used above the threshold level listed other than exceptions approved by the European Commission.

REACH Compliance Statement

Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) is a European Union regulation 1907/2006/EC that addresses the production and use of chemical substances, and their potential impacts on human health and the environment. Based on information received from our supply sources, LasersCom LLC hereby states compliance of the parts and materials used in manufacturing to REACH regulation. LasersCom LLC does not manufacture or import any substances or preparations as defined under REACH.

LASERSCOM
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LDS-1470-DFB-2.5G-15/45

OVERVIEW

LDS-1470-DFB-2.5G-15/45 is the MQW laser diode coupled to an optical fiber and packaged into a hermetic case. The special feature of the LDS technology is the increased thermal stability of optical power

MAIN FEATURES

- Wavelength: 1470 nm
- Cavity type: DFB
- Linewidth: <500 kHz
- Data rate up to 2.5 Gbps
- Optical power: up to 15 mW in CW mode, up to 45 mW in SM fiber G.657.A1
- Package types: coaxial, coaxial with bracket, 14 pins DIL
- Built-in monitor photodiode

APPLICATIONS

- Optical fiber communication systems with data rate up to 2.5 Gbps
- Laser systems

ORDERING INFORMATION

LDS-1470-DFB-2.5G-15/45-X-2-X-X-X-X

Case type

U: compact coaxial (pulse mode only)
B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm or **BSM1** ∅0.25mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm or **BSM3** ∅0.25mm
SMP13: PM, Fujikura SM13, PANDA type, furcation tubing ∅0.9 mm
Other type on request

Connector type

FA: FC/APC (SM1, SM3, SMP13)
FU: FC/UPC (SM1, SM3)
SA: SC/APC (SM1)
SU: SC/UPC (SM1)
N: no connector
Other type: on request

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)
P: pulse mode (10 µs; duty cycle = 1%)
CWP: both CW and pulse modes

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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LDS-1470-DFB-2.5G-15/45

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current	I_{FL}	120	mA	CW
		450	mA	Pulse
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	20	V	
Photodiode forward current	I_{Fp}	2	mA	
Operating temperature	T_{OP}	-40 - +85	°C	Package U, B
Operating temperature	T_{OP}	-40 - +50	°C	Package T, E
Storage temperature	T_{stg}	-50 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 10 seconds

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Wavelength	λ	1467	1470	1473	nm	CW, P = 15 mW
Spectral width	$\Delta\lambda$		0.09		nm	CW, P = 15 mW, -20 dB, OSA
Spectral width	Δf			500	kHz	CW, P = 15 mW, delayed self-heterodyne method
Wavelength-temperature coeff.	dλ/dT		0.13		nm/°C	
Side-mode suppression ratio	SMSR	40	55		dB	CW, P = 15 mW
Threshold current	I_{th}		8	12	mA	CW
Operating current	I_{op}		100	120	mA	CW, P = 15 mW, SM1
Slope efficiency	S_e	0.13	0.16		W/A	CW, SM1
Operating voltage	V_{op}		1.4	1.8	V	CW, P = 15 mW
Tracking error	E_r		0.15	0.30	dB	CW, P = 3 mW; T = -40 ÷ +80 °C
Pulse optical power	P_p	40	45		mW	Pulse, Iop = 450 mA
Rise and fall times	t_r, t_f		80	120	ps	20%-80%, package U, B
Resonance frequency	f_r		6.0		GHz	2.5Gbps, Imod = 40mA, Ibias = Ith+2 mA
Monitoring output current (PD)	I_m	1.0	1.7	5.0	mA	CW, P = 15 mW, V_{rd} = 5V
Capacitance (PD)	C_t		10	20	pF	V_{rd} = 5V, f = 1 MHz
Dark current (PD)	I_d			100	nA	V_{rd} = 5V
Polarization extinction ratio	PER	20			dB	CW, SMP13

Pulse mode: pulse duration 10 μs; duty cycle = 1%

Tracking error E_r = max |10 lg [P(T)/P(25°C)]|, I_m= const, T = T_{min} ÷ T_{max}

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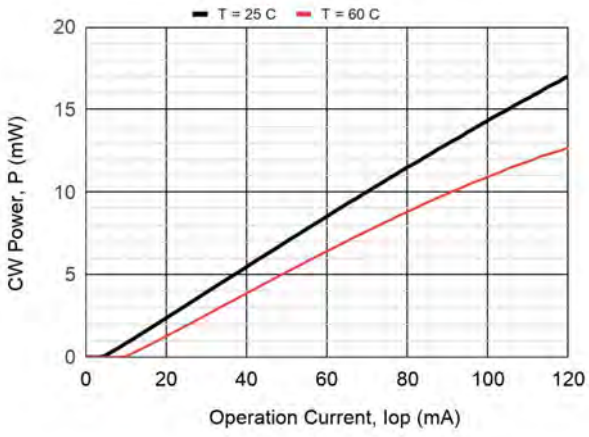
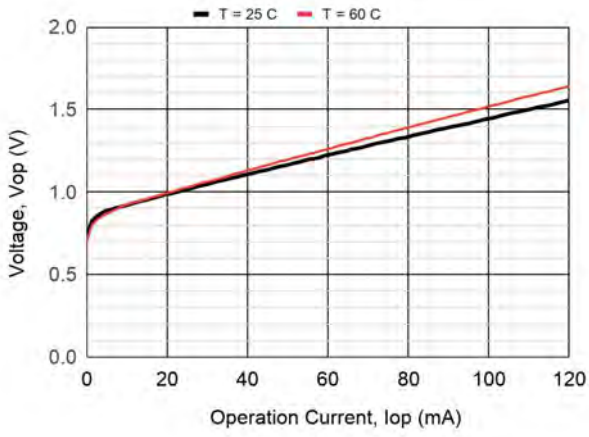
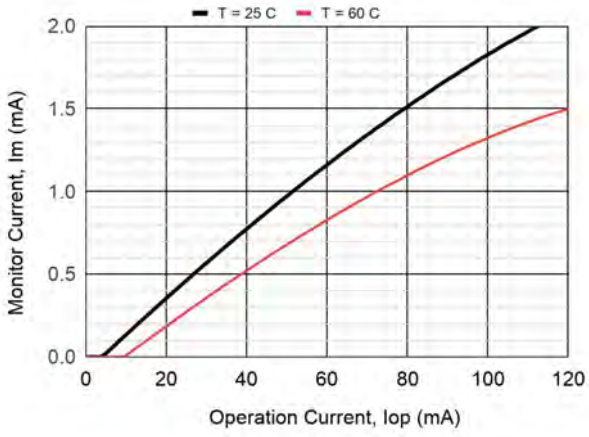
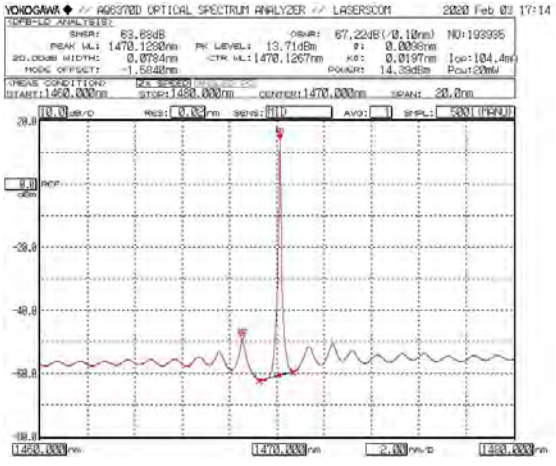
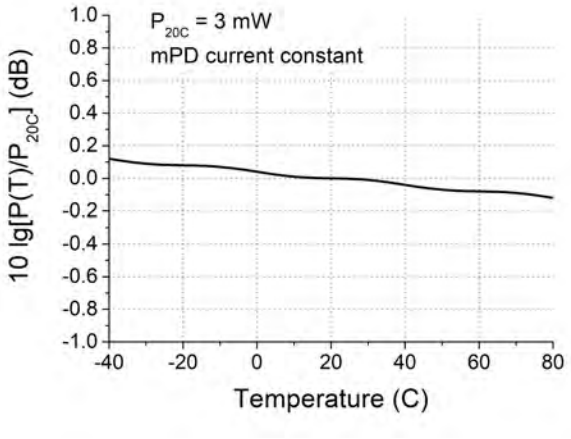
LDS-1470-DFB-2.5G-15/45











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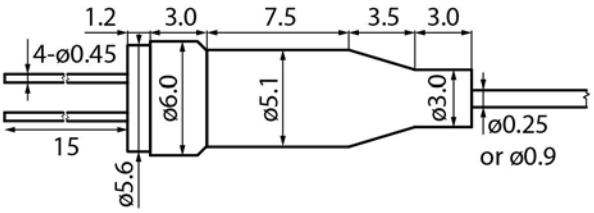
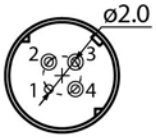
LDS-1470-DFB-2.5G-15/45

PACKAGE U

SIDE VIEW



BACK VIEW



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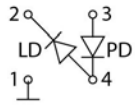
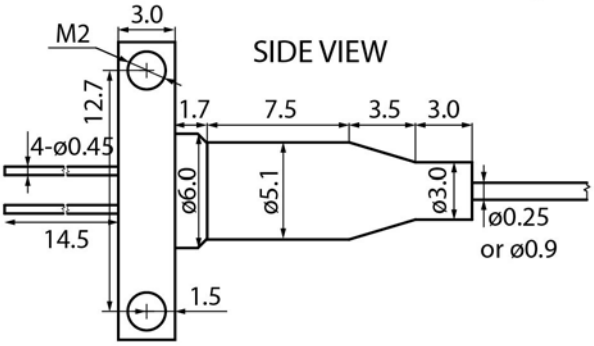


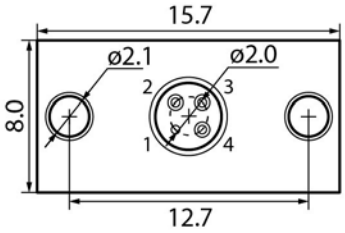
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE B



BACK VIEW



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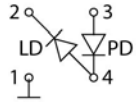
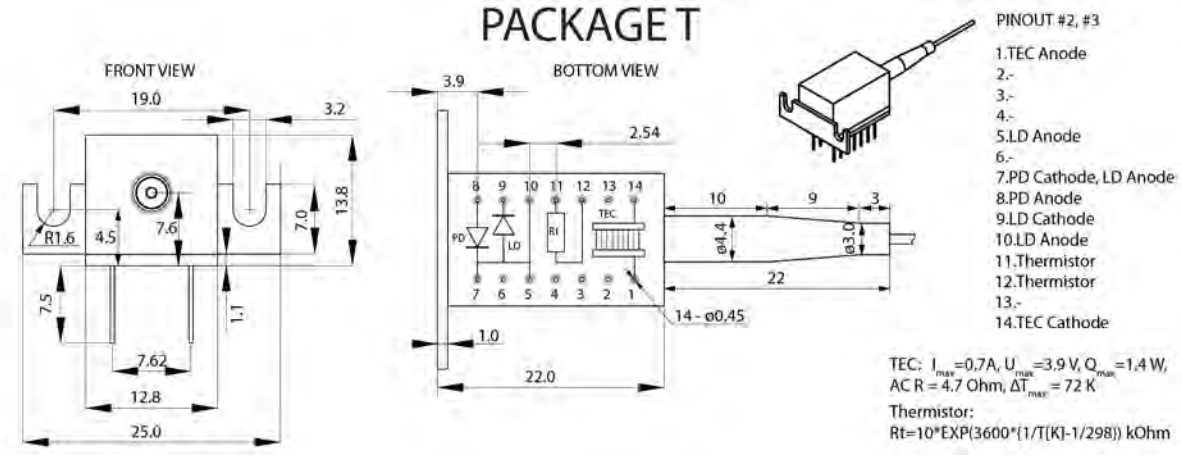


Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T



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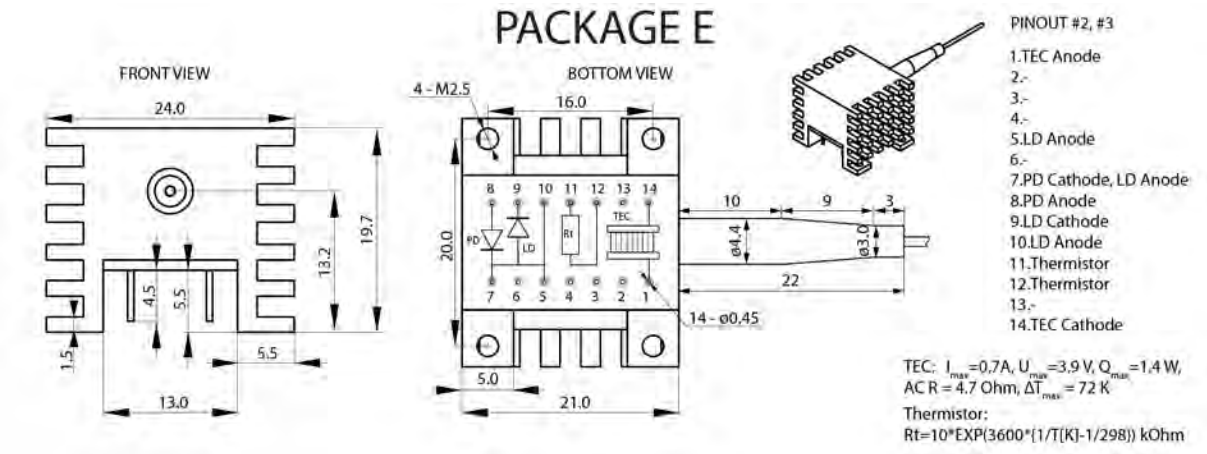
LDS-1470-DFB-2.5G-15/45



LDS-1470-DFB-2.5G-15/45

Characteristics, data, materials and structures specified in this datasheet are subject to change without notice. Please refer to the latest specification before use of the products.

Safety and handling cautions

1. Avoid smashing and burning of the module. Avoid storing and using the module in conditions where water, organic solvents or aggressive acids or bases may contact the module or where there is a possibility of exposure to corrosive gases, explosive gases, dust, salinity or other harsh conditions. The module should be disposed as special industrial waste.
2. Exceeding absolute maximum ratings even for a short time can cause permanent damage of the module.
3. The module is sensitive to and can be broken by ESD (static electricity).

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LASERSCOM
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LDI-1470-DFB-2.5G-20/60

OVERVIEW

LDI-1470-DFB-2.5G-20/60 is the MQW laser diode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Wavelength: 1470 nm
- Cavity type: DFB
- Linewidth: <500 kHz
- Data rate up to 2.5 Gbps
- Optical power: up to 20 mW in CW mode, up to 60 mW in pulse mode in SM fiber
- Package types: coaxial, coaxial with bracket, 14 pins DIL
- Built-in monitor photodiode

APPLICATIONS

- Optical fiber communication systems with data rate up to 2.5 Gbps
- Laser systems

ORDERING INFORMATION

LDI-1470-DFB-2.5G-20/60-X-2-X-X-X-X

Case type

U: compact coaxial (pulse mode only)
B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm or **BSM1** ∅0.25mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm or **BSM3** ∅0.25mm
MM5: MM, 50/125, OM2, furcation tubing ∅0.9 mm
MM6: MM, 50/125, OM2, furcation tubing ∅0.9 mm
Other type on request

Connector type

FA: FC/APC (SM1,SM3)
SA: SC/APC (SM1)
N: no connector
Other type: on request

FU: FC/UPC (SM1, SM3, MM5, MM6)
SU: SC/UPC (SM1)

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)
P: pulse mode (10 µs; duty cycle = 1%)
CWP: both CW and pulse modes

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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LASERSCOM
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LDI-1470-DFB-2.5G-20/60

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current	I_{FL}	120	mA	CW
		450	mA	Pulse
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	20	V	
Photodiode forward current	I_{Fp}	2	mA	
Operating temperature	T_{OP}	-40 - +85	°C	Package U, B
Operating temperature	T_{OP}	-40 - +50	°C	Package T, E
Storage temperature	T_{stg}	-40 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 10 seconds

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Wavelength	λ	1467	1470	1473	nm	CW, P = 20 mW
Spectral width	$\Delta\lambda$		0.09		nm	CW, P = 20 mW, -20 dB, OSA
Spectral width	Δf			500	kHz	CW, P = 20 mW, delayed self-heterodyne method
Wavelength-temperature coeff.	dλ/dT		0.13		nm/°C	
Side-mode suppression ratio	SMSR	40	55		dB	CW, P = 20 mW
Threshold current	I_{th}		8	12	mA	CW
Operating current	I_{op}		100	120	mA	CW, P = 20 mW, SM1
Slope efficiency	S_e	0.18	0.20		W/A	CW, SM1
Operating voltage	V_{op}		1.4	1.8	V	CW, P = 20 mW
Tracking error	E_r		0.4	0.6	dB	CW, P = 3 mW; T = -40 ÷ +80 °C
Pulse optical power	P_p	55	60		mW	Pulse, Iop = 450 mA
Rise and fall times	t_r, t_f		80	120	ps	20%-80%, package U, B
Resonance frequency	f_r		6.0		GHz	2.5Gbps, Imod = 40mA, Ibias = Ith+2 mA
Monitoring output current (PD)	I_m	1.0	2.0	5.0	mA	CW, P = 20 mW, V_{rd} = 5V
Capacitance (PD)	C_t		10	20	pF	V_{rd} = 5V, f = 1 MHz
Dark current (PD)	I_d			100	nA	V_{rd} = 5V

Pulse mode: pulse duration 10 μs; duty cycle = 1%

Tracking error E_r = max |10 lg [P(T)/P(25°C)]]|, I_m= const, T = T_{min}÷ T_{max}

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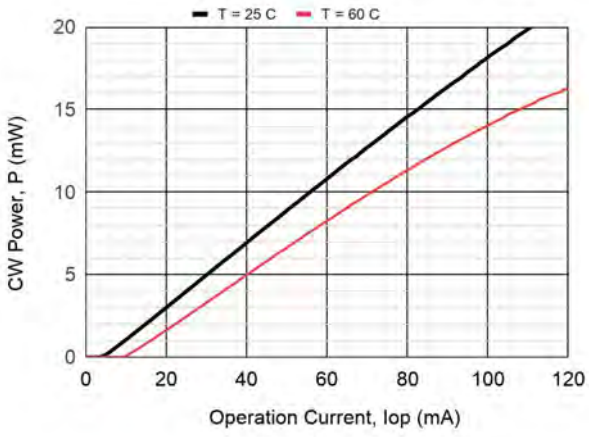
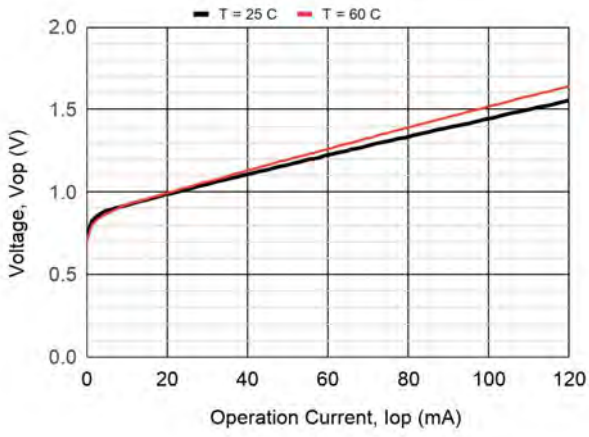
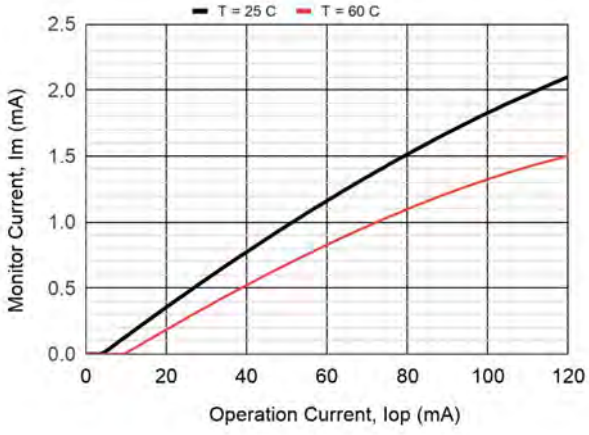
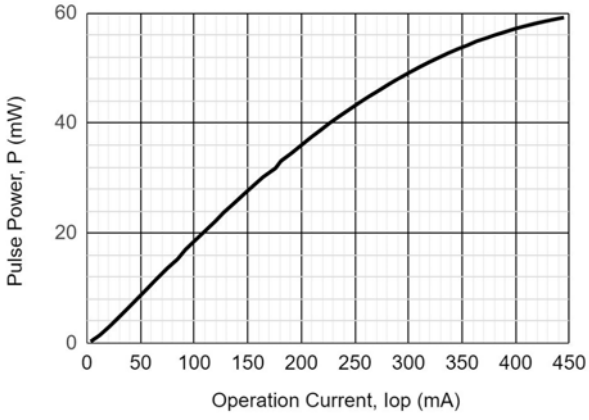
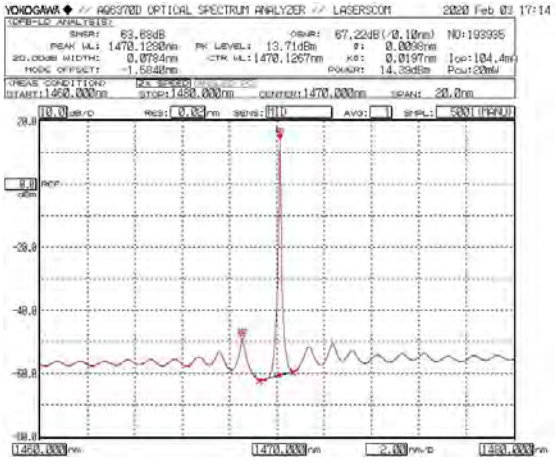
LDI-1470-DFB-2.5G-20/60

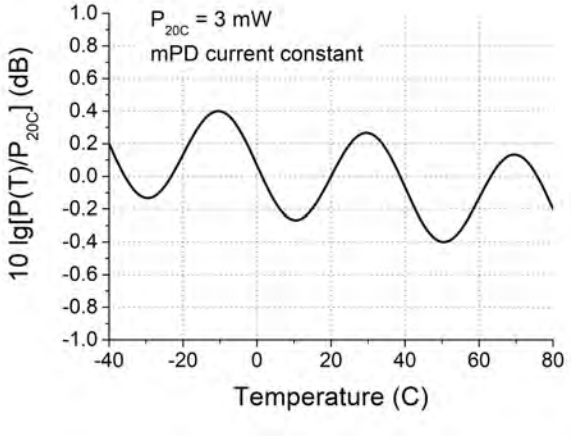












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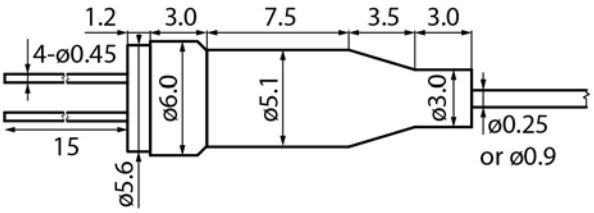
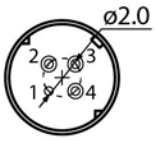
LDI-1470-DFB-2.5G-20/60

PACKAGE U

SIDE VIEW



BACK VIEW



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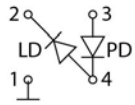
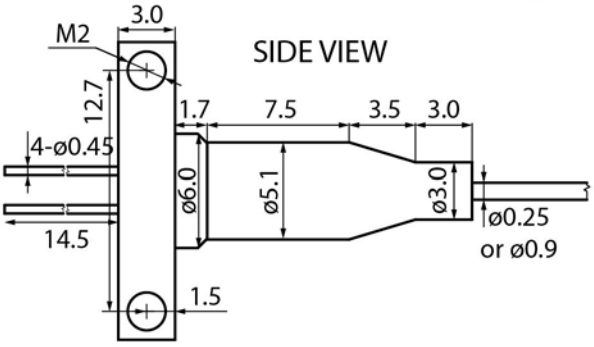


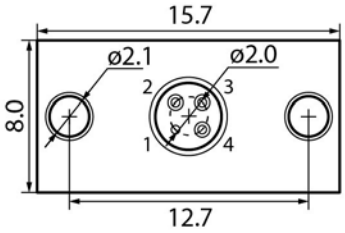
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE B



BACK VIEW



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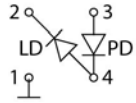
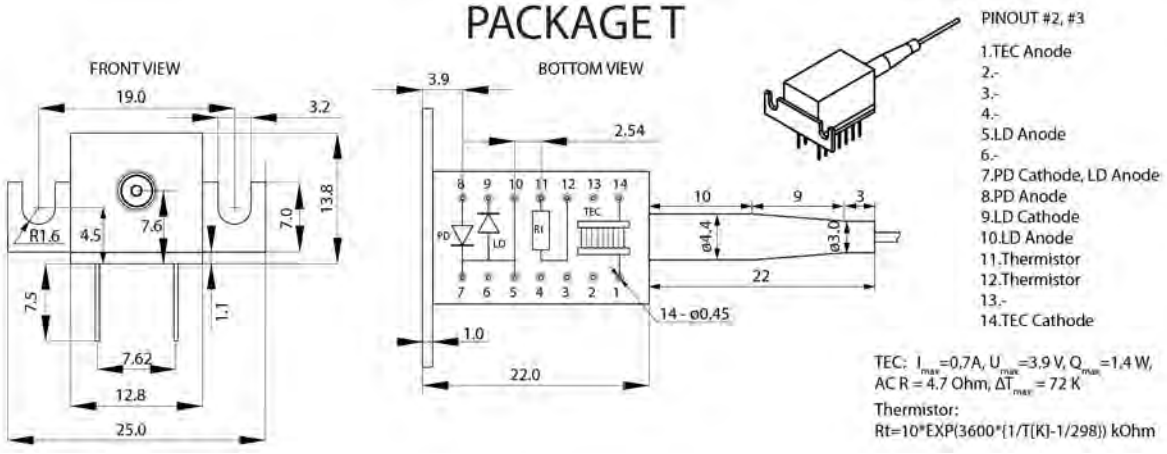


Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T



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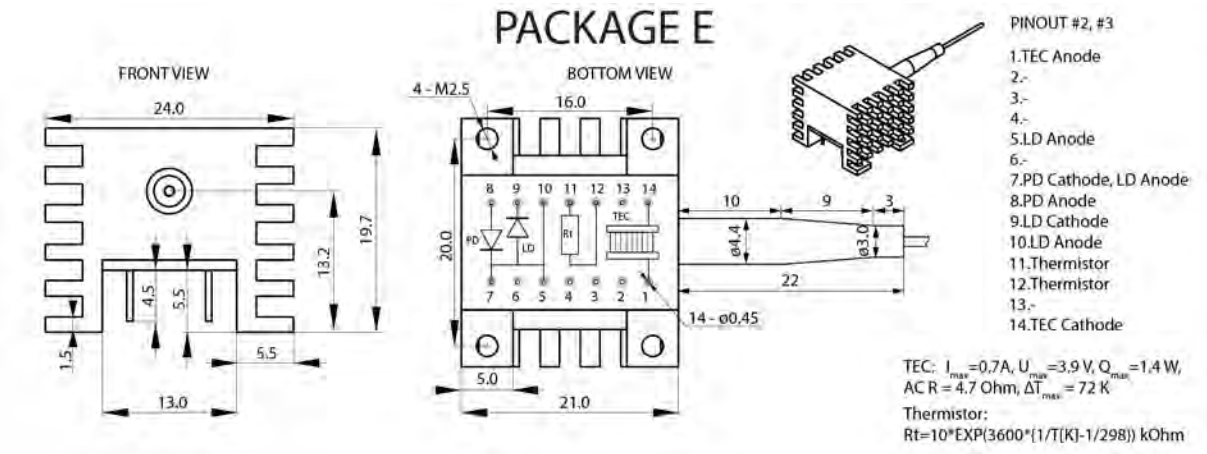
LDI-1470-DFB-2.5G-20/60



LDI-1470-DFB-2.5G-20/60

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REACH Compliance Statement

Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) is a European Union regulation 1907/2006/EC that addresses the production and use of chemical substances, and their potential impacts on human health and the environment. Based on information received from our supply sources, LasersCom LLC hereby states compliance of the parts and materials used in manufacturing to REACH regulation. LasersCom LLC does not manufacture or import any substances or preparations as defined under REACH.

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LDS-1490-DFB-2.5G-15/60

OVERVIEW

LDS-1490-DFB-2.5G-15/60 is the MQW laser diode coupled to an optical fiber and packaged into a hermetic case. he special feature of the LDS technology is the increased thermal stability of optical power

MAIN FEATURES

- Wavelength: 1490 nm
- Cavity type: DFB
- Linewidth: <500 kHz
- Data rate up to 2.5 Gbps
- Optical power: up to 15 mW in CW mode, up to 60 mW in pulse mode in SM fiber G.657.A1
- Package types: coaxial, coaxial with bracket, 14 pins DIL
- Built-in monitor photodiode

APPLICATIONS

- Optical fiber communication systems with data rate up to 2.5 Gbps
- Laser systems

ORDERING INFORMATION

LDS-1490-DFB-2.5G-15/60-X-2-X-X-X-X

Case type

U: compact coaxial (pulse mode only)
B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm or **BSM1** ∅0.25mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm or **BSM3** ∅0.25mm
SMP13: PM, Fujikura SM13, PANDA type, furcation tubing ∅0.9 mm
Other type on request

Connector type

FA: FC/APC (SM1, SM3, SMP13)
FU: FC/UPC (SM1, SM3)
SA: SC/APC (SM1)
SU: SC/UPC (SM1)
N: no connector
Other type: on request

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)
P: pulse mode (10 µs; duty cycle = 1%)
CWP: both CW and pulse modes

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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LDS-1490-DFB-2.5G-15/60

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current	I_{FL}	120	mA	CW
		450	mA	Pulse
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	20	V	
Photodiode forward current	I_{Fp}	2	mA	
Operating temperature	T_{OP}	-40 - +85	°C	Package U, B
Operating temperature	T_{OP}	-40 - +50	°C	Package T, E
Storage temperature	T_{stg}	-50 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 10 seconds

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Wavelength	λ	1485	1490	1495	nm	CW, P = 15 mW
Spectral width	$\Delta\lambda$		0.09		nm	CW, P = 15 mW, -20 dB, OSA
Spectral width	Δf			500	kHz	CW, P = 15 mW, delayed self-heterodyne method
Wavelength-temperature coeff.	dλ/dT		0.11		nm/°C	
Side-mode suppression ratio	SMSR	40	55		dB	CW, P = 15 mW
Threshold current	I_{th}		8	12	mA	CW
Operating current	I_{op}		100	120	mA	CW, P = 15 mW, SM1
Slope efficiency	S_e	0.13	0.16		W/A	CW, SM1
Operating voltage	V_{op}		1.4	1.80	V	CW, P = 15 mW
Tracking error	E_r		0.15	0.30	dB	CW, P = 3 mW; T = -40 ÷ +80 °C
Pulse optical power	P_p	50	60		mW	Pulse, Iop = 450 mA
Rise and fall times	t_r, t_f		80	120	ps	20%-80%, package U, B
Resonance frequency	f_r		6.0		GHz	2.5Gbps, Imod = 40mA, Ibias = Ith+2 mA
Monitoring output current (PD)	I_m	1.0	2.0	5.0	mA	CW, P = 15 mW, V_{rd} = 5V
Capacitance (PD)	C_t		10	20	pF	V_{rd} = 5V, f = 1 MHz
Dark current (PD)	I_d			100	nA	V_{rd} = 5V
Polarization extinction ratio	PER	20			dB	CW, SMP13

Pulse mode: pulse duration 10 μs; duty cycle = 1%

Tracking error E_r = max |10 lg [P(T)/P(25°C)]|, I_m= const, T = T_{min} ÷ T_{max}

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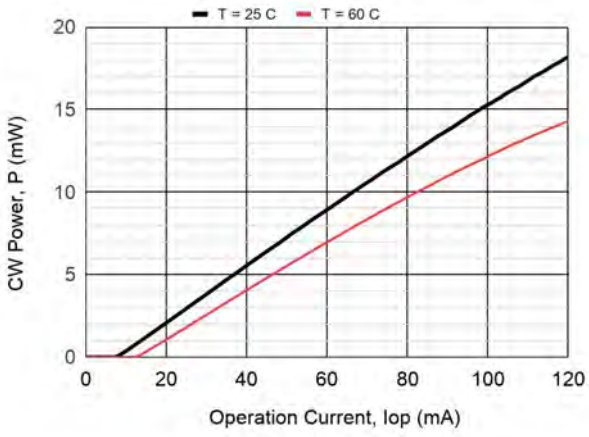
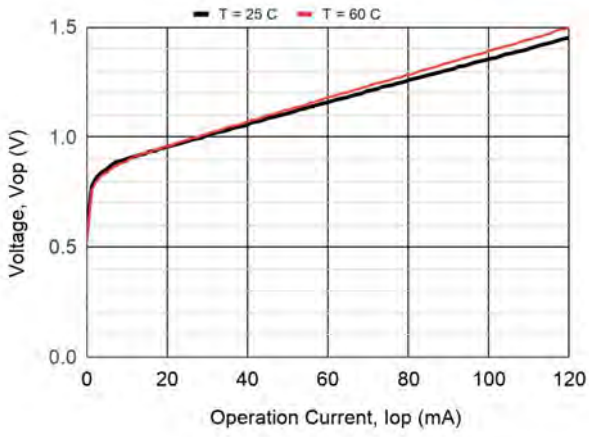
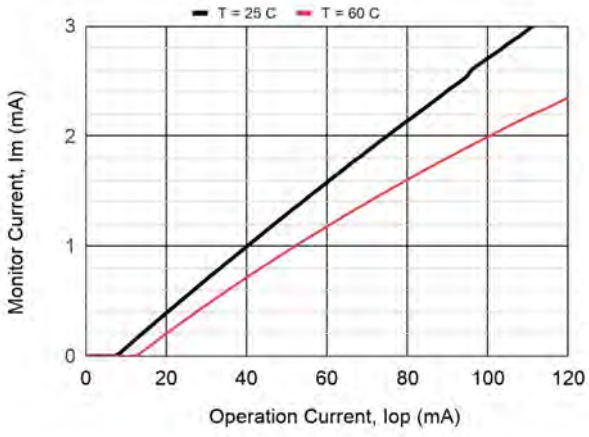
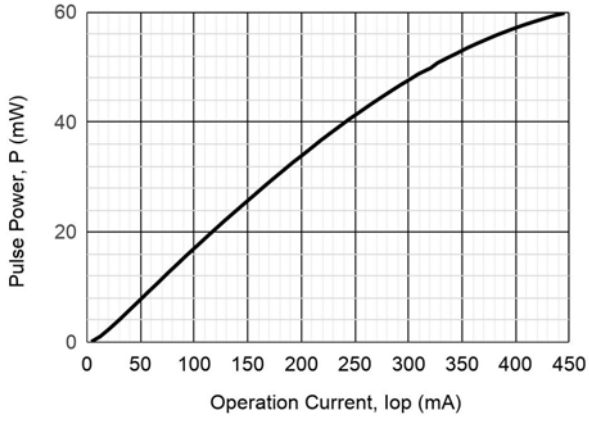
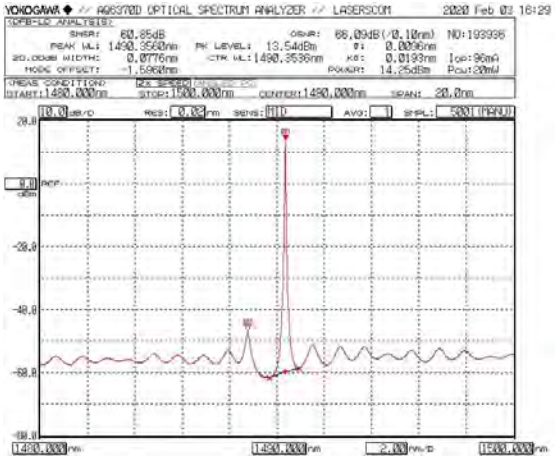
LDS-1490-DFB-2.5G-15/60

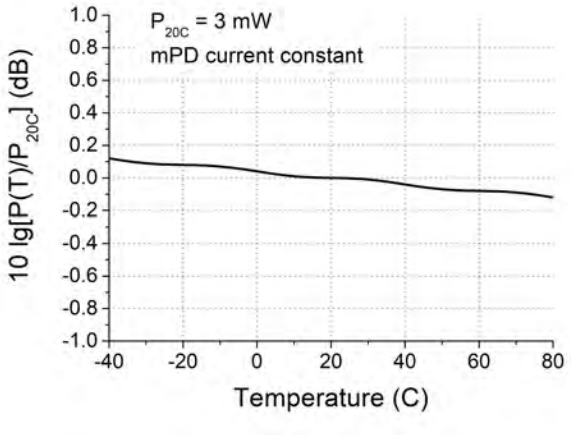












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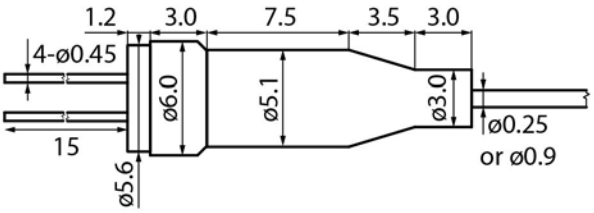
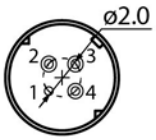
LDS-1490-DFB-2.5G-15/60

PACKAGE U

SIDE VIEW



BACK VIEW



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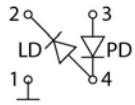
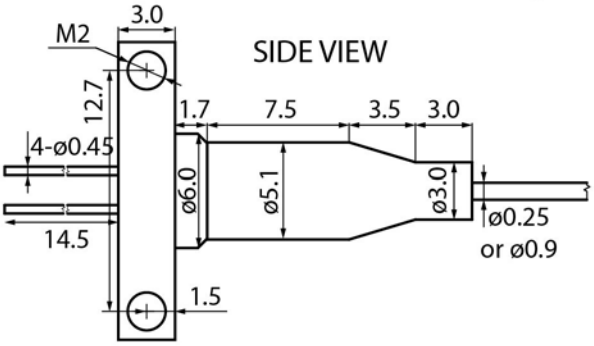


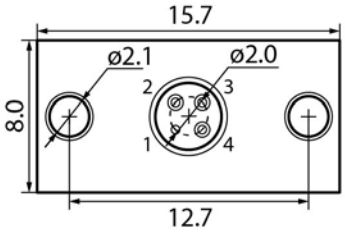
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE B



BACK VIEW



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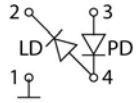
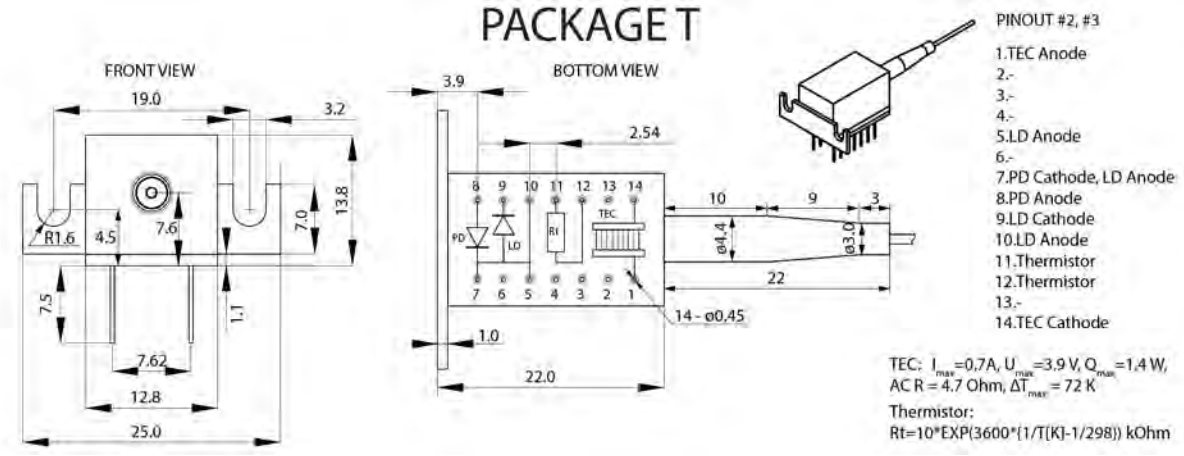


Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T



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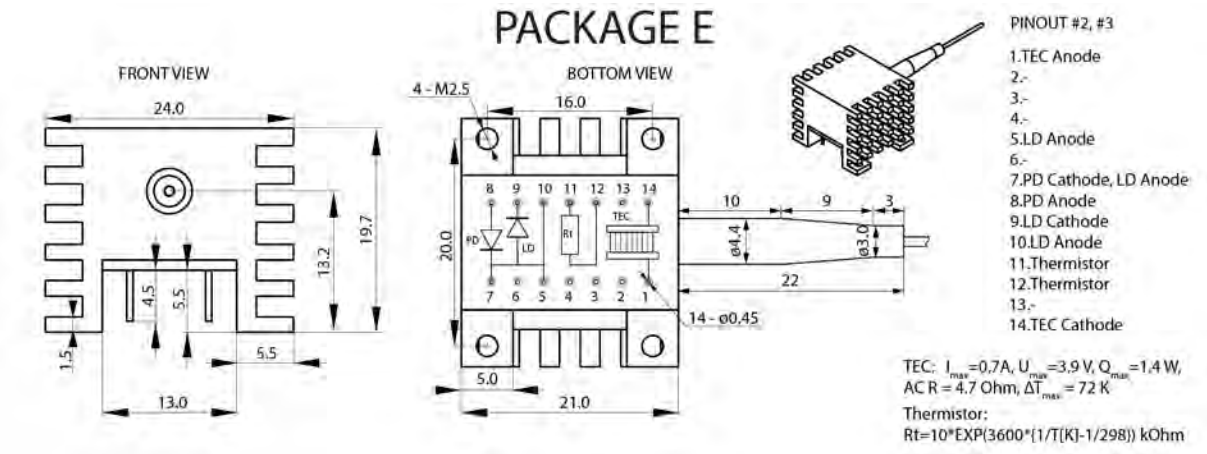
LDS-1490-DFB-2.5G-15/60



LDS-1490-DFB-2.5G-15/60

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Safety and handling cautions

1. Avoid smashing and burning of the module. Avoid storing and using the module in conditions where water, organic solvents or aggressive acids or bases may contact the module or where there is a possibility of exposure to corrosive gases, explosive gases, dust, salinity or other harsh conditions. The module should be disposed as special industrial waste.
2. Exceeding absolute maximum ratings even for a short time can cause permanent damage of the module.
3. The module is sensitive to and can be broken by ESD (static electricity).

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LDI-1490-DFB-2.5G-20/80

OVERVIEW

LDI-1490-DFB-2.5G-20/80 is the MQW laser diode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Wavelength: 1490 nm
- Cavity type: DFB
- Linewidth: <500 kHz
- Data rate up to 2.5 Gbps
- Optical power: up to 20 mW in CW mode, up to 80 mW in pulse mode in SM fiber G.657.A1
- Package types: coaxial, coaxial with bracket, 14 pins DIL
- Built-in monitor photodiode

APPLICATIONS

- Optical fiber communication systems with data rate up to 2.5 Gbps
- Laser systems

ORDERING INFORMATION

LDI-1490-DFB-2.5G-20/80-X-2-X-X-X-X

Case type

U: compact coaxial (pulse mode only)
B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm or **BSM1** ∅0.25mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm or **BSM3** ∅0.25mm
MM5: MM, 50/125, OM2, furcation tubing ∅0.9 mm
MM6: MM, 62.5/125, OM1, furcation tubing ∅0.9 mm
Other type on request

Connector type

FA: FC/APC (SM1,SM3)
SA: SC/APC (SM1)
N: no connector
Other type: on request

FU: FC/UPC (SM1, SM3, MM5, MM6)
SU: SC/UPC (SM1)

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)
P: pulse mode (10 µs; duty cycle = 1%)
CWP: both CW and pulse modes

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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LDI-1490-DFB-2.5G-20/80

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current	I_{FL}	120	mA	CW
		450	mA	Pulse
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	20	V	
Photodiode forward current	I_{Fp}	2	mA	
Operating temperature	T_{OP}	-40 - +85	°C	Package U, B
Operating temperature	T_{OP}	-40 - +50	°C	Package T, E
Storage temperature	T_{stg}	-40 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 10 seconds

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

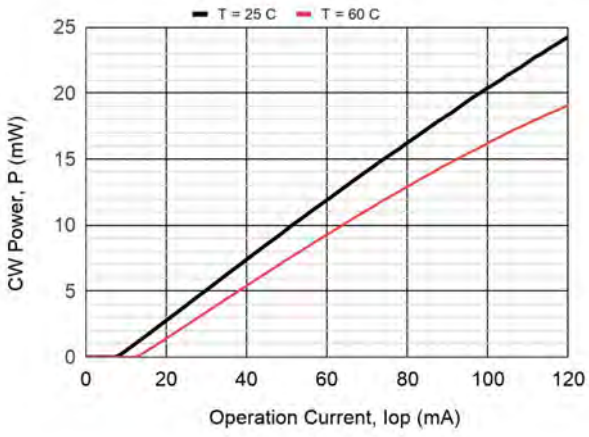
Parameter		MIN	TYP	MAX	Unit	Conditions
Wavelength	λ	1485	1490	1495	nm	CW, P = 20 mW
Spectral width	$\Delta\lambda$		0.09		nm	CW, P = 20 mW, -20 dB, OSA
Spectral width	Δf			500	kHz	CW, P = 20 mW, delayed self-heterodyne method
Wavelength-temperature coeff.	dλ/dT		0.11		nm/°C	
Side-mode suppression ratio	SMSR	40	55		dB	CW, P = 20 mW
Threshold current	I_{th}		8	12	mA	CW
Operating current	I_{op}		100	120	mA	CW, P = 20 mW, SM1
Slope efficiency	S_e	0.18	0.22		W/A	CW, SM1
Operating voltage	V_{op}		1.4	1.80	V	CW, P = 20 mW
Tracking error	E_r		0.4	0.6	dB	CW, P = 3 mW; T = -40 ÷ +80 °C
Pulse optical power	P_p	75	80		mW	Pulse, Iop = 450 mA
Rise and fall times	t_r, t_f		80	120	ps	20%-80%, package U, B
Resonance frequency	f_r		6.0		GHz	2.5Gbps, Imod = 40mA, Ibias = Ith+2 mA
Monitoring output current (PD)	I_m	1.0	2.0	5.0	mA	CW, P = 20 mW, V_{rd} = 5V
Capacitance (PD)	C_t		10	20	pF	V_{rd} = 5V, f = 1 MHz
Dark current (PD)	I_d			100	nA	V_{rd} = 5V

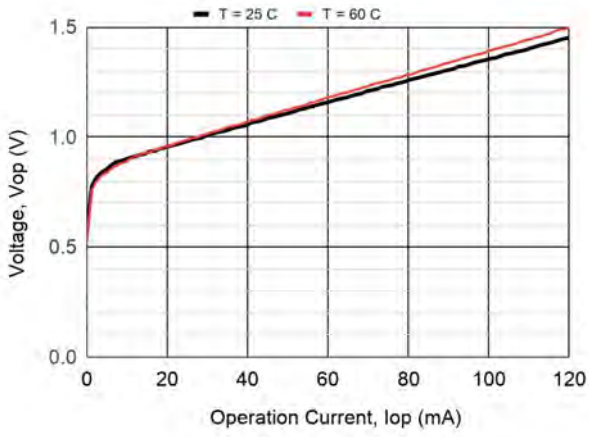
Pulse mode: pulse duration 10 μs; duty cycle = 1%

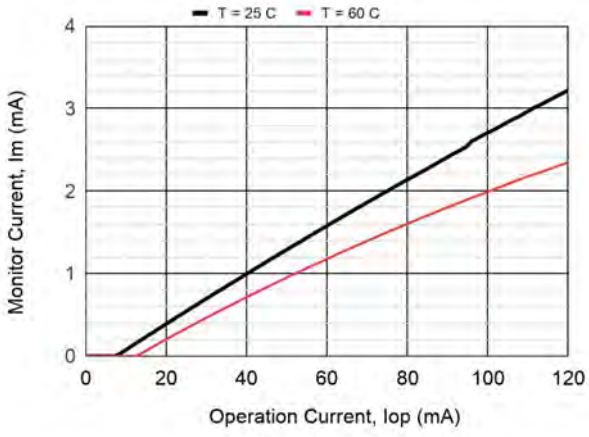
Tracking error E_r = max |10 lg [P(T)/P(25°C)]]|, I_m= const, T = T_{min} ÷ T_{max}

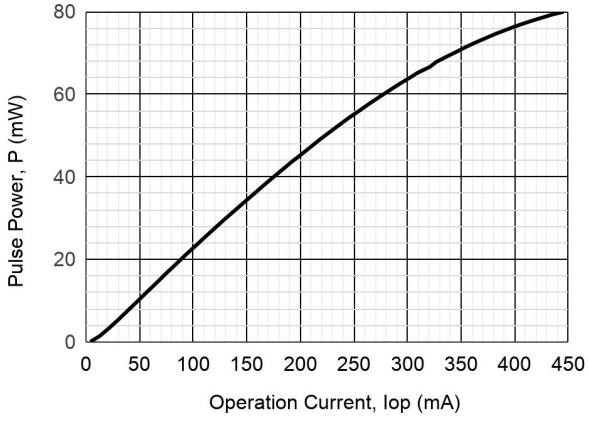
LASERSCOM
Coupling Light to Your Success

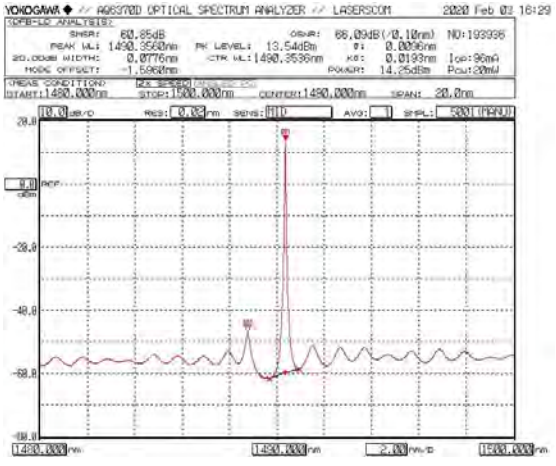
LDI-1490-DFB-2.5G-20/80

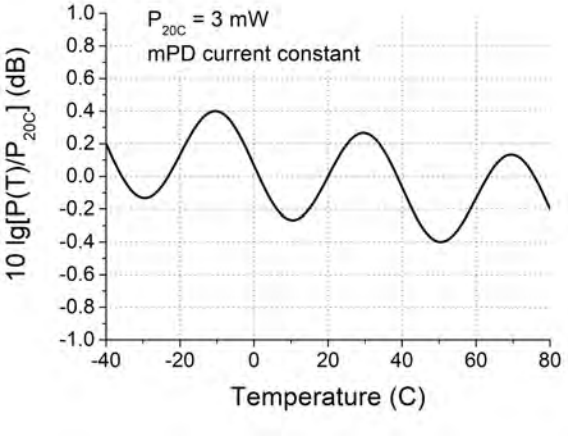












LASERSCOM
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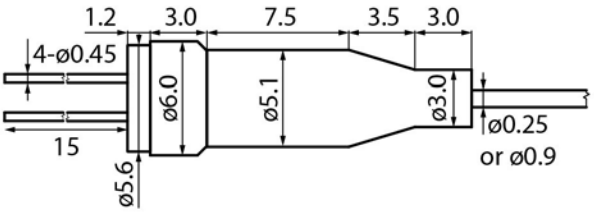
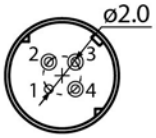
LDI-1490-DFB-2.5G-20/80

PACKAGE U

SIDE VIEW



BACK VIEW



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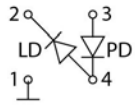
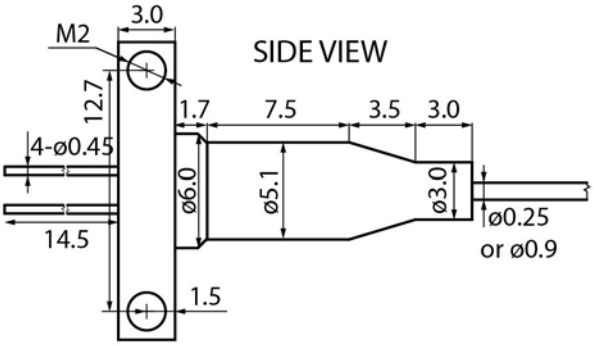


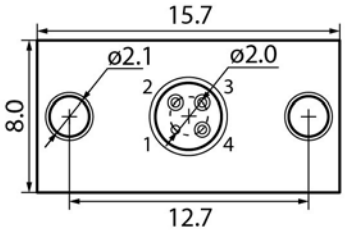
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE B



BACK VIEW



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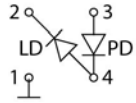
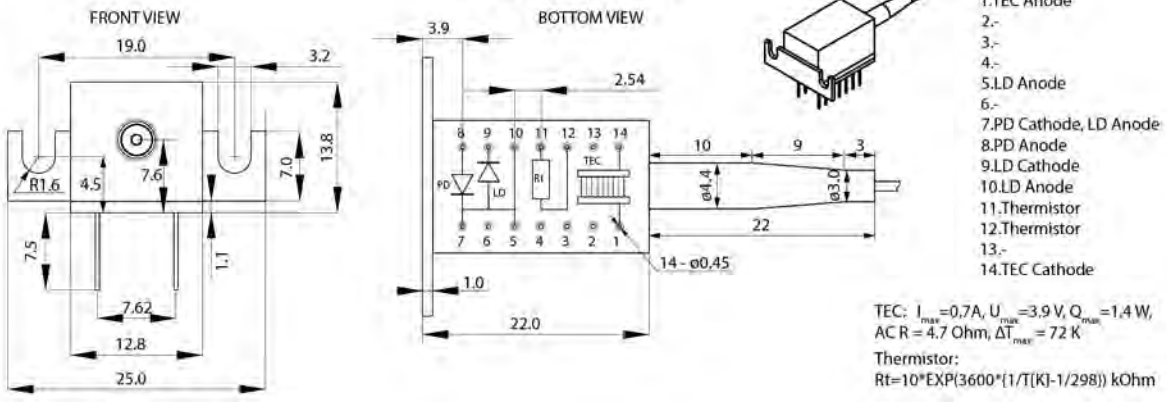


Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T



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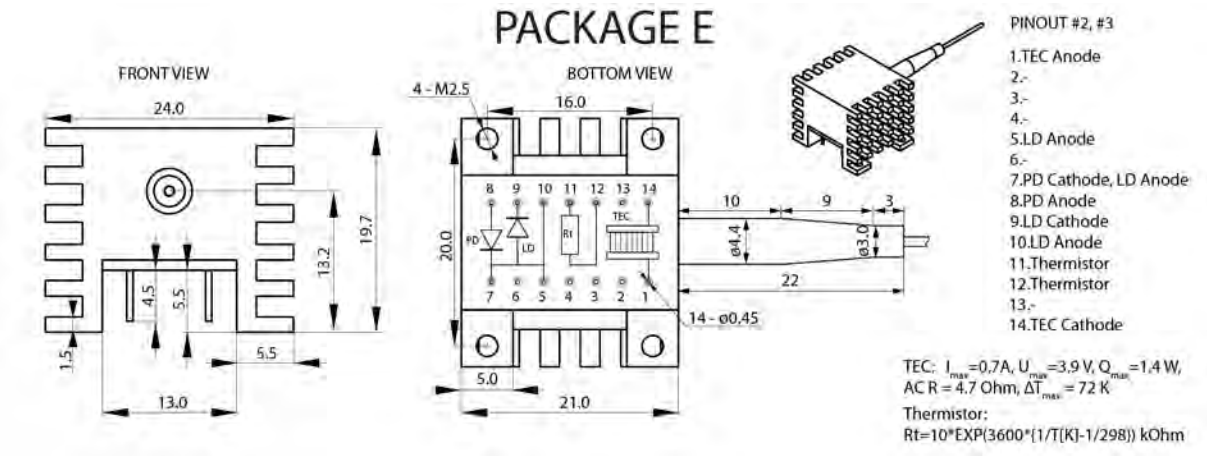
LDI-1490-DFB-2.5G-20/80



LDI-1490-DFB-2.5G-20/80

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REACH Compliance Statement

Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) is a European Union regulation 1907/2006/EC that addresses the production and use of chemical substances, and their potential impacts on human health and the environment. Based on information received from our supply sources, LasersCom LLC hereby states compliance of the parts and materials used in manufacturing to REACH regulation. LasersCom LLC does not manufacture or import any substances or preparations as defined under REACH.

LASERSCOM
Coupling Light to Your Success

LDS-1510-DFB-2.5G-15/45

OVERVIEW

LDS-1510-DFB-2.5G-15/45 is the MQW laser diode coupled to an optical fiber and packaged into a hermetic case. The special feature of the LDS technology is the increased thermal stability of optical power

MAIN FEATURES

- Wavelength: 1510 nm
- Cavity type: DFB
- Linewidth: <500 kHz
- Data rate up to 2.5 Gbps
- Optical power: up to 15 mW in CW mode, up to 45 mW in pulse mode in SM fiber G.657.A1
- Package types: coaxial, coaxial with bracket, 14 pins DIL
- Built-in monitor photodiode

APPLICATIONS

- Optical fiber communication systems with data rate up to 2.5 Gbps
- Laser systems

ORDERING INFORMATION

LDS-1510-DFB-2.5G-15/45-X-2-X-X-X-X

Case type

U: compact coaxial (pulse mode only)
B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm or **BSM1** ∅0.25mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm or **BSM3** ∅0.25mm
SMP13: PM, Fujikura SM13, PANDA type, furcation tubing ∅0.9 mm
Other type on request

Connector type

FA: FC/APC (SM1,SM3, SMP13)
SA: SC/APC (SM1)
N: no connector
Other type: on request
FU: FC/UPC (SM1, SM3)
SU: SC/UPC (SM1)

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)
P: pulse mode (10 µs; duty cycle = 1%)
CWP: both CW and pulse modes

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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LDS-1510-DFB-2.5G-15/45

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current	I_{FL}	120	mA	CW
		450	mA	Pulse
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	20	V	
Photodiode forward current	I_{Fp}	2	mA	
Operating temperature	T_{OP}	-40 - +85	°C	Package U, B
Operating temperature	T_{OP}	-40 - +50	°C	Package T, E
Storage temperature	T_{stg}	-50 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 10 seconds

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

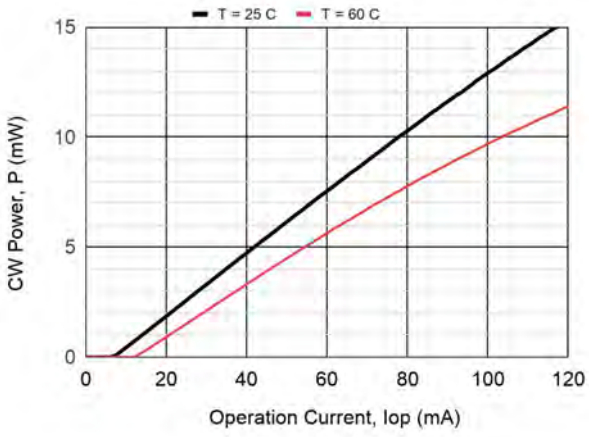
Parameter		MIN	TYP	MAX	Unit	Conditions
Wavelength	λ	1507	1510	1513	nm	CW, P = 15 mW
Spectral width	$\Delta\lambda$		0.09		nm	CW, P = 15 mW, -20 dB, OSA
Spectral width	Δf			500	kHz	CW, P = 15 mW, delayed self-heterodyne method
Wavelength-temperature coeff.	dλ/dT		0.14		nm/°C	
Side-mode suppression ratio	SMSR	40	55		dB	CW, P = 15 mW
Threshold current	I_{th}		8	12	mA	CW
Operating current	I_{op}		100	120	mA	CW, P = 15 mW, SM1
Slope efficiency	S_e	0.13	0.16		W/A	CW, SM1
Operating voltage	V_{op}		1.4	1.8	V	CW, P = 15 mW
Tracking error	E_r		0.15	0.30	dB	CW, P = 3 mW; T = -40 ÷ +80 °C
Pulse optical power	P_p	55	60		mW	Pulse, Iop = 450 mA
Rise and fall times	t_r, t_f		80	120	ps	20%-80%, package U, B
Resonance frequency	f_r		6.0		GHz	
Monitoring output current (PD)	I_m	1.0	2.0	5.0	mA	CW, P = 15 mW, V_{rd} = 5V
Capacitance (PD)	C_t		10	20	pF	V_{rd} = 5V, f = 1 MHz
Dark current (PD)	I_d			100	nA	V_{rd} = 5V
Polarization extinction ratio	PER	20			dB	CW, SMP13

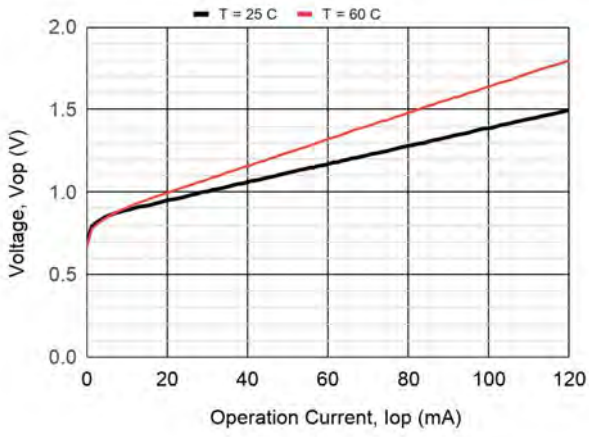
Pulse mode: pulse duration 10 μs; duty cycle = 1%

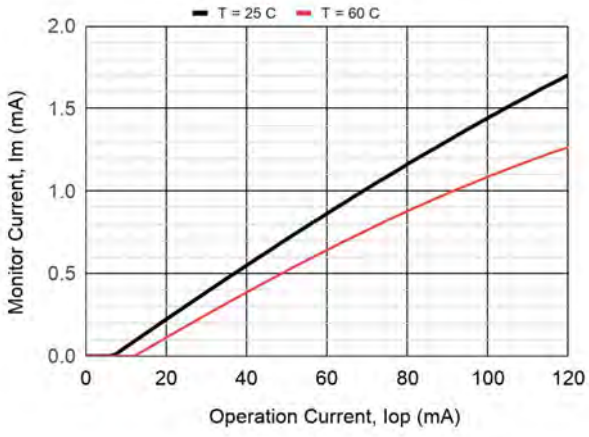
Tracking error E_r = max |10 lg [P(T)/P(25°C)]|, I_m = const, T = T_{min} ÷ T_{max}

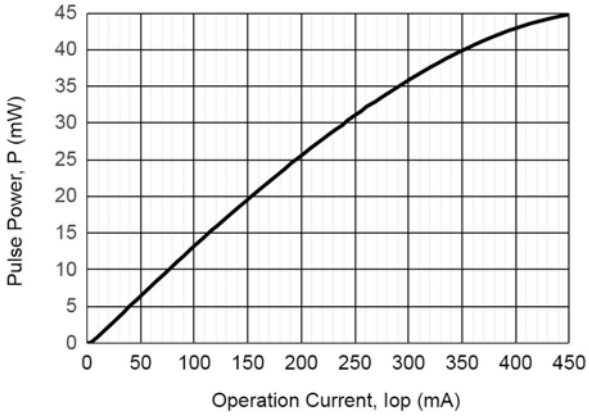
LASERSCOM
Coupling Light to Your Success

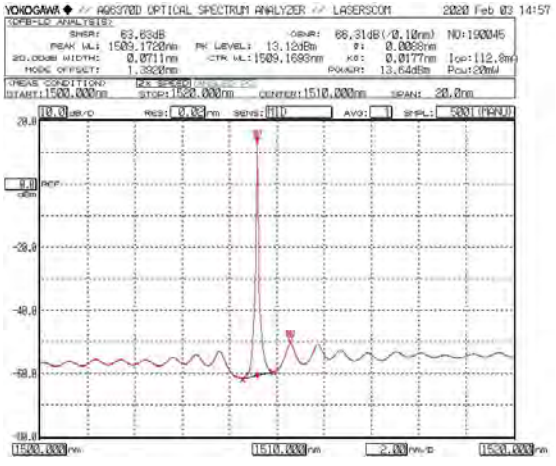
LDS-1510-DFB-2.5G-15/45

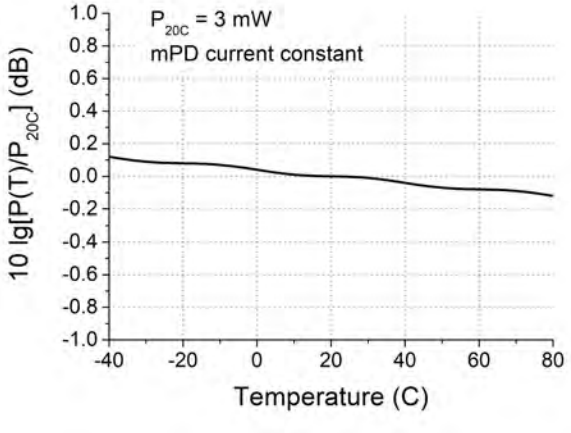












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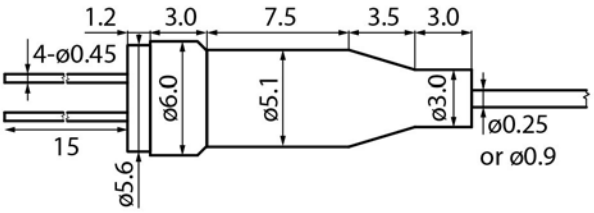
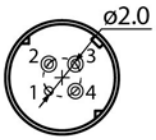
LDS-1510-DFB-2.5G-15/45

PACKAGE U

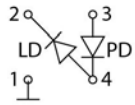
SIDE VIEW



BACK VIEW



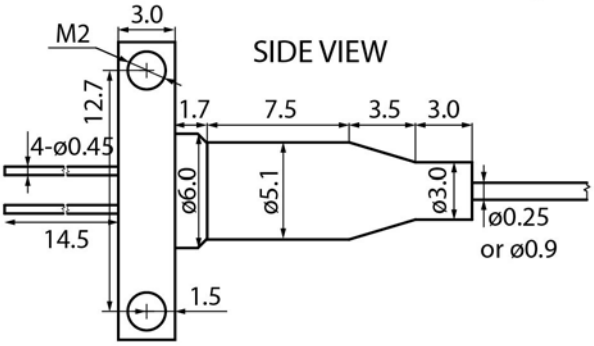
PINOUT #2



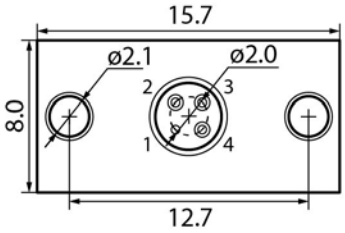
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE B



BACK VIEW



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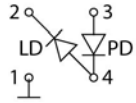
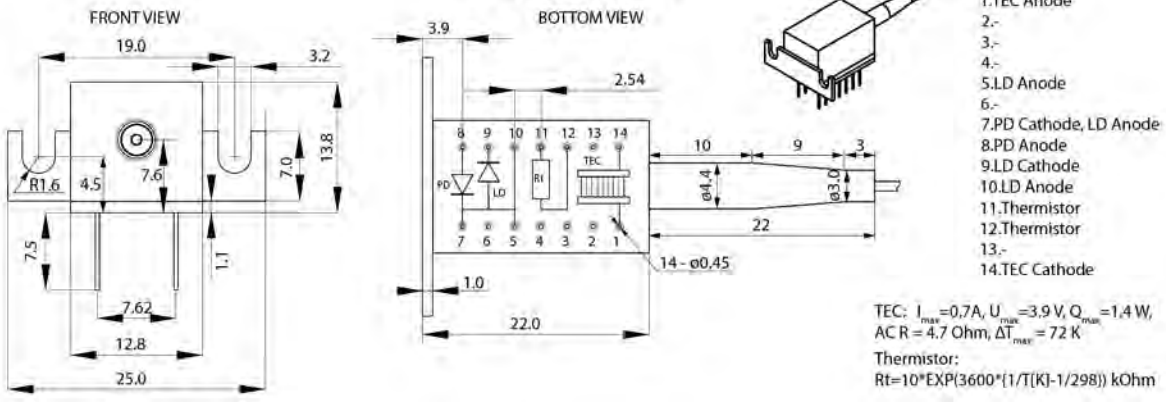


Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T



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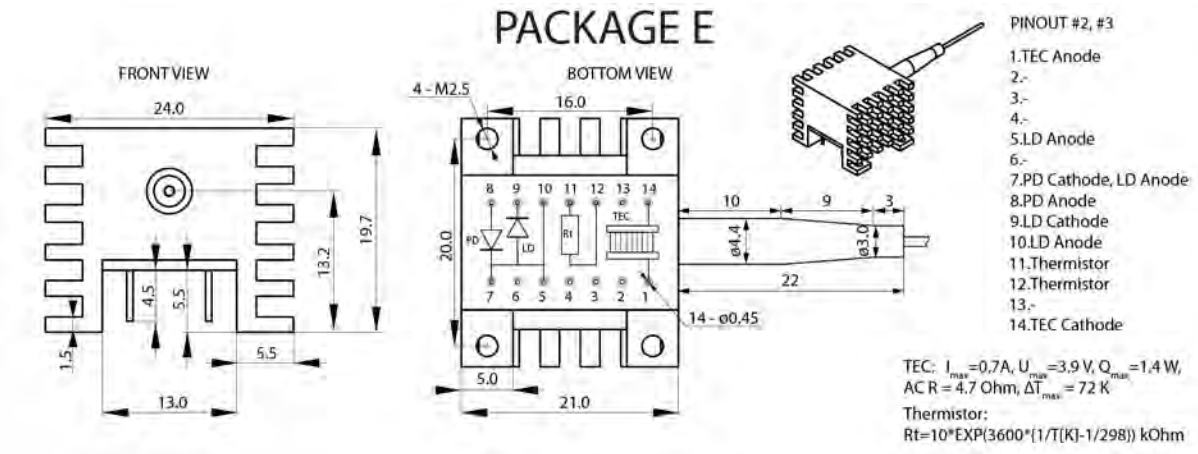
LDS-1510-DFB-2.5G-15/45



LDS-1510-DFB-2.5G-15/45

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Safety and handling cautions

1. Avoid smashing and burning of the module. Avoid storing and using the module in conditions where water, organic solvents or aggressive acids or bases may contact the module or where there is a possibility of exposure to corrosive gases, explosive gases, dust, salinity or other harsh conditions. The module should be disposed as special industrial waste.
2. Exceeding absolute maximum ratings even for a short time can cause permanent damage of the module.
3. The module is sensitive to and can be broken by ESD (static electricity).

Conflict Minerals Policy Statement

LasersCom LLC achieves business objectives and customer needs with social responsibility. We do not support or contribute to the violence and human rights violations associated with the mining of conflict minerals coming from Conflict Regions according to US "Dodd-Frank Act". When possible, our suppliers' conflict mineral statements are reviewed. We do not directly purchase Conflict Minerals from any source and do not knowingly procure any parts and products containing Conflict Minerals from Conflict Regions.

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LASERSCOM
Coupling Light to Your Success

LDI-1510-DFB-2.5G-20/60

OVERVIEW

LDI-1510-DFB-2.5G-20/60 is the MQW laser diode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Wavelength: 1510 nm
- Cavity type: DFB
- Linewidth: <500 kHz
- Data rate up to 2.5 Gbps
- Optical power: up to 20 mW in CW mode, up to 6 mW in pulse mode in SM fiber G.657.A1
- Package types: coaxial, coaxial with bracket, 14 pins DIL
- Built-in monitor photodiode

APPLICATIONS

- Optical fiber communication systems with data rate up to 2.5 Gbps
- Laser systems

ORDERING INFORMATION

LDI-1510-DFB-2.5G-20/60-X-2-X-X-X-X

Case type

U: compact coaxial (pulse mode only)
B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm or **BSM1** ∅0.25mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm or **BSM3** ∅0.25mm
MM5: MM, 50/125, OM2, furcation tubing ∅0.9 mm
MM6: MM, 62.5/125, OM1, furcation tubing ∅0.9 mm
Other type on request

Connector type

FA: FC/APC (SM1,SM3)
SA: SC/APC (SM1)
N: no connector
Other type: on request

FU: FC/UPC (SM1, SM3, MM5, MM6)
SU: SC/UPC (SM1)

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)
P: pulse mode (10 µs; duty cycle = 1%)
CWP: both CW and pulse modes

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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LASERSCOM
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LDI-1510-DFB-2.5G-20/60

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current	I_{FL}	120	mA	CW
		450	mA	Pulse
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	20	V	
Photodiode forward current	I_{Fp}	2	mA	
Operating temperature	T_{OP}	-40 - +85	°C	Package U, B
Operating temperature	T_{OP}	-40 - +50	°C	Package T, E
Storage temperature	T_{stg}	-40 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 10 seconds

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

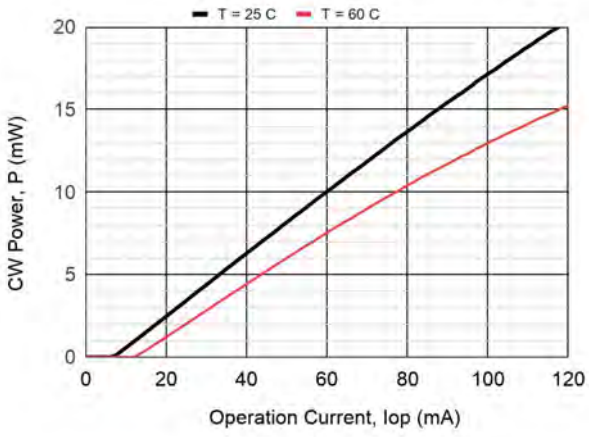
Parameter		MIN	TYP	MAX	Unit	Conditions
Wavelength	λ	1507	1510	1513	nm	CW, P = 20 mW
Spectral width	$\Delta\lambda$		0.09		nm	CW, P = 20 mW, -20 dB, OSA
Spectral width	Δf			500	kHz	CW, P = 20 mW, delayed self-heterodyne method
Wavelength-temperature coeff.	dλ/dT		0.14		nm/°C	
Side-mode suppression ratio	SMSR	40	55		dB	CW, P = 20 mW
Threshold current	I_{th}		8	12	mA	CW
Operating current	I_{op}		100	120	mA	CW, P = 20 mW, SM1
Slope efficiency	S_e	0.18	0.20		W/A	CW, SM1
Operating voltage	V_{op}		1.4	1.8	V	CW, P = 20 mW
Tracking error	E_r		0.4	0.6	dB	CW, P = 3 mW; T = -40 ÷ +80 °C
Pulse optical power	P_p	55	60		mW	Pulse, Iop = 450 mA
Rise and fall times	t_r, t_f		80	120	ps	20%-80%, package U, B
Resonance frequency	f_r		6.0		GHz	2.5Gbps, Imod = 40mA, Ibias = Ith+2 mA
Monitoring output current (PD)	I_m	1.0	1.45	5.00	mA	CW, P = 20 mW, V_{rd} = 5V
Capacitance (PD)	C_t		10	20	pF	V_{rd} = 5V, f = 1 MHz
Dark current (PD)	I_d			100	nA	V_{rd} = 5V

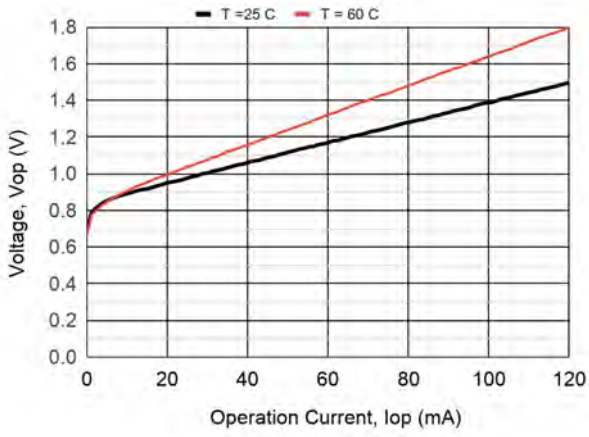
Pulse mode: pulse duration 10 μs; duty cycle = 1%

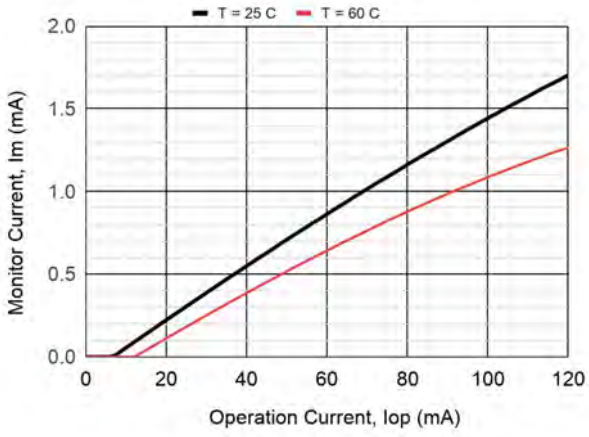
Tracking error E_r = max |10 lg [P(T)/P(25°C)]|, I_m= const, T = T_{min}÷ T_{max}

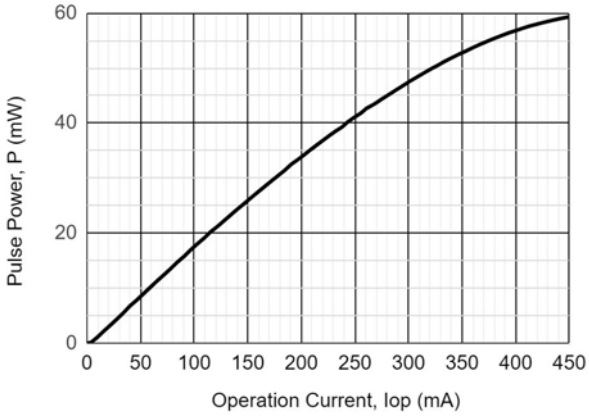
LASERSCOM
Coupling Light to Your Success

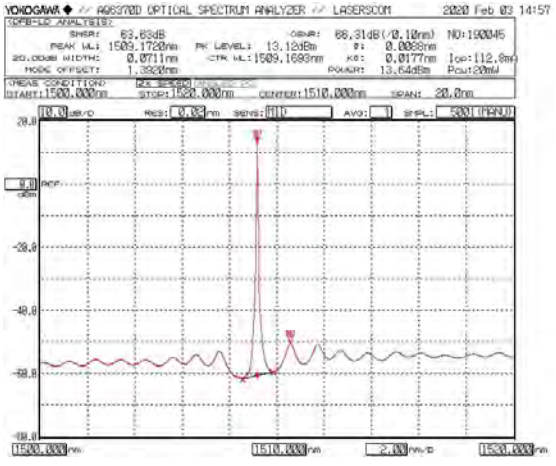
LDI-1510-DFB-2.5G-20/60

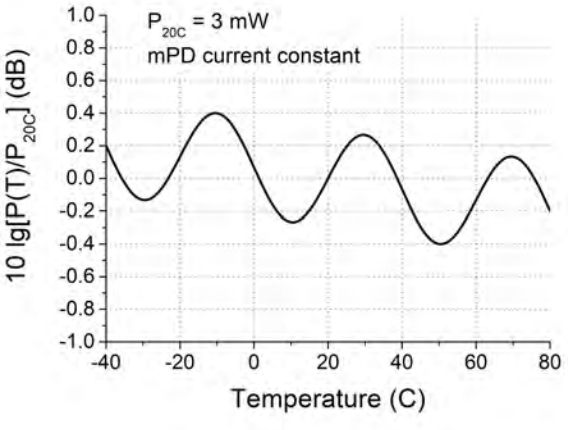












LASERSCOM
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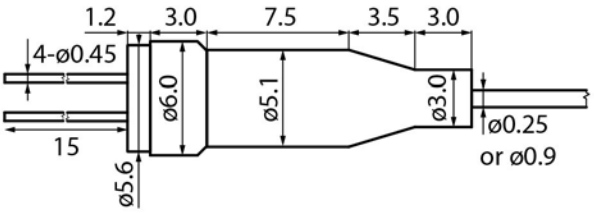
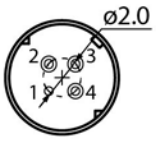
LDI-1510-DFB-2.5G-20/60

PACKAGE U

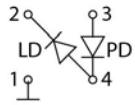
SIDE VIEW



BACK VIEW



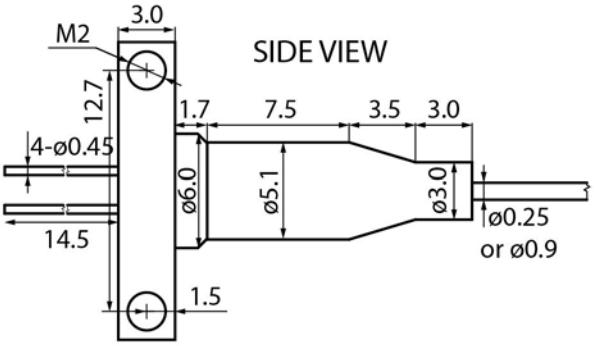
PINOUT #2



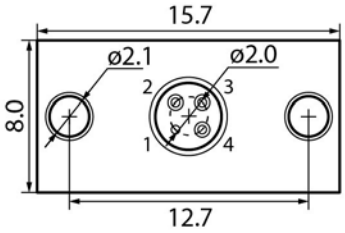
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE B



BACK VIEW



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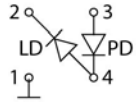
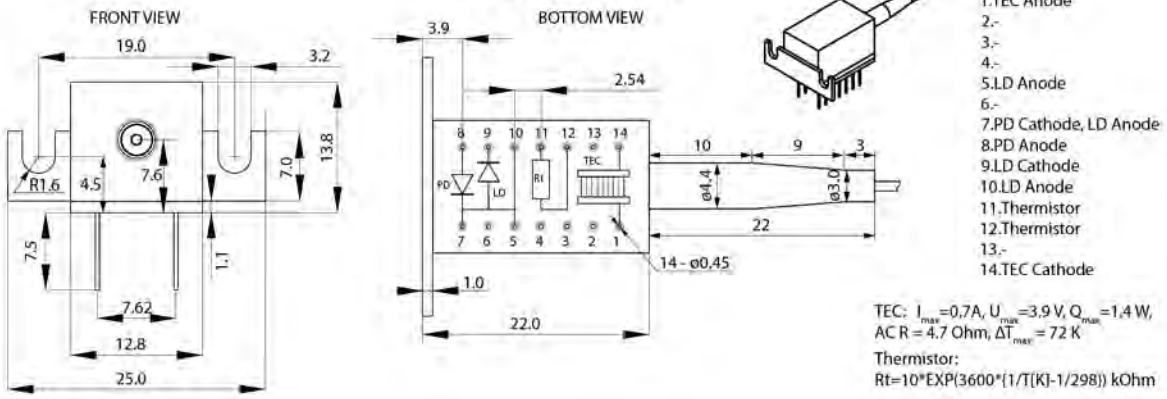


Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T



PINOUT #2, #3

1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.PD Cathode, LD Anode
8.PD Anode
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

TEC: I_{max}=0,7A, U_{max}=3.9 V, Q_{max}=1,4 W,
AC R = 4.7 Ohm, ΔT_{max} = 72 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

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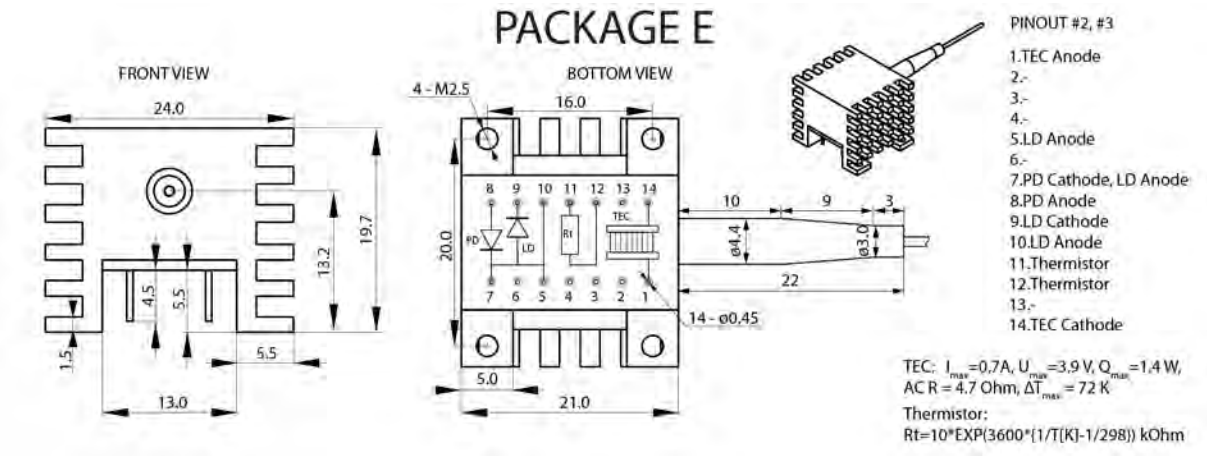
LDI-1510-DFB-2.5G-20/60



LDI-1510-DFB-2.5G-20/60

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Restriction of Hazardous Substances (RoHS) directive (Directive 2011/65/EC amended with Directive (EU) 2015/863) is the directive aimed at reducing the harmful environmental impact of waste electrical equipment by restricting the use of known dangerous substances. Based on information received from our supply sources, LasersCom LLC hereby states that the banned substances listed in the RoHS directive are not found in the parts and materials used above the threshold level listed other than exceptions approved by the European Commission.

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Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) is a European Union regulation 1907/2006/EC that addresses the production and use of chemical substances, and their potential impacts on human health and the environment. Based on information received from our supply sources, LasersCom LLC hereby states compliance of the parts and materials used in manufacturing to REACH regulation. LasersCom LLC does not manufacture or import any substances or preparations as defined under REACH.

LASERSCOM
Coupling Light to Your Success

LDS-1530-DFB-2.5G-15/45

OVERVIEW

LDS-1530-DFB-2.5G-15/45 is the MQW laser diode coupled to an optical fiber and packaged into a hermetic case. The special feature of the LDS technology is the increased thermal stability of optical power

MAIN FEATURES

- Wavelength:1530 nm
- Cavity type: DFB
- Linewidth: <500 kHz
- Data rate up to 2.5 Gbps
- Optical power: up to 15 mW in CW mode, up to 45 mW in pulse mode in SM fiber G.657.A1
- Package types: coaxial, coaxial with bracket, 14 pins DIL
- Built-in monitor photodiode

APPLICATIONS

- Optical fiber communication systems with data rate up to 2.5 Gbps
- Laser systems

ORDERING INFORMATION

LDS-1530-DFB-2.5G-15/45-X-2-X-X-X-X

Case type

U: compact coaxial (pulse mode only)
B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SMT: SM, Corning Titania-Clad, furcation tubing ∅0.9 mm, ultrasmall bending radius 2.5 mm
SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm or **BSM1** ∅0.25mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm or **BSM3** ∅0.25mm
SMP13: PM, Fujikura SM13, PANDA type, furcation tubing ∅0.9 mm
Other type on request

Connector type

FA: FC/APC (SM1, SM3, SMT, SMP13)
FU: FC/UPC (SM1, SM3, SMT)
SA: SC/APC (SM1)
SU: SC/UPC (SM1)
N: no connector
Other type: on request

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)
P: pulse mode (10 μs; duty cycle = 1%)
CWP: both CW and pulse modes

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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LDS-1530-DFB-2.5G-15/45

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current	I_{FL}	120	mA	CW
		450	mA	Pulse
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	20	V	
Photodiode forward current	I_{Fp}	2	mA	
Operating temperature	T_{OP}	-40 - +85	°C	Package U, B
Operating temperature	T_{OP}	-40 - +50	°C	Package T, E
Storage temperature	T_{stg}	-50 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 10 seconds

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Wavelength	λ	1527	1530	1533	nm	CW, P = 15 mW
Spectral width	$\Delta\lambda$		0.09		nm	CW, P = 15 mW, -20 dB, OSA
Spectral width	Δf			500	kHz	CW, P = 15 mW, delayed self-heterodyne method
Wavelength-temperature coeff.	dλ/dT		0.14		nm/°C	
Side-mode suppression ratio	SMSR	40	55		dB	CW, P = 15 mW
Threshold current	I_{th}		8	12	mA	CW
Operating current	I_{op}		100	120	mA	CW, P = 15 mW, SM1
Slope efficiency	S_e	0.13	0.16		W/A	CW, SM1
Operating voltage	V_{op}		1.4	1.8	V	CW, P = 15 mW
Tracking error	E_r		0.15	0.30	dB	CW, P = 3 mW; T = -40 ÷ +80 °C
Pulse optical power	P_p	40	45		mW	Pulse, Iop = 450 mA
Rise and fall times	t_r, t_f		80	120	ps	20%-80%, package U, B
Resonance frequency	f_r		6.0		GHz	2.5Gbps, Imod = 40mA, Ibias = Ith+2 mA
Monitoring output current (PD)	I_m	1.0	1.1	5.0	mA	CW, P = 15 mW, V_{rd} = 5V
Capacitance (PD)	C_t		10	20	pF	V_{rd} = 5V, f = 1 MHz
Dark current (PD)	I_d			100	nA	V_{rd} = 5V
Polarization extinction ratio	PER	20			dB	CW, SMP13

Pulse mode: pulse duration 10 μs; duty cycle = 1%

Tracking error E_r = max |10 lg [P(T)/P(25°C)]|, I_m= const, T = T_{min} ÷ T_{max}

LASERSCOM
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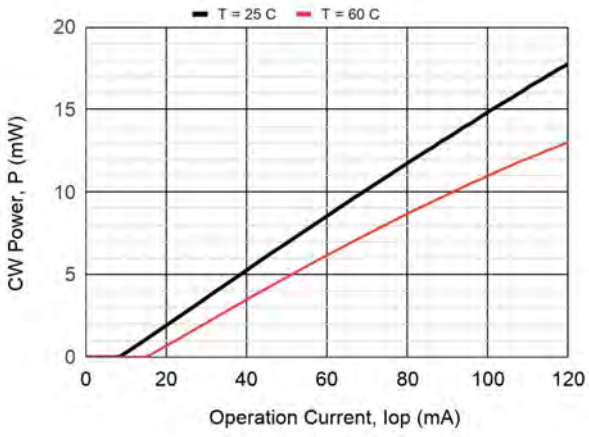
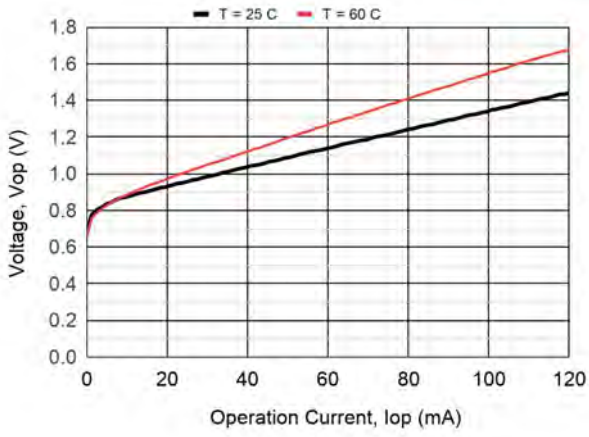
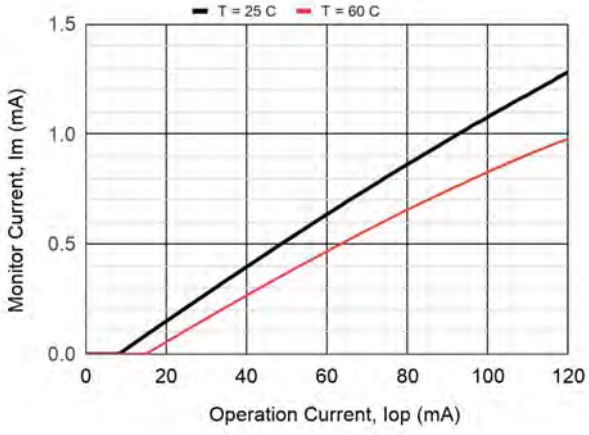
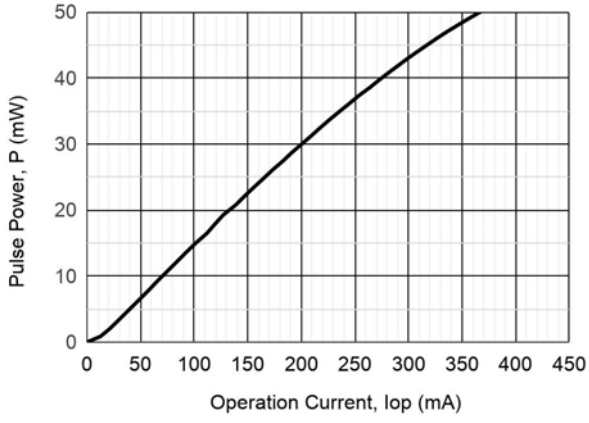
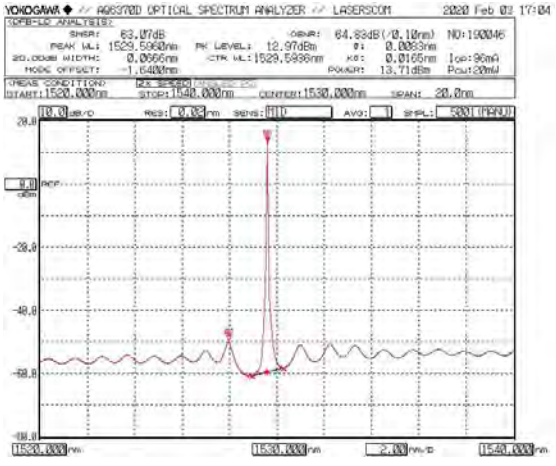
LDS-1530-DFB-2.5G-15/45

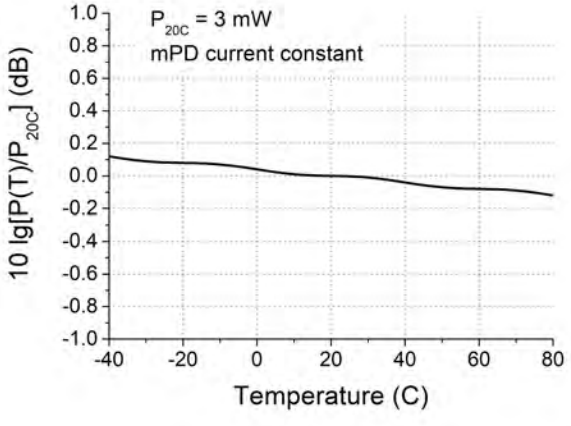












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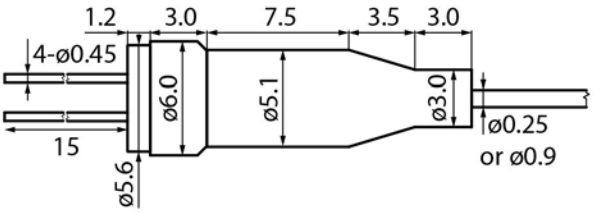
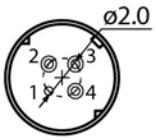
LDS-1530-DFB-2.5G-15/45

PACKAGE U

SIDE VIEW



BACK VIEW



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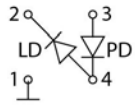
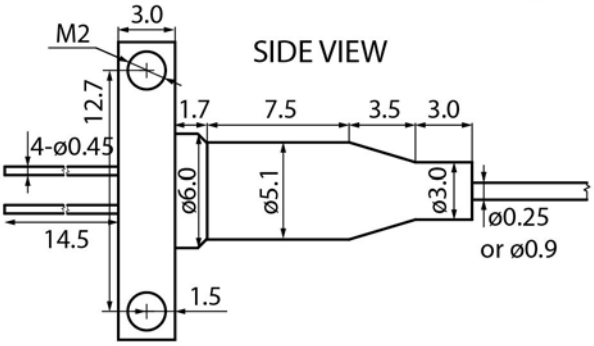


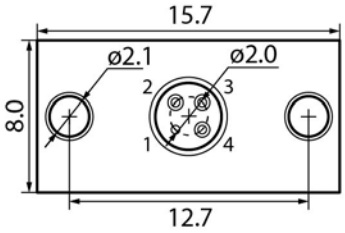
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE B



BACK VIEW



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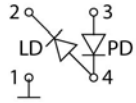
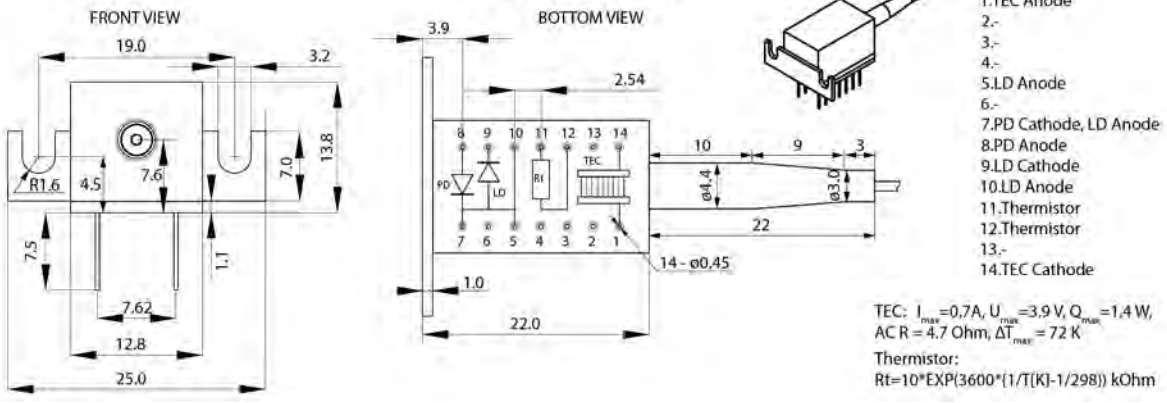


Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T



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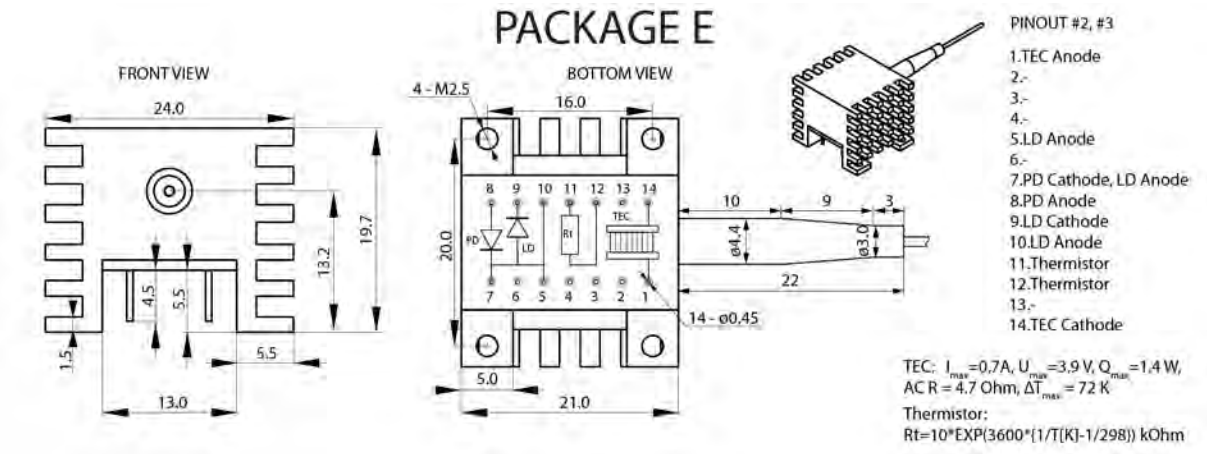
LDS-1530-DFB-2.5G-15/45



LDS-1530-DFB-2.5G-15/45

Characteristics, data, materials and structures specified in this datasheet are subject to change without notice. Please refer to the latest specification before use of the products.

Safety and handling cautions

1. Avoid smashing and burning of the module. Avoid storing and using the module in conditions where water, organic solvents or aggressive acids or bases may contact the module or where there is a possibility of exposure to corrosive gases, explosive gases, dust, salinity or other harsh conditions. The module should be disposed as special industrial waste.
2. Exceeding absolute maximum ratings even for a short time can cause permanent damage of the module.
3. The module is sensitive to and can be broken by ESD (static electricity).

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LASERSCOM
Coupling Light to Your Success

LDI-1530-DFB-2.5G-20/60

OVERVIEW

LDI-1530-DFB-2.5G-20/60 is the MQW laser diode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Wavelength:1530 nm
- Cavity type: DFB
- Linewidth: <500 kHz
- Data rate up to 2.5 Gbps
- Optical power: up to 20 mW in CW mode, up to 60 mW in pulse mode in SM fiber G.657.A1
- Package types: coaxial, coaxial with bracket, 14 pins DIL
- Built-in monitor photodiode

APPLICATIONS

- Optical fiber communication systems with data rate up to 2.5 Gbps
- Laser systems

ORDERING INFORMATION

LDI-1530-DFB-2.5G-20/60-X-2-X-X-X-X

Case type

U: compact coaxial (pulse mode only)
B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SMT: SM, Corning Titania-Clad, furcation tubing ∅0.9 mm, ultrasmall bending radius 2.5 mm
SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm or **BSM1** ∅0.25mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm or **BSM3** ∅0.25mm
MM5: MM, 50/125, OM2, furcation tubing ∅0.9 mm
MM6: MM, 62.5/125, OM1, furcation tubing ∅0.9 mm
Other type on request

Connector type

FA: FC/APC (SM1,SM3, SMT)
SA: SC/APC (SM1)
N: no connector
Other type: on request

FU: FC/UPC (SM1, SM3, SMT, MM5, MM6)
SU: SC/UPC (SM1)

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)
P: pulse mode (10 µs; duty cycle = 1%)
CWP: both CW and pulse modes

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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LDI-1530-DFB-2.5G-20/60

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current	I_{FL}	120	mA	CW
		450	mA	Pulse
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	20	V	
Photodiode forward current	I_{Fp}	2	mA	
Operating temperature	T_{OP}	-40 - +85	°C	Package U, B
Operating temperature	T_{OP}	-40 - +50	°C	Package T, E
Storage temperature	T_{stg}	-40 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 10 seconds

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

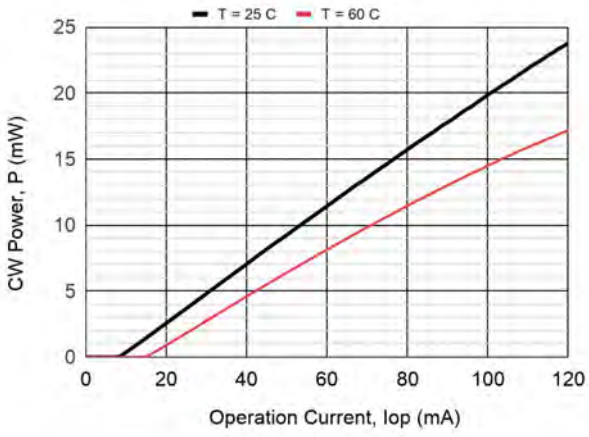
Parameter		MIN	TYP	MAX	Unit	Conditions
Wavelength	λ	1527	1530	1533	nm	CW, P = 20 mW
Spectral width	$\Delta\lambda$		0.09		nm	CW, P = 20 mW, -20 dB, OSA
Spectral width	Δf			500	kHz	CW, P = 20 mW, delayed self-heterodyne method
Wavelength-temperature coeff.	dλ/dT		0.14		nm/°C	
Side-mode suppression ratio	SMSR	40	55		dB	CW, P = 20 mW
Threshold current	I_{th}		8	12	mA	CW
Operating current	I_{op}		100	120	mA	CW, P = 20 mW, SM1
Slope efficiency	S_e	0.18	0.20		W/A	CW, SM1
Operating voltage	V_{op}		1.4	1.80	V	CW, P = 20 mW
Tracking error	E_r		0.4	0.6	dB	CW, P = 3 mW; T = -40 ÷ +80 °C
Pulse optical power	P_p	55	60		mW	Pulse, Iop = 450 mA
Rise and fall times	t_r, t_f		80	120	ps	20%-80%, package U, B
Resonance frequency	f_r		6.0		GHz	2.5Gbps, Imod = 40mA, Ibias = Ith+2 mA
Monitoring output current (PD)	I_m	1.0	1.1	5.0	mA	CW, P = 20 mW, V_{rd} = 5V
Capacitance (PD)	C_t		10	20	pF	V_{rd} = 5V, f = 1 MHz
Dark current (PD)	I_d			100	nA	V_{rd} = 5V

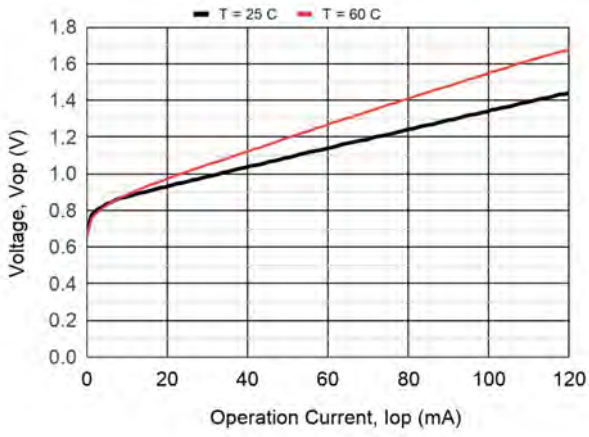
Pulse mode: pulse duration 10 μs; duty cycle = 1%

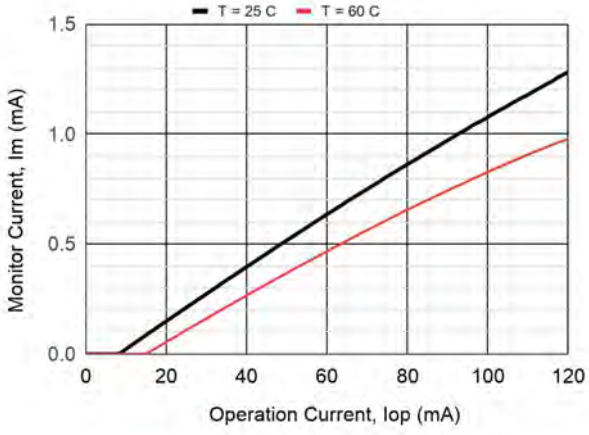
Tracking error E_r = max |10 lg [P(T)/P(25°C)]|, I_m= const, T = T_{min} ÷ T_{max}

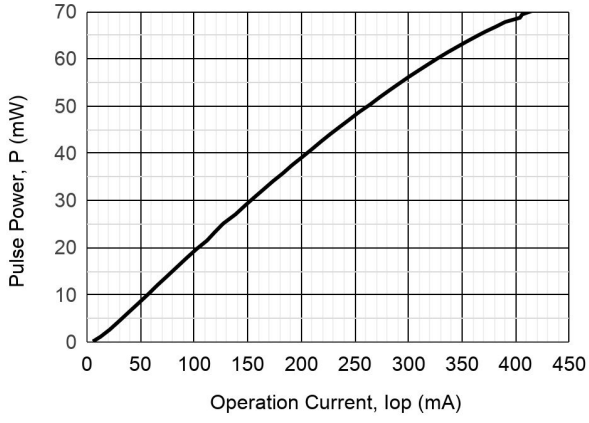
LASERSCOM
Coupling Light to Your Success

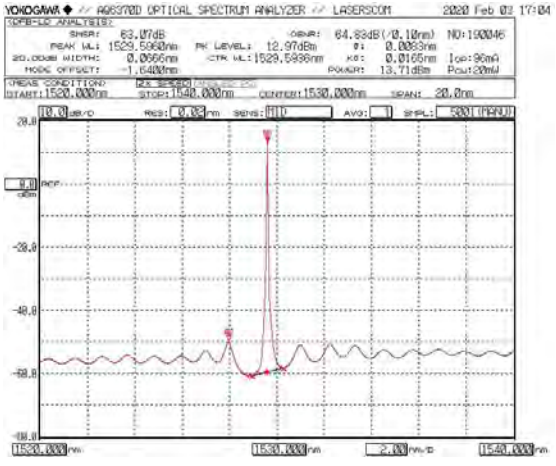
LDI-1530-DFB-2.5G-20/60

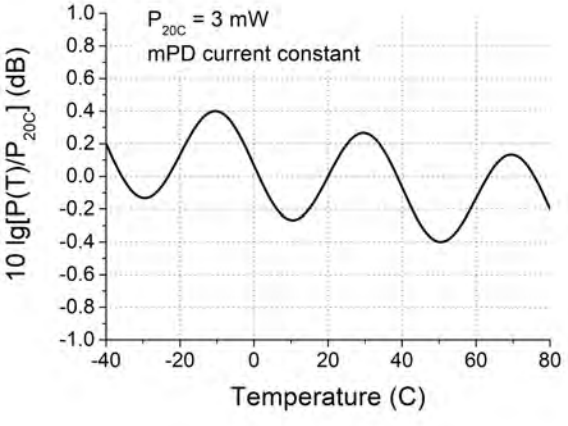












LASERSCOM
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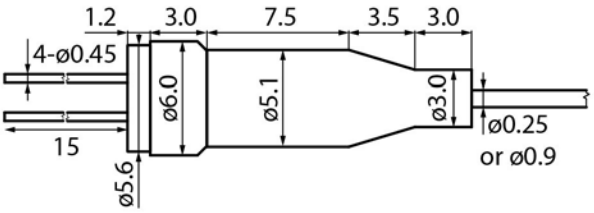
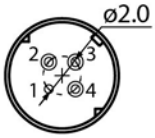
LDI-1530-DFB-2.5G-20/60

PACKAGE U

SIDE VIEW



BACK VIEW



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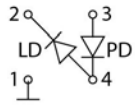
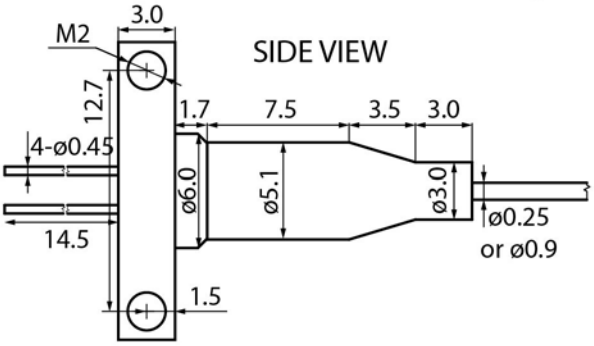


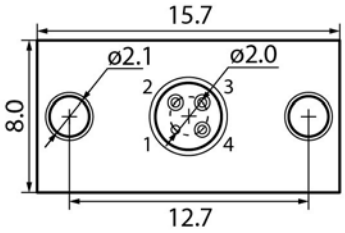
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE B



BACK VIEW



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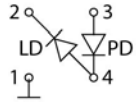
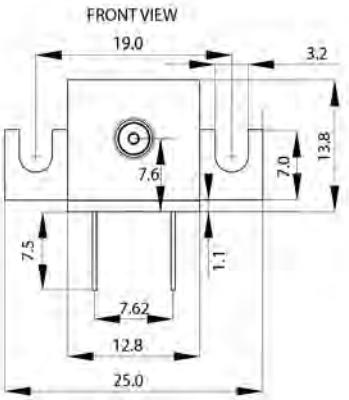
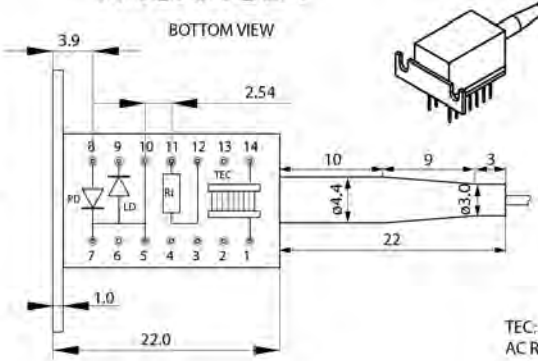


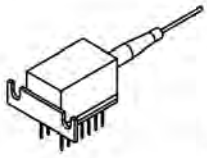
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T







PINOUT #2, #3

1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.PD Cathode, LD Anode
8.PD Anode
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

TEC: I_{max}=0.7A, U_{max}=3.9 V, Q_{max}=1.4 W,
AC R = 4.7 Ohm, ΔT_{max} = 72 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

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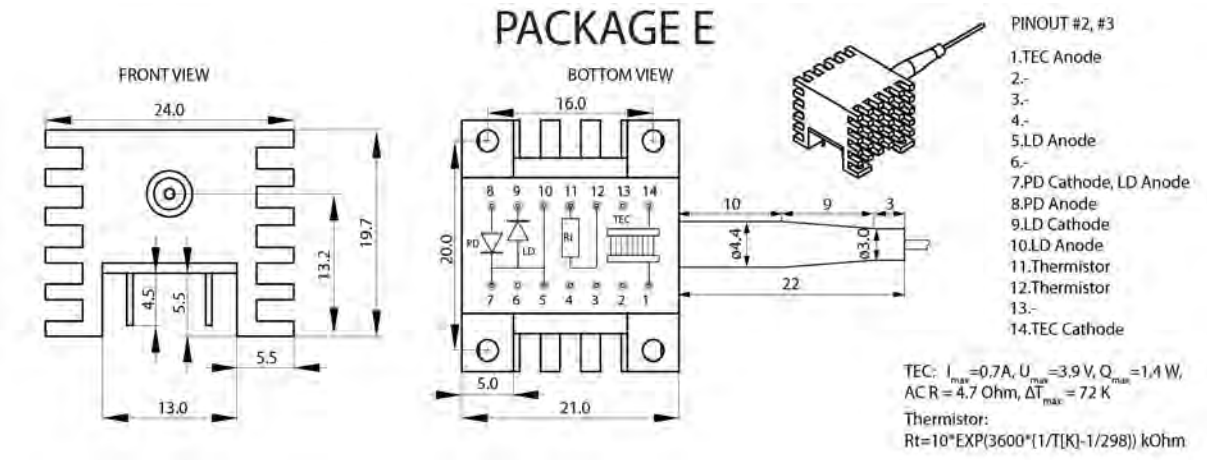
LDI-1530-DFB-2.5G-20/60



LASERSCOM
Coupling Light to Your Success

LDI-1530-DFB-2.5G-20/60

Characteristics, data, materials and structures specified in this datasheet are subject to change without notice. Please refer to the latest specification before use of the products.

Safety and handling cautions

1. Avoid smashing and burning of the module. Avoid storing and using the module in conditions where water, organic solvents or aggressive acids or bases may contact the module or where there is a possibility of exposure to corrosive gases, explosive gases, dust, salinity or other harsh conditions. The module should be disposed as special industrial waste.
2. Exceeding absolute maximum ratings even for a short time can cause permanent damage of the module.
3. The module is sensitive to and can be broken by ESD (static electricity).

Conflict Minerals Policy Statement

LasersCom LLC achieves business objectives and customer needs with social responsibility. We do not support or contribute to the violence and human rights violations associated with the mining of conflict minerals coming from Conflict Regions according to US "Dodd-Frank Act". When possible, our suppliers' conflict mineral statements are reviewed. We do not directly purchase Conflict Minerals from any source and do not knowingly procure any parts and products containing Conflict Minerals from Conflict Regions.

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REACH Compliance Statement

Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) is a European Union regulation 1907/2006/EC that addresses the production and use of chemical substances, and their potential impacts on human health and the environment. Based on information received from our supply sources, LasersCom LLC hereby states compliance of the parts and materials used in manufacturing to REACH regulation. LasersCom LLC does not manufacture or import any substances or preparations as defined under REACH.

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LDS-1530-FP-1.25G-10/40

OVERVIEW

LDS-1530-FP-1.25G-10/40 is the MQW laser diode coupled to an optical fiber and packaged into a hermetic case. The special feature of the LDS technology is the increased thermal stability of optical power

MAIN FEATURES

- Wavelength: 1530 nm in CW mode, 1550 nm in pulse mode
- Cavity type: Fabry-Perot
- Optical power: up to 10 mW in CW mode, up to 40 mW in pulse mode in SM fiber G.657.A1
- Package types: coaxial, coaxial with bracket, 14 pins DIL
- Built-in monitor photodiode

APPLICATIONS

- Optical fiber communication systems with data rate up to 1.25 Gbps
- Laser systems

ORDERING INFORMATION

LDS-1530-FP-1.25G-10/40-X-2-X-X-X-X

Case type

U: compact coaxial (pulse mode only)
B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SMT: SM, Corning Titania-Clad, furcation tubing ∅0.9 mm, ultrasmall bending radius 2.5 mm
SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm or **BSM1** ∅0.25mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm or **BSM3** ∅0.25mm
SMP13: PM, Fujikura SM13, PANDA type, furcation tubing ∅0.9 mm
Other type on request

Connector type

FA: FC/APC (SM1, SM3, SMT, SMP13)
SA: SC/APC (SM1)
N: no connector
Other type: on request
FU: FC/UPC (SM1, SM3, SMT)
SU: SC/UPC (SM1)

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)
P: pulse mode (10 µs; duty cycle = 1%)
CWP: both CW and pulse modes

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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LDS-1530-FP-1.25G-10/40

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current	I_{FL}	120	mA	CW
		450	mA	Pulse
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	20	V	
Photodiode forward current	I_{Fp}	2	mA	
Operating temperature	T_{OP}	-40 - +85	°C	Package U, B
Operating temperature	T_{OP}	-40 - +50	°C	Package T, E
Storage temperature	T_{stg}	-50 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 10 seconds

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

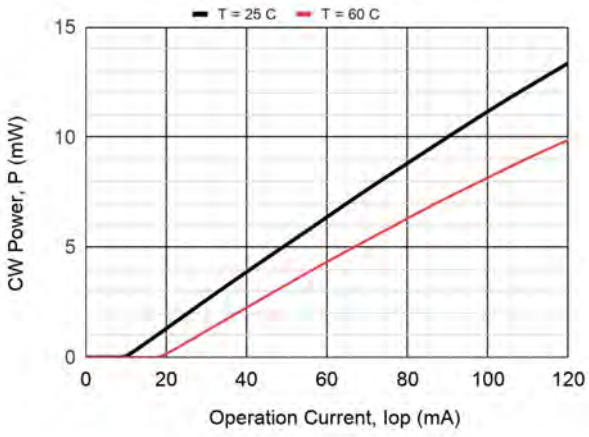
Parameter		MIN	TYP	MAX	Unit	Conditions
Wavelength	λ	1510	1530	1580	nm	CW, P = 10 mW
			1550			Pulse, P = 40 mW
Spectral width	$\Delta\lambda$		8	12	nm	CW, P = 10 mW, FWHM
Spectral width	$\Delta\lambda$		15	20	nm	Pulse, P = 40 mW, FWHM
Wavelength-temperature coeff.	$d\lambda/dT$		0.52		nm/°C	
Threshold current	I_{th}		10	20	mA	CW
Operating current	I_{op}		110	120	mA	CW, P = 10 mW, SM1
Slope efficiency	S_e	0.09	0.10		W/A	CW, SM1
Operating voltage	V_{op}		1.5	1.8	V	CW, P = 10 mW
Tracking error	E_r		0.15	0.30	dB	CW, P = 3 mW; T = -40 ÷ +80 °C
Pulse optical power	P_p	35	40		mW	Pulse, Iop = 450 mA
Rise and fall times	t_r, t_f		300	700	ps	10%-90%, package U, B
Monitoring output current (PD)	I_m	1.0	3.4	5.0	mA	CW, P = 10 mW, V_{rd} = 5V
Capacitance (PD)	C_t		10	20	pF	V_{rd} = 5V, f = 1 MHz
Dark current (PD)	I_d			100	nA	V_{rd} = 5V
Polarization extinction ratio	PER	20			dB	CW, SMP13

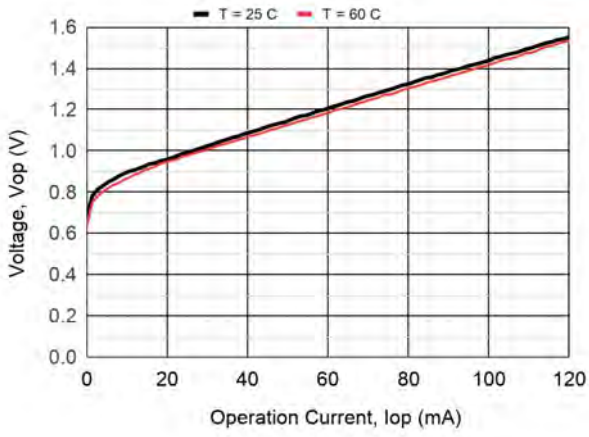
Pulse mode: pulse duration 10 μs; duty cycle = 1%

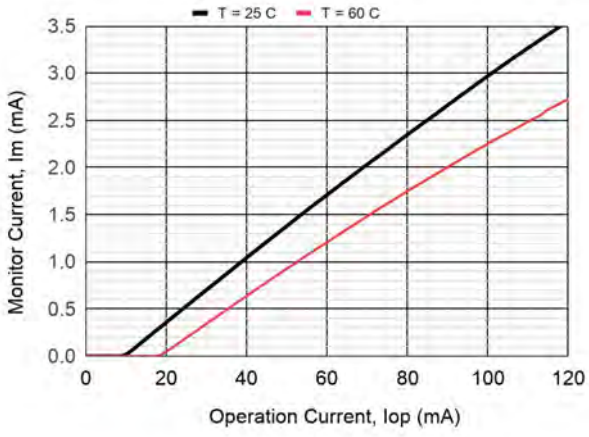
Tracking error E_r = max |10 lg [P(T)/P(25°C)]|, I_m= const, T = T_{min} ÷ T_{max}

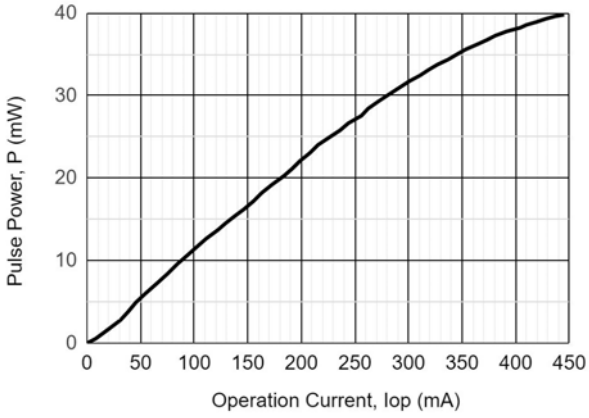
LASERSCOM
Coupling Light to Your Success

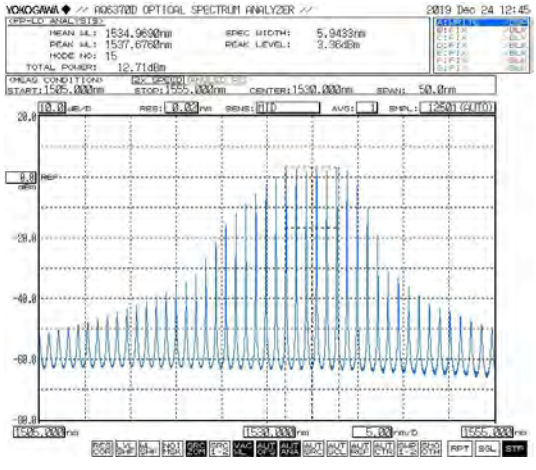
LDS-1530-FP-1.25G-10/40

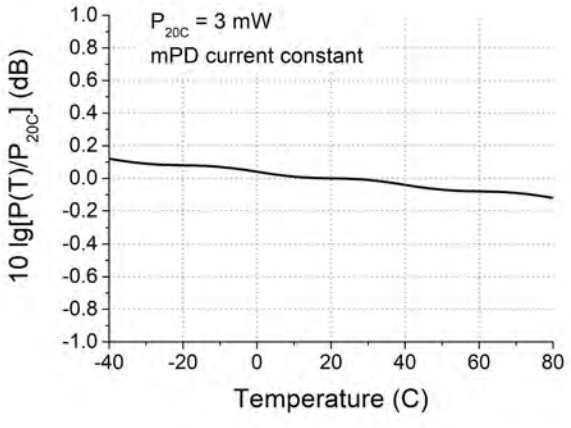












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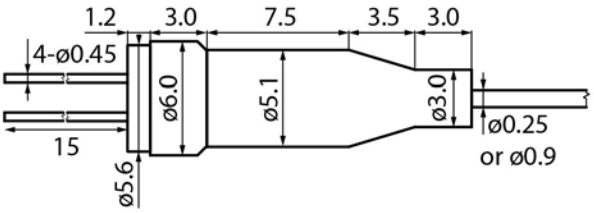
Coupling Light to Your Success

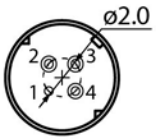
LDS-1530-FP-1.25G-10/40

PACKAGE U

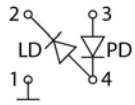
SIDE VIEW



BACK VIEW



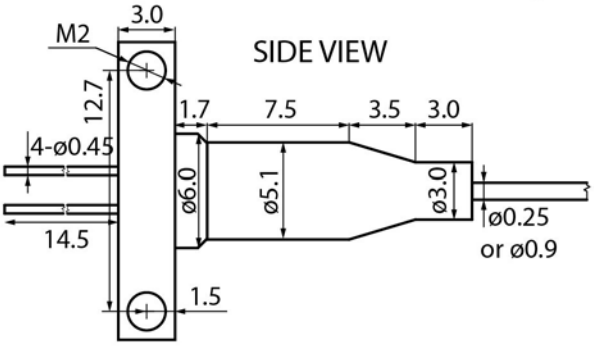
PINOUT #2



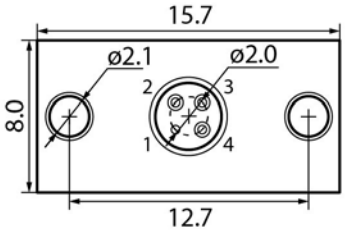
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE B



BACK VIEW



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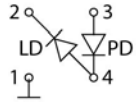
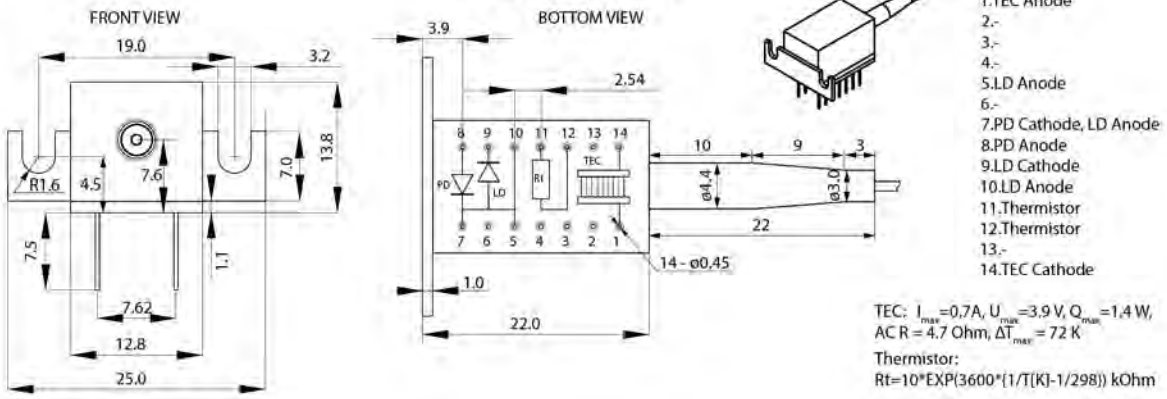


Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T



PINOUT #2, #3

1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.PD Cathode, LD Anode
8.PD Anode
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

TEC: I_{max}=0,7A, U_{max}=3.9 V, Q_{max}=1,4 W,
AC R = 4.7 Ohm, ΔT_{max} = 72 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

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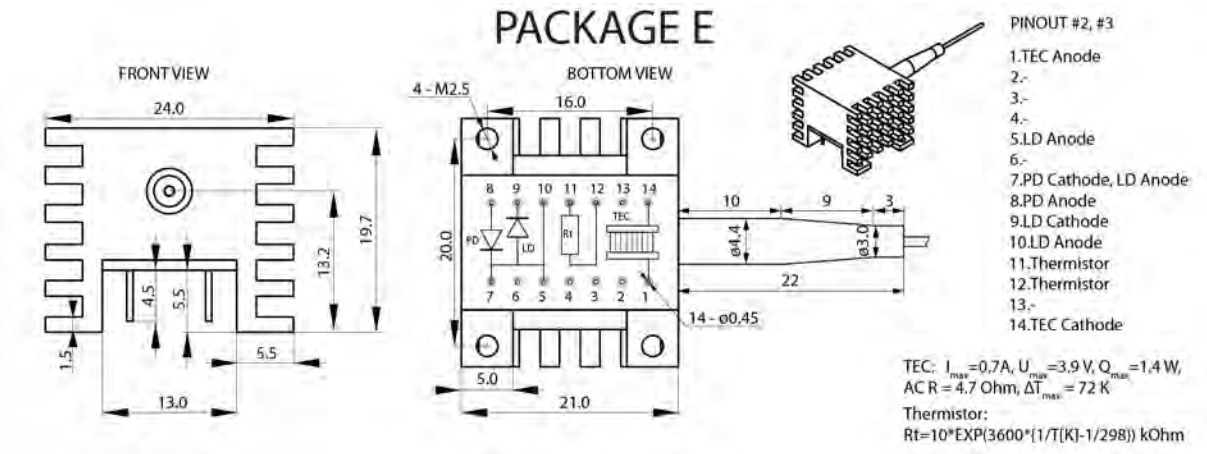
LDS-1530-FP-1.25G-10/40



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LDS-1530-FP-1.25G-10/40

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LASERSCOM
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LDI-1530-FP-1.25G-15/50

OVERVIEW

LDI-1530-FP-1.25G-15/50 is the MQW laser diode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Wavelength: 1530 nm in CW mode, 1550 nm in pulse mode
- Cavity type: Fabry-Perot
- Optical power: up to 15 mW in CW mode, up to 50 mW in pulse mode in SM fiber G.657.A1
- Package types: coaxial, coaxial with bracket, 14 pins DIL
- Built-in monitor photodiode

APPLICATIONS

- Optical fiber communication systems with data rate up to 1.25 Gbps
- Laser systems

ORDERING INFORMATION

LDI-1530-FP-1.25G-15/50-X-2-X-X-X-X

Case type

U: compact coaxial (pulse mode only)
B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SMT: SM, Corning Titania-Clad, furcation tubing ∅0.9 mm, ultrasmall bending radius 2.5 mm
SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm or **BSM1** ∅0.25mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm or **BSM3** ∅0.25mm
MM5: MM, 50/125, OM2, furcation tubing ∅0.9 mm
MM6: MM, 62.5/125, OM1, furcation tubing ∅0.9 mm
Other type on request

Connector type

FA: FC/APC (SM1,SM3, SMT)
SA: SC/APC (SM1)
N: no connector
FU: FC/UPC (SM1, SM3, SMT, MM5, MM6)
SU: SC/UPC (SM1)
Other type: on request

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)
P: pulse mode (10 µs; duty cycle = 1%)
CWP: both CW and pulse modes

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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LDI-1530-FP-1.25G-15/50

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current	I_{FL}	120	mA	CW
		450	mA	Pulse
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	20	V	
Photodiode forward current	I_{Fp}	2	mA	
Operating temperature	T_{OP}	-40 - +85	°C	Package U, B
Operating temperature	T_{OP}	-40 - +50	°C	Package T, E
Storage temperature	T_{stg}	-50 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 10 seconds

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Wavelength	λ	1510	1530	1580	nm	CW, P = 15 mW
			1550			Pulse, P = 50 mW
Spectral width	$\Delta\lambda$		7	12	nm	CW, P = 15 mW, FWHM
Spectral width	$\Delta\lambda$		15	20	nm	Pulse, P = 50 mW, FWHM
Wavelength-temperature coeff.	$d\lambda/dT$		0.52		nm/°C	
Threshold current	I_{th}		10	20	mA	CW
Operating current	I_{op}		110	120	mA	CW, P = 15 mW, SM1
Slope efficiency	S_e	0.12	0.15		W/A	CW, SM1
Operating voltage	V_{op}		1.5	1.8	V	CW, P = 15 mW
Tracking error	E_r		0.4	0.6	dB	CW, P = 3 mW; T = -40 ÷ +80 °C
Pulse optical power	P_p	45	50		mW	Pulse, Iop = 450 mA
Rise and fall times	t_r, t_f		300	700	ps	10%-90%, package U, B
Monitoring output current (PD)	I_m	1.0	3.4	5.0	mA	CW, P = 15 mW, V_{rd} = 5V
Capacitance (PD)	C_t		10	20	pF	V_{rd} = 5V, f = 1 MHz
Dark current (PD)	I_d			100	nA	V_{rd} = 5V

Pulse mode: pulse duration 10 μs; duty cycle = 1%

Tracking error E_r = max |10 lg [P(T)/P(25°C)]|, I_m = const, T = T_{min} ÷ T_{max}

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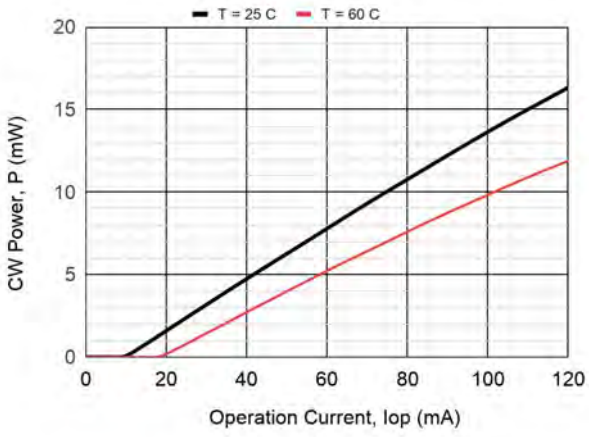
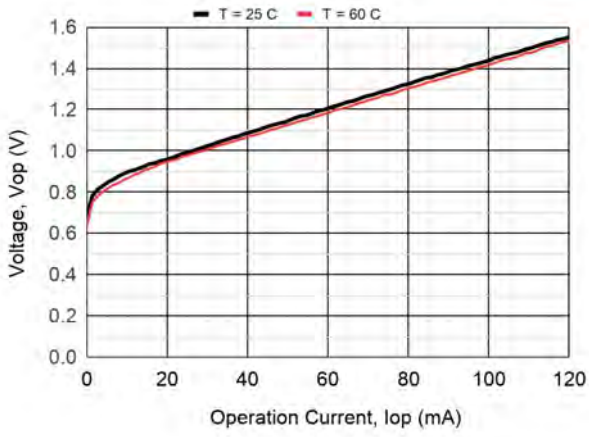
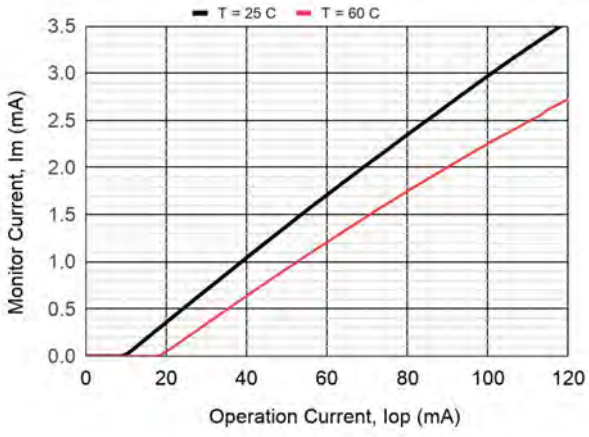
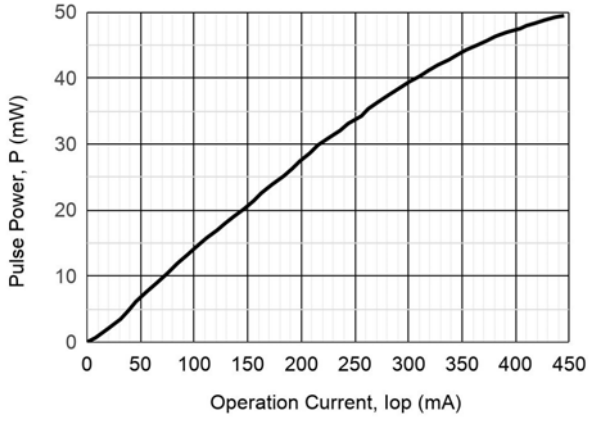
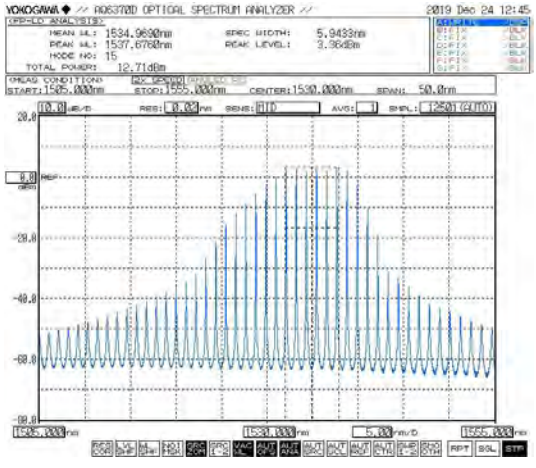
LDI-1530-FP-1.25G-15/50

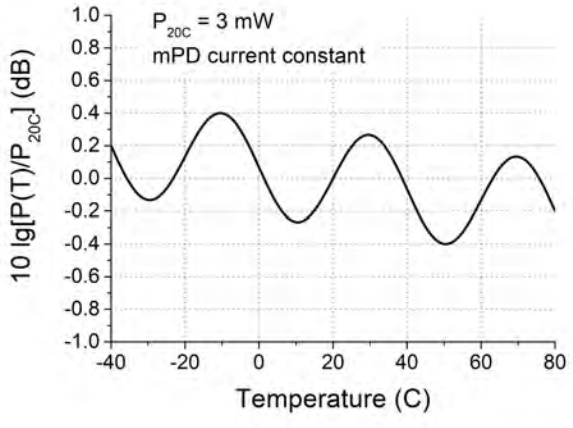












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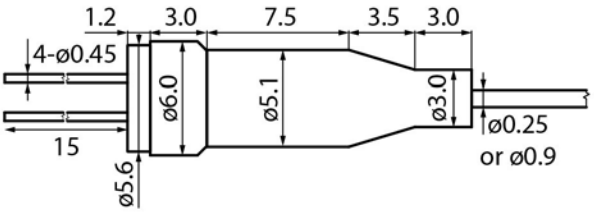
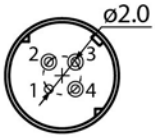
LDI-1530-FP-1.25G-15/50

PACKAGE U

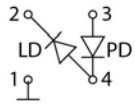
SIDE VIEW



BACK VIEW



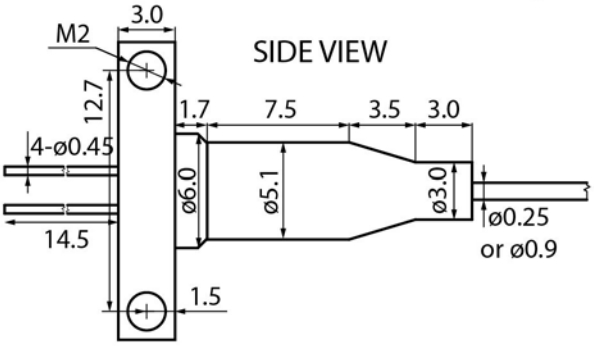
PINOUT #2



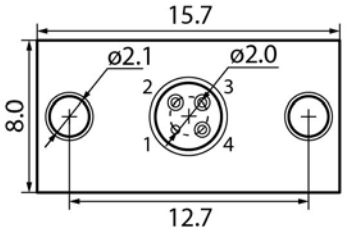
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE B



BACK VIEW



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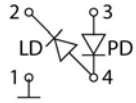
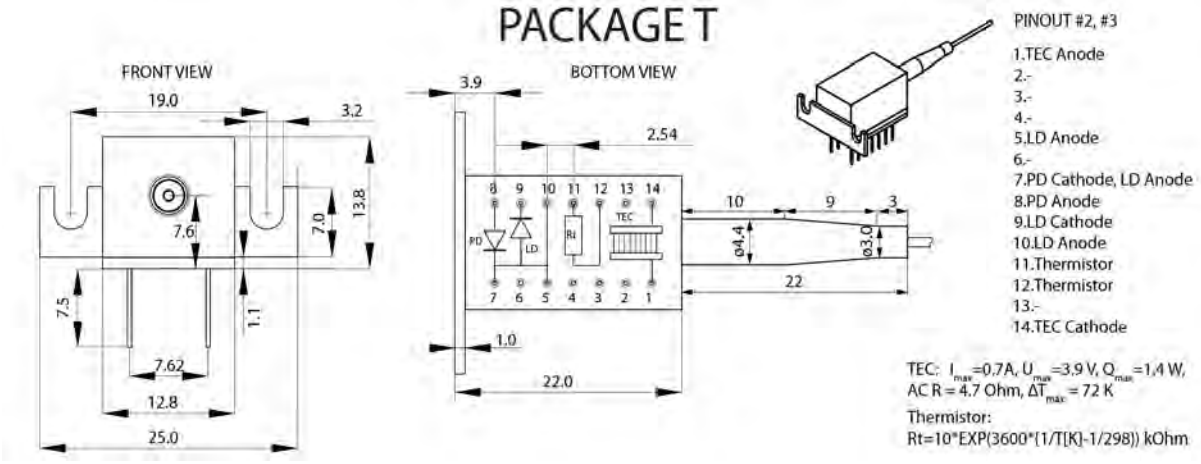


Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T



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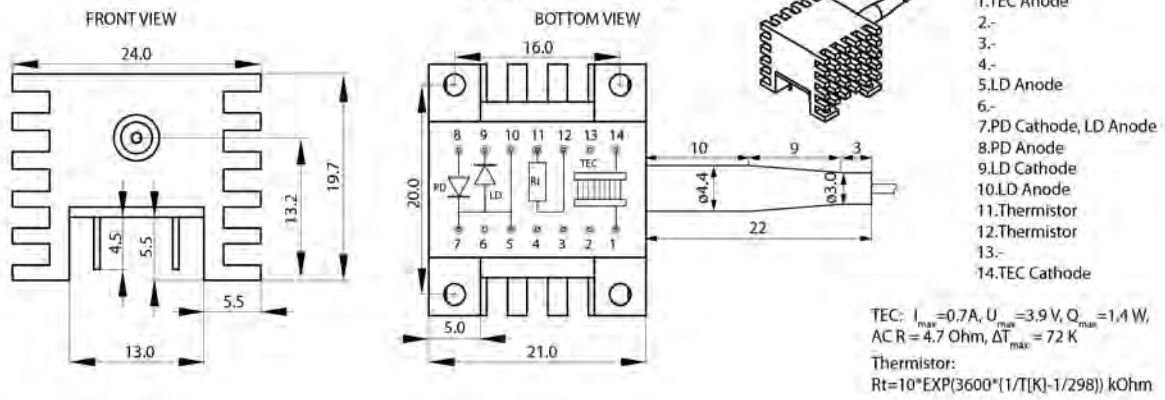
LDI-1530-FP-1.25G-15/50

PACKAGE E



PINOUT #2, #3

1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.PD Cathode, LD Anode
8.PD Anode
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

TEC: I_{max}=0.7A, U_{max}=3.9 V, Q_{max}=1.4 W,
AC R = 4.7 Ohm, ΔT_{max} = 72 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

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LDI-1530-FP-1.25G-15/50

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Safety and handling cautions

1. Avoid smashing and burning of the module. Avoid storing and using the module in conditions where water, organic solvents or aggressive acids or bases may contact the module or where there is a possibility of exposure to corrosive gases, explosive gases, dust, salinity or other harsh conditions. The module should be disposed as special industrial waste.
2. Exceeding absolute maximum ratings even for a short time can cause permanent damage of the module.
3. The module is sensitive to and can be broken by ESD (static electricity).

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LDS-1550-DFB-2.5G-15/50

OVERVIEW

LDS-1550-DFB-2.5G-15/50 is the MQW laser diode coupled to an optical fiber and packaged into a hermetic case. The special feature of the LDS technology is the increased thermal stability of optical power

MAIN FEATURES

- Wavelength: 1550 nm
- Cavity type: DFB
- Linewidth: <500 kHz
- Data rate up to 2.5 Gbps
- Optical power: up to 15 mW in CW mode, up to 50 mW in pulse mode in SM fiber G.657.A1
- Package types: coaxial, coaxial with bracket, 14 pins DIL
- Built-in monitor photodiode

APPLICATIONS

- Optical fiber communication systems with data rate up to 2.5 Gbps
- Laser systems

ORDERING INFORMATION

LDS-1550-DFB-2.5G-15/50-X-2-X-X-X-X

Case type

U: compact coaxial (pulse mode only)
B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SMT: SM, Corning Titania-Clad, furcation tubing ∅0.9 mm, ultrasmall bending radius 2.5 mm
SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm or **BSM1** ∅0.25mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm or **BSM3** ∅0.25mm
SMP13: PM, Fujikura SM13, PANDA type, furcation tubing ∅0.9 mm
Other type on request

Connector type

FA: FC/APC (SM1,SM3, SMT, SMP13)
SA: SC/APC (SM1)
N: no connector
FU: FC/UPC (SM1, SM3, SMT)
SU: SC/UPC (SM1)
Other type: on request

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)
P: pulse mode (10 µs; duty cycle = 1%)
CWP: both CW and pulse modes

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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LDS-1550-DFB-2.5G-15/50

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current	I_{FL}	120	mA	CW
		450	mA	Pulse
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	20	V	
Photodiode forward current	I_{Fp}	2	mA	
Operating temperature	T_{OP}	-40 - +85	°C	Package U, B
Operating temperature	T_{OP}	-40 - +50	°C	Package T, E
Storage temperature	T_{stg}	-40 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 10 seconds

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Wavelength	λ	1545	1550	1555	nm	CW, P = 15 mW
Spectral width	$\Delta\lambda$		0.08		nm	CW, P = 15 mW, -20 dB, OSA
Spectral width	Δf			500	kHz	CW, P = 15 mW, delayed self-heterodyne method
Wavelength-temperature coeff.	dλ/dT		0.12		nm/°C	
Side-mode suppression ratio	SMSR	40	55		dB	CW, P = 15 mW
Threshold current	I_{th}		8	12	mA	CW
Operating current	I_{op}		100	120	mA	CW, P = 15 mW, SM1
Slope efficiency	S_e	0.13	0.16		W/A	CW, SM1
Operating voltage	V_{op}		1.4	1.8	V	CW, P = 15 mW
Tracking error	E_r		0.15	0.30	dB	CW, P = 3 mW; T = -40 ÷ +80 °C
Pulse optical power	P_p	45	50		mW	Pulse, Iop = 450 mA
Rise and fall times	t_r, t_f		80	120	ps	20%-80%, package U, B
Resonance frequency	f_r		6.0		GHz	2.5Gbps, Imod = 40mA, Ibias = Ith+2 mA
Monitoring output current (PD)	I_m	1.0	1.5	4.0	mA	CW, P = 15 mW, V_{rd} = 5V
Capacitance (PD)	C_t		10	20	pF	V_{rd} = 5V, f = 1 MHz
Dark current (PD)	I_d			100	nA	V_{rd} = 5V
Polarization extinction ratio	PER	20			dB	CW, SMP13

Pulse mode: pulse duration 10 μs; duty cycle = 1%

Tracking error E_r = max |10 lg [P(T)/P(25°C)]]|, I_m= const, T = T_{min} ÷ T_{max}

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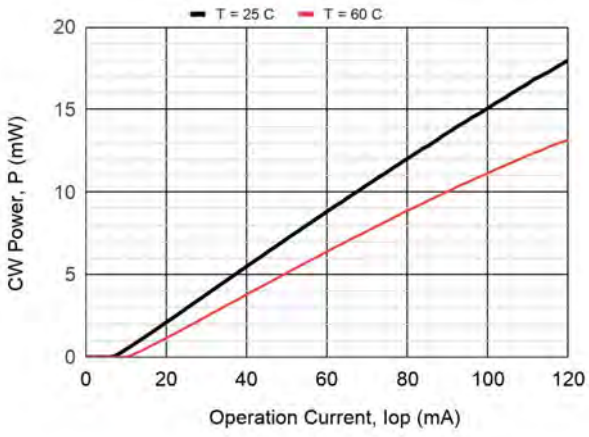
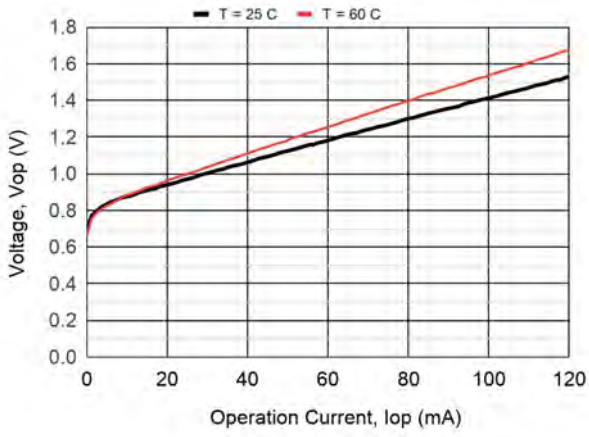
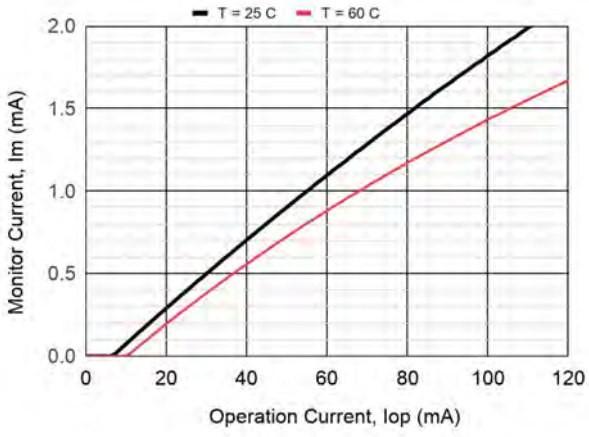
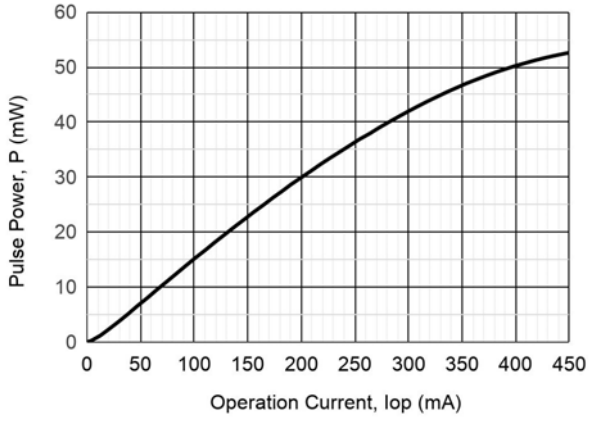
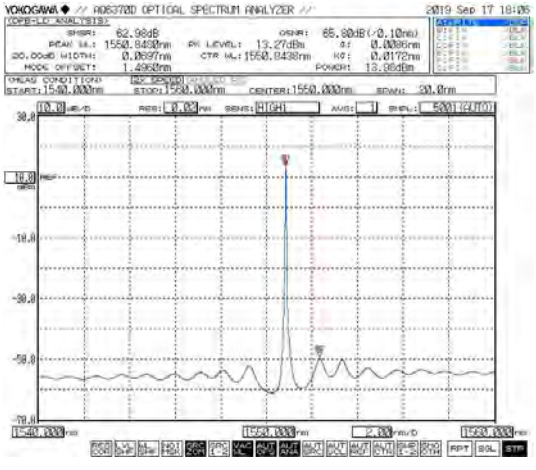
LDS-1550-DFB-2.5G-15/50

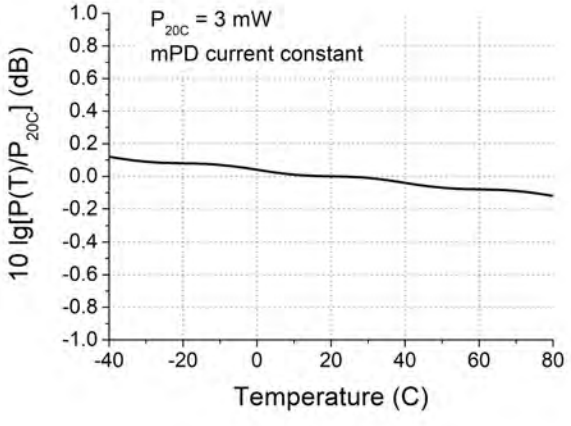












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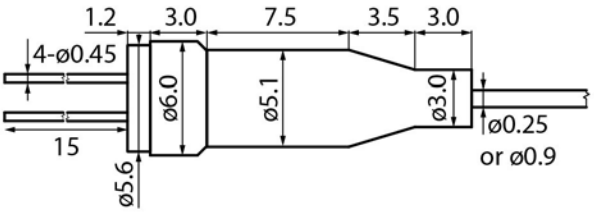
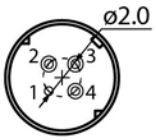
LDS-1550-DFB-2.5G-15/50

PACKAGE U

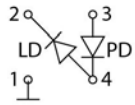
SIDE VIEW



BACK VIEW



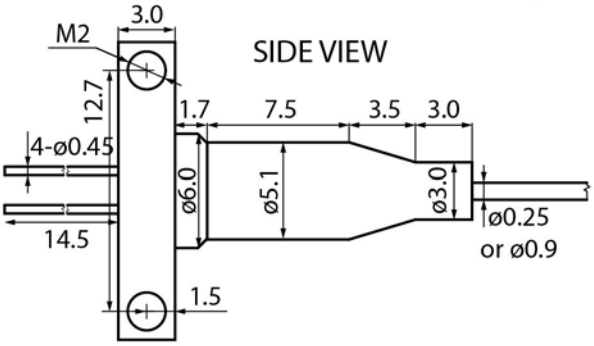
PINOUT #2



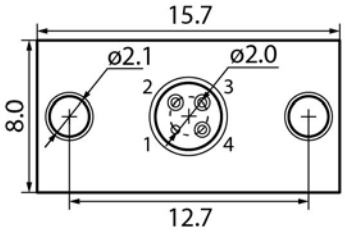
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE B



BACK VIEW



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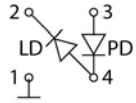
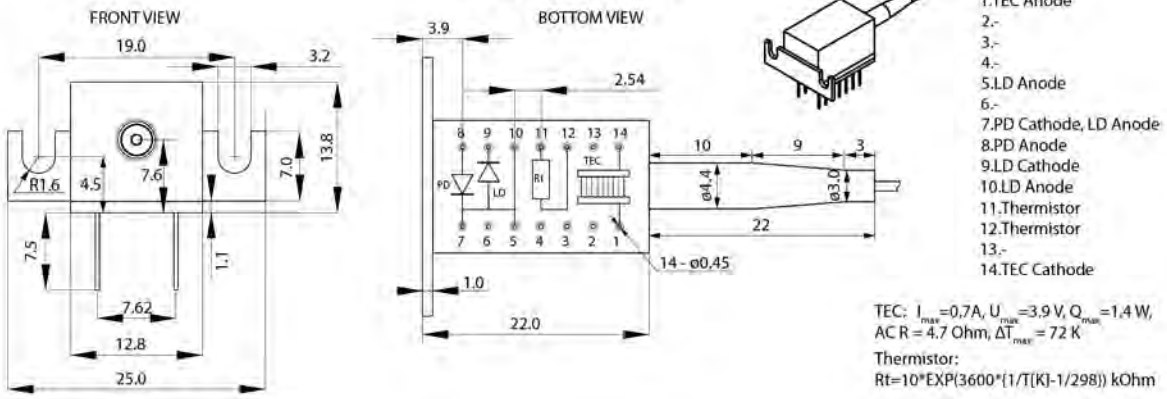


Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T



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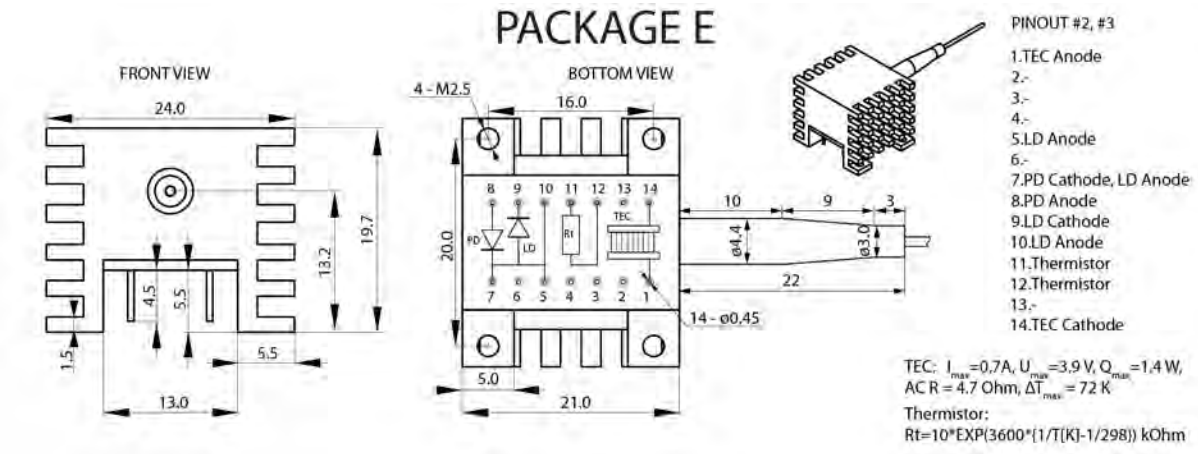
LDS-1550-DFB-2.5G-15/50



LDS-1550-DFB-2.5G-15/50

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LDI-1550-DFB-2.5G-20/70

OVERVIEW

LDI-1550-DFB-2.5G-20/70 is the MQW laser diode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Wavelength: 1550 nm
- Cavity type: DFB
- Linewidth: <500 kHz
- Data rate up to 2.5 Gbps
- Optical power: up to 20 mW in CW mode, up to 70 mW in pulse mode in SM fiber G.657.A1
- Package types: coaxial, coaxial with bracket, 14 pins DIL
- Built-in monitor photodiode

APPLICATIONS

- Optical fiber communication systems with data rate up to 2.5 Gbps
- Laser systems

ORDERING INFORMATION

LDI-1550-DFB-2.5G-20/70-X-2-X-X-X-X

Case type

U: compact coaxial (pulse mode only)
B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SMT: SM, Corning Titania-Clad, furcation tubing ∅0.9 mm, ultrasmall bending radius 2.5 mm
SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm or **BSM1** ∅0.25mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm or **BSM3** ∅0.25mm
MM5: MM, 50/125, OM2, furcation tubing ∅0.9 mm
MM6: MM, 62.5/125, OM1, furcation tubing ∅0.9 mm
Other type on request

Connector type

FA: FC/APC (SM1,SM3, SMT)
SA: SC/APC (SM1)
N: no connector
Other type: on request

FU: FC/UPC (SM1, SM3, SMT, MM5, MM6)
SU: SC/UPC (SM1)

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)
P: pulse mode (10 µs; duty cycle = 1%)
CWP: both CW and pulse modes

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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LDI-1550-DFB-2.5G-20/70

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current	I_{FL}	120	mA	CW
		450	mA	Pulse
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	20	V	
Photodiode forward current	I_{Fp}	2	mA	
Operating temperature	T_{OP}	-40 - +85	°C	Package U, B
Operating temperature	T_{OP}	-40 - +50	°C	Package T, E
Storage temperature	T_{stg}	-40 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 10 seconds

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Wavelength	λ	1545	1550	1555	nm	CW, P = 20 mW
Spectral width	$\Delta\lambda$		0.08		nm	CW, P = 20 mW, -20 dB, OSA
Spectral width	$\Delta\lambda$			500	kHz	CW, P = 20 mW, delayed self-heterodyne method
Wavelength-temperature coeff.	$d\lambda/dT$		0.12		nm/°C	
Side-mode suppression ratio	SMSR	40	55		dB	CW, P = 20 mW
Threshold current	I_{th}		8	12	mA	CW
Operating current	I_{op}		100	120	mA	CW, P = 20 mW, SM1
Slope efficiency	S_e	0.18	0.22		W/A	CW, SM1
Operating voltage	V_{op}		1.4	1.8	V	CW, P = 20 mW
Tracking error	E_r		0.4	0.6	dB	CW, P = 3 mW; T = -40 ÷ +80 °C
Pulse optical power	P_p	65	70		mW	Pulse, Iop = 450 mA
Rise and fall times	t_r, t_f		80	120	ps	20%-80%, package U, B
Resonance frequency	f_r		6.0		GHz	
Monitoring output current (PD)	I_m	1.0	1.5	4.0	mA	CW, P = 20 mW, V_{rd} = 5V
Capacitance (PD)	C_t		10	20	pF	V_{rd} = 5V, f = 1 MHz
Dark current (PD)	I_d			100	nA	V_{rd} = 5V

Pulse mode: pulse duration 10 μs; duty cycle = 1%

Tracking error E_r = max |10 lg [P(T)/P(25°C)]|, I_m= const, T = T_{min} ÷ T_{max}

LASERSCOM
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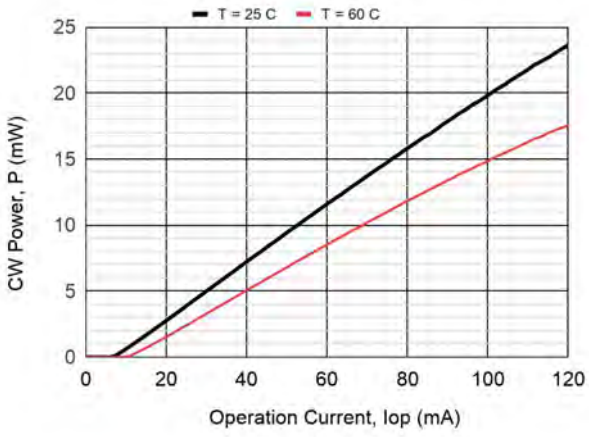
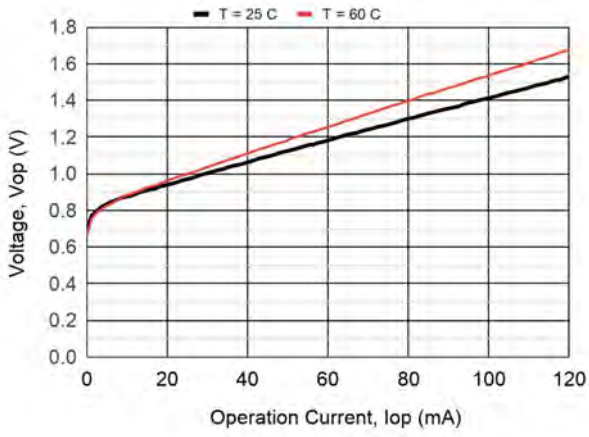
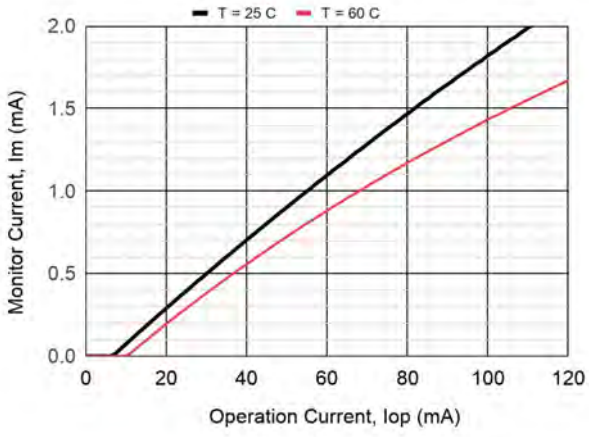
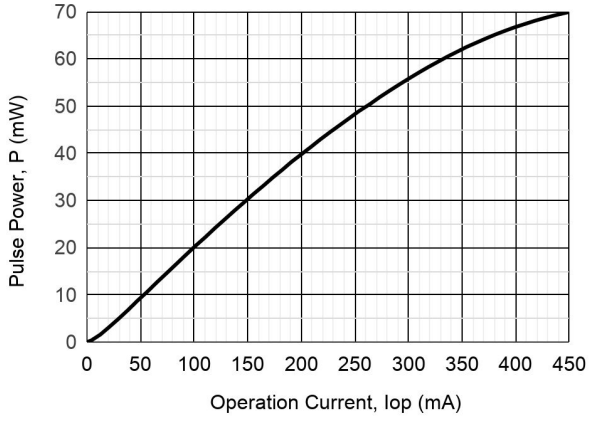
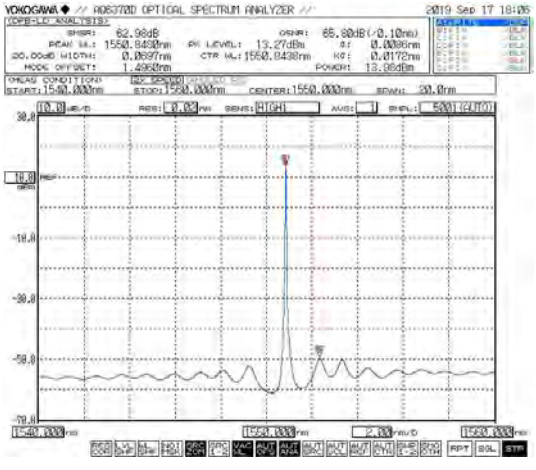
LDI-1550-DFB-2.5G-20/70

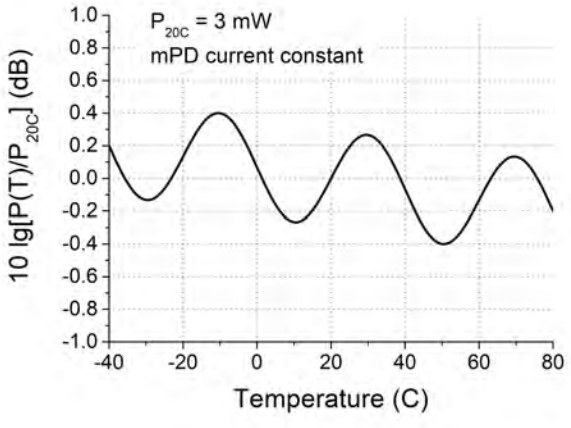












LASERSCOM
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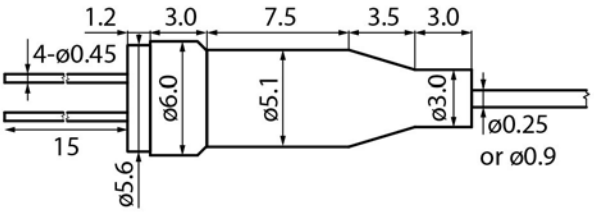
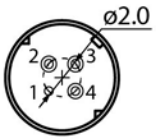
LDI-1550-DFB-2.5G-20/70

PACKAGE U

SIDE VIEW



BACK VIEW



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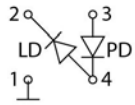
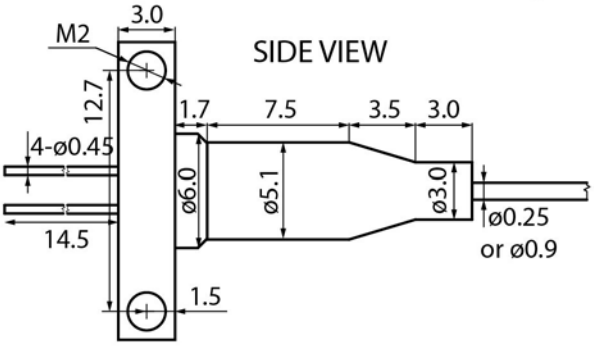


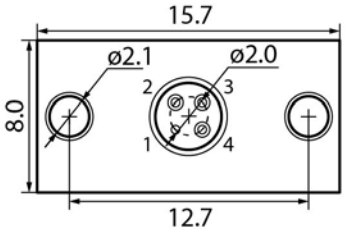
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

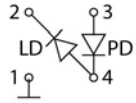
PACKAGE B



BACK VIEW



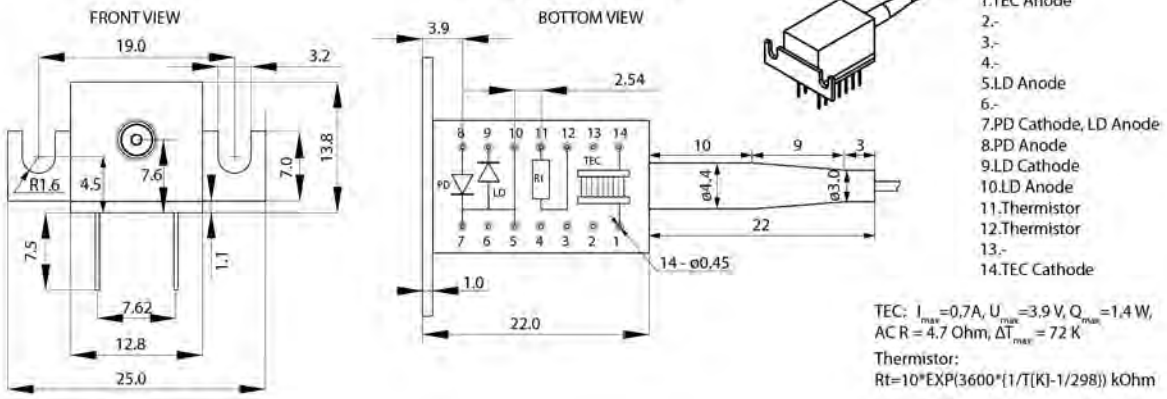
PINOUT #2



Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T



PINOUT #2, #3

1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.PD Cathode, LD Anode
8.PD Anode
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

TEC: I_{max}=0,7A, U_{max}=3.9 V, Q_{max}=1,4 W,
AC R = 4.7 Ohm, ΔT_{max} = 72 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

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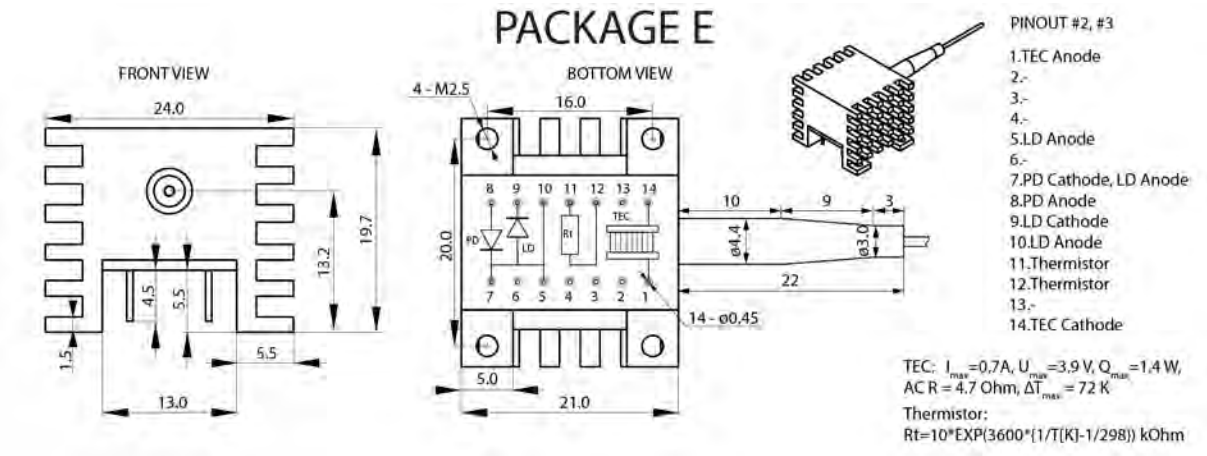
LDI-1550-DFB-2.5G-20/70



LASERSCOM
Coupling Light to Your Success

LDI-1550-DFB-2.5G-20/70

Characteristics, data, materials and structures specified in this datasheet are subject to change without notice. Please refer to the latest specification before use of the products.

Safety and handling cautions

1. Avoid smashing and burning of the module. Avoid storing and using the module in conditions where water, organic solvents or aggressive acids or bases may contact the module or where there is a possibility of exposure to corrosive gases, explosive gases, dust, salinity or other harsh conditions. The module should be disposed as special industrial waste.
2. Exceeding absolute maximum ratings even for a short time can cause permanent damage of the module.
3. The module is sensitive to and can be broken by ESD (static electricity).

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LASERSCOM
Coupling Light to Your Success

LDS-1550-FP-1.25G-10/40

OVERVIEW

LDS-1550-FP-1.25G-10/40 is the MQW laser diode coupled to an optical fiber and packaged into a hermetic case. The special feature of the LDS technology is the increased thermal stability of optical power

MAIN FEATURES

- Wavelength: 1550 nm in CW mode, 1570 in pulse mode
- Cavity type: Fabry-Perot
- Optical power: up to 10 mW in CW mode, up to 40 in pulse mode in SM fiber G.657.A1
- Package types: coaxial, coaxial with bracket, 14 pins DIL
- Built-in monitor photodiode

APPLICATIONS

- Laser systems

ORDERING INFORMATION

LDS-1550-FP-1.25G-10/40-X-2-X-X-X-X

Case type

U: compact coaxial (pulse mode only)
B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm
SMP13: PM, Fujikura SM13, PANDA type, furcation tubing ∅0.9 mm
Other type on request

Connector type

FA: FC/APC (SM1,SM3, SMT, SMP13)
SA: SC/APC (SM1)
N: no connector
Other type: on request

FU: FC/UPC (SM1, SM3, SMT)
SU: SC/UPC (SM1)

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)
P: pulse mode (10 µs; duty cycle = 1%)
CWP: both CW and pulse modes

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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LDS-1550-FP-1.25G-10/40

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current	I_{FL}	130	mA	CW
		450	mA	Pulse
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	20	V	
Photodiode forward current	I_{Fp}	2	mA	
Operating temperature	T_{OP}	-40 - +85	°C	Package U, B
Operating temperature	T_{OP}	-40 - +50	°C	Package T, E
Storage temperature	T_{stg}	-50 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 10 seconds

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

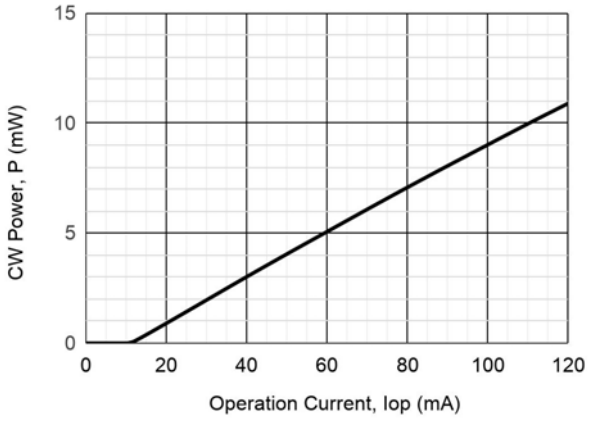
Parameter		MIN	TYP	MAX	Unit	Conditions
Wavelength	λ	1520	1550	1580	nm	CW, P = 10 mW
			1570		nm	Pulse, P = 40 mW
Spectral width	$\Delta\lambda$		10	12	nm	CW, P = 10 mW, FWHM
Spectral width	$\Delta\lambda$		15	20	nm	Pulse, P = 40 mW, FWHM
Wavelength-temperature coeff.	$d\lambda/dT$		0.7		nm/°C	
Threshold current	I_{th}		10	20	mA	CW
Operating current	I_{op}		110	130	mA	CW, P = 10 mW, SM1
Slope efficiency	S_e	0.09	0.10		W/A	CW, SM1
Operating voltage	V_{op}		1.5	1.8	V	CW, P = 10 mW
Tracking error	E_r		0.15	0.30	dB	CW, P = 3 mW; T = -40 ÷ +80 °C
Pulse optical power	P_p	35	40		mW	Pulse, Iop = 450 mA
Rise and fall times	t_r, t_f		300	700	ps	10%-90%, package U, B
Monitoring output current (PD)	I_m	0.2	3.4	5.0	mA	CW, P = 15 mW, V_{rd} = 5V
Capacitance (PD)	C_t		10	20	pF	V_{rd} = 5V, f = 1 MHz
Dark current (PD)	I_d			100	nA	V_{rd} = 5V
Polarization extinction ratio	PER	20			dB	SMP13

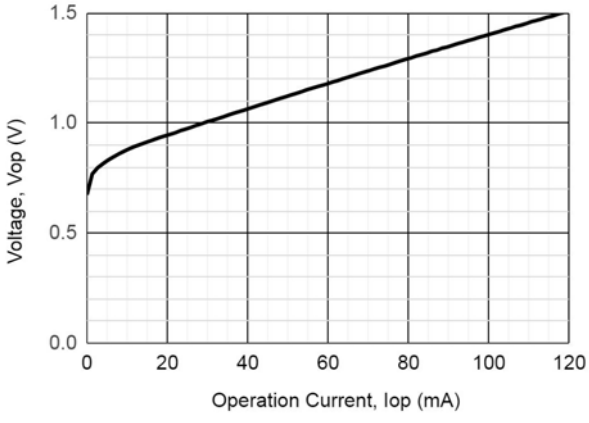
Pulse mode: pulse duration 10 μs; duty cycle = 1%

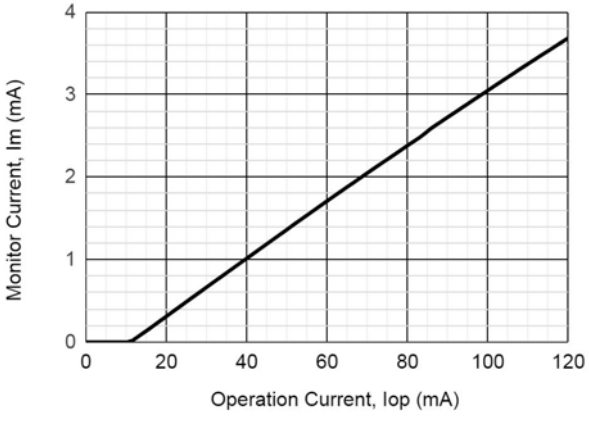
Tracking error E_r = max |10 lg [P(T)/P(25°C)]|, I_m = const, T = T_{min} ÷ T_{max}

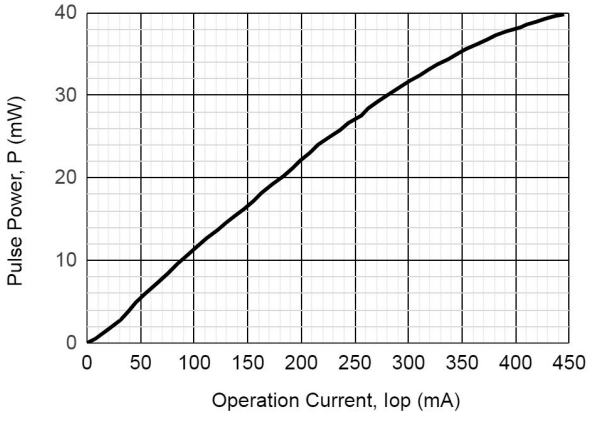
LASERSCOM
Coupling Light to Your Success

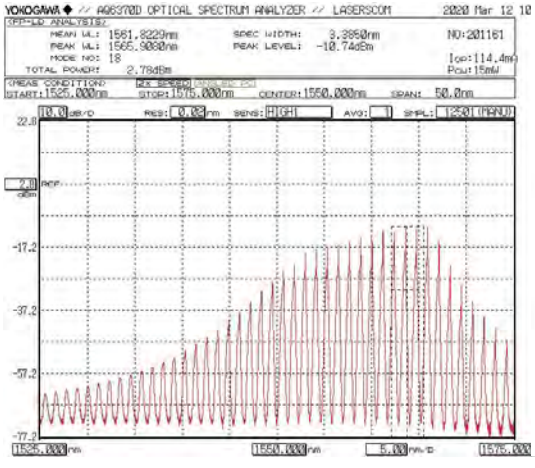
LDS-1550-FP-1.25G-10/40

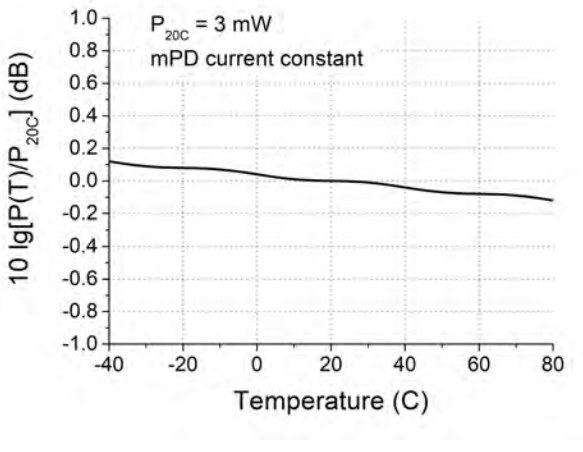












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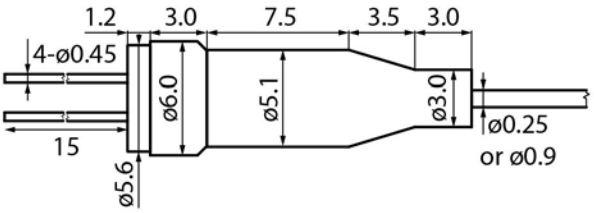
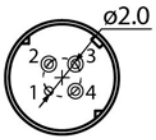
LDS-1550-FP-1.25G-10/40

PACKAGE U

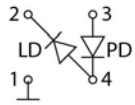
SIDE VIEW



BACK VIEW



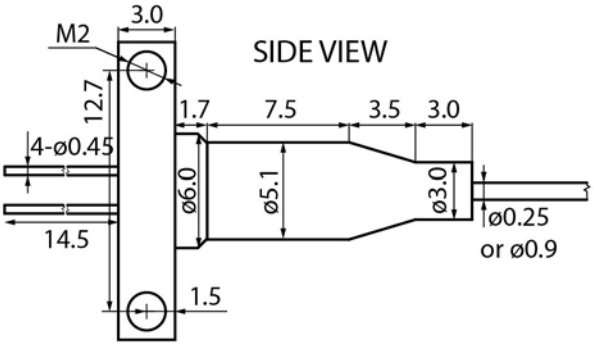
PINOUT #2



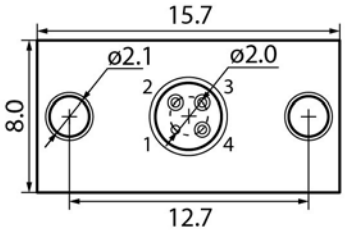
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

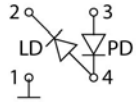
PACKAGE B



BACK VIEW



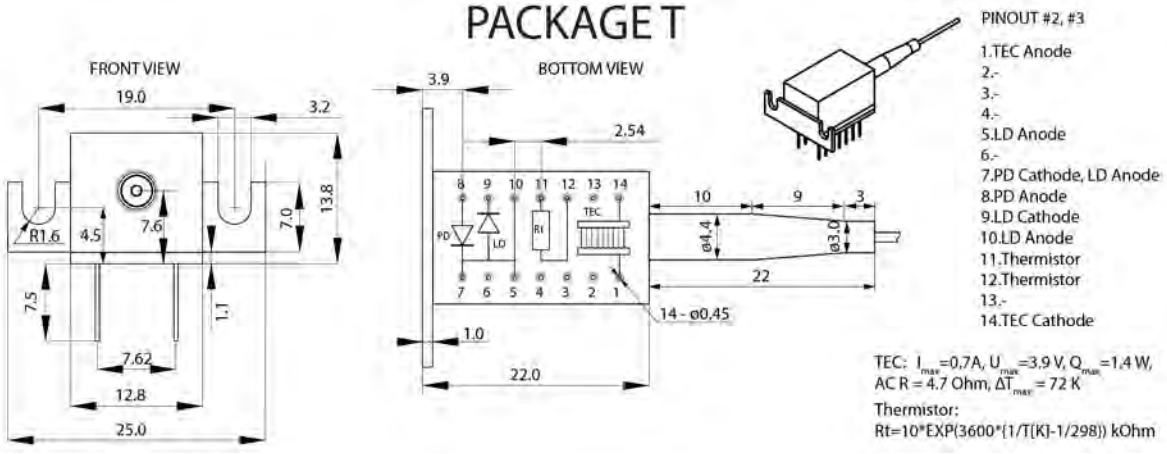
PINOUT #2



Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T



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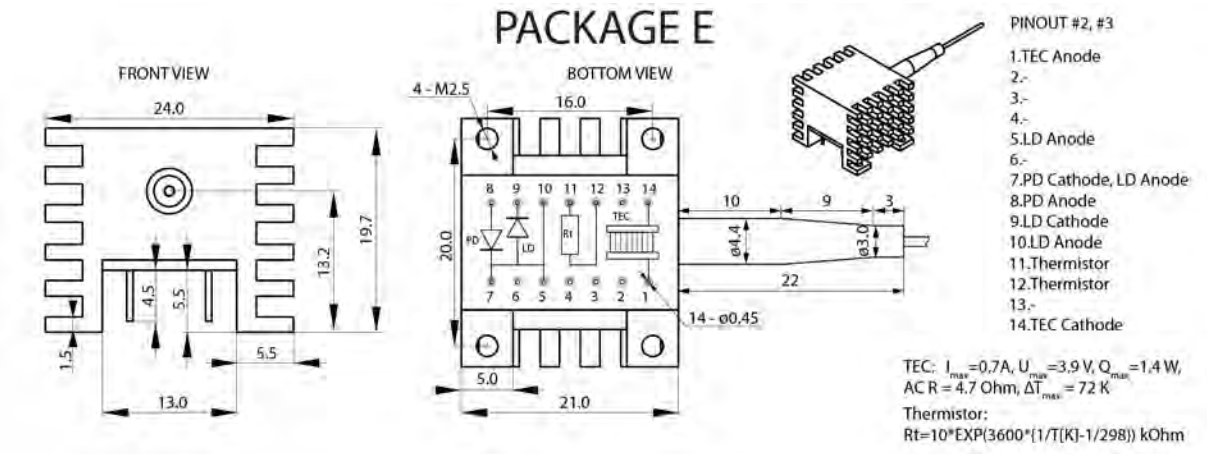
LDS-1550-FP-1.25G-10/40



LDS-1550-FP-1.25G-10/40

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Safety and handling cautions

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3. The module is sensitive to and can be broken by ESD (static electricity).

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LDI-1550-FP-1.25G-15/50

OVERVIEW

LDI-1550-FP-1.25G-15/50 is the MQW laser diode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Wavelength: 1550 nm in CW mode, 1570 in pulse mode
- Cavity type: Fabry-Perot
- Optical power: up to 15 mW in CW mode, up to 50 in pulse mode in SM fiber G.657.A1
- Package types: coaxial, coaxial with bracket, 14 pin DIL
- Built-in monitor photodiode

APPLICATIONS

- Laser systems

ORDERING INFORMATION

LDI-1550-FP-1.25G-15/50-X-2-X-X-X-X

Case type

U: compact coaxial (pulse mode only)
B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stability
E: 14 pins DIL with thermal stability
Other type on request

Fiber type

SMT: SM, Corning Titania-Clad, furcation tubing ∅0.9 mm, ultrasmall bending radius 2.5 mm
SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm
MM5: MM, 50/125, OM2, furcation tubing ∅0.9 mm
MM6: MM, 62.5/125, OM1, furcation tubing ∅0.9 mm
Other type on request

Connector type

FA: FC/APC (SM1,SM3, SMT)
SA: SC/APC (SM1)
N: no connector
Other type: on request
FU: FC/UPC (SM1, SM3, SMT, MM5, MM6)
SU: SC/UPC (SM1)

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)
P: pulse mode (10 µs; duty cycle = 1%)
CWP: both CW and pulse modes

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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LASERSCOM
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LDI-1550-FP-1.25G-15/50

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current	I_{FL}	130	mA	CW
		450	mA	Pulse
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	20	V	
Photodiode forward current	I_{Fp}	2	mA	
Operating temperature	T_{OP}	-40 - +85	°C	Package U, B
Operating temperature	T_{OP}	-40 - +50	°C	Package T, E
Storage temperature	T_{stg}	-40 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 10 seconds

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

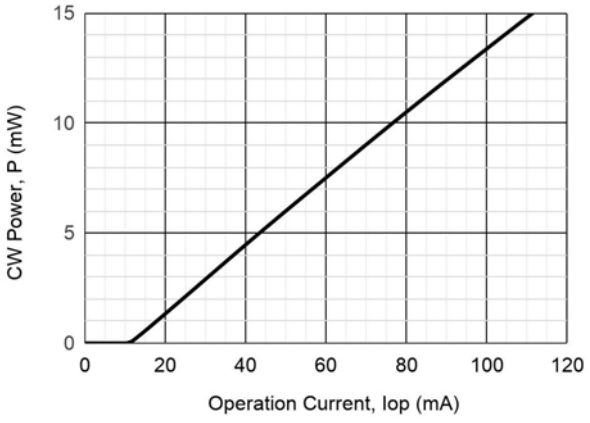
Parameter		MIN	TYP	MAX	Unit	Conditions
Wavelength	λ	1520	1550	1580	nm	CW, P = 15 mW
			1570		nm	Pulse, P = 50 mW
Spectral width	$\Delta\lambda$		10	12	nm	CW, P = 15 mW, FWHM
Spectral width	$\Delta\lambda$		15	20	nm	Pulse, P = 50 mW, FWHM
Wavelength-temperature coeff.	$d\lambda/dT$		0.7		nm/°C	
Threshold current	I_{th}		10	20	mA	CW
Operating current	I_{op}		110	130	mA	CW, P = 15 mW, SM1
Slope efficiency	S_e	0.12	0.15		W/A	CW, SM1
Operating voltage	V_{op}		1.45	1.80	V	CW, P = 15 mW
Tracking error	E_r		0.4	0.6	dB	CW, P = 3 mW; T = -40 ÷ +80 °C
Pulse optical power	P_p	45	50		mW	Pulse, Iop = 450 mA
Rise and fall times	t_r, t_f		300	700	ps	10%-90%, package U, B
Monitoring output current (PD)	I_m	0.2	3.4	5.0	mA	CW, P = 15 mW, V_{rd} = 5V
Capacitance (PD)	C_t		10	20	pF	V_{rd} = 5V, f = 1 MHz
Dark current (PD)	I_d			100	nA	V_{rd} = 5V

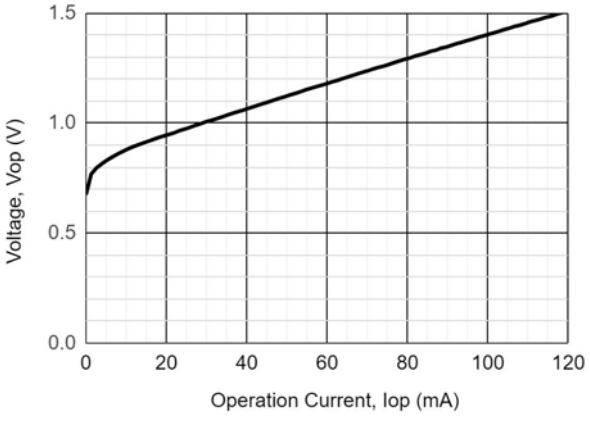
Pulse mode: pulse duration 10 μs; duty cycle = 1%

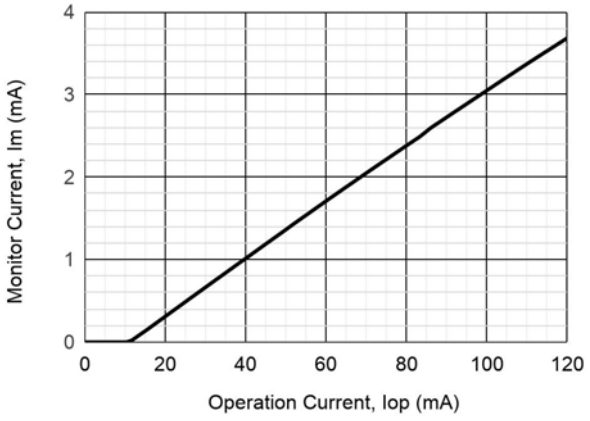
Tracking error E_r = max |10 lg [P(T)/P(25°C)]|, I_m= const, T = T_{min} ÷ T_{max}

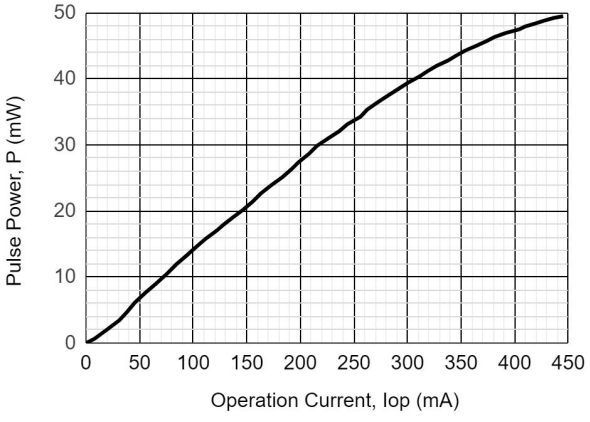
LASERSCOM
Coupling Light to Your Success

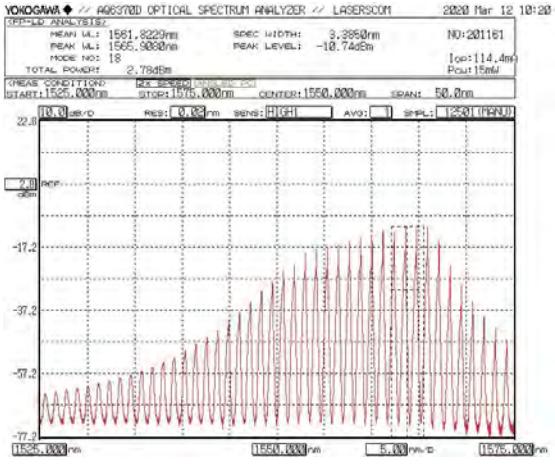
LDI-1550-FP-1.25G-15/50











LASERSCOM
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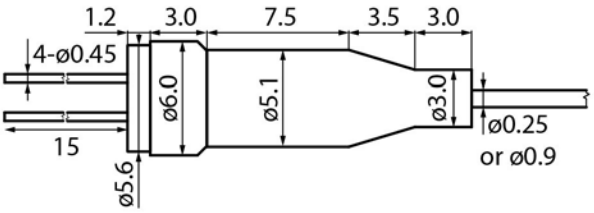
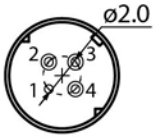
LDI-1550-FP-1.25G-15/50

PACKAGE U

SIDE VIEW



BACK VIEW



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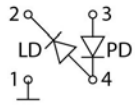
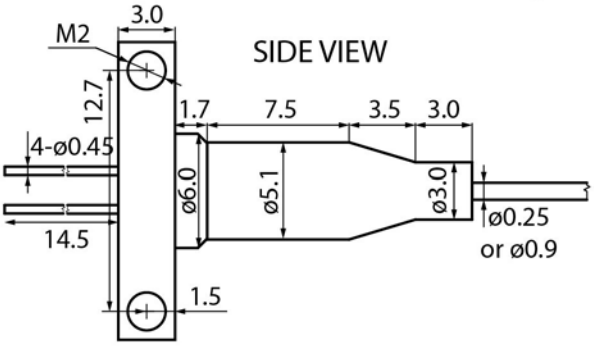


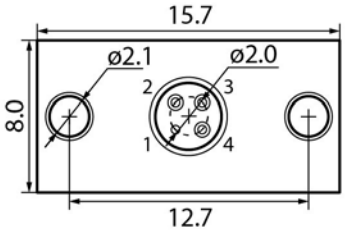
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE B



BACK VIEW



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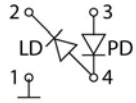
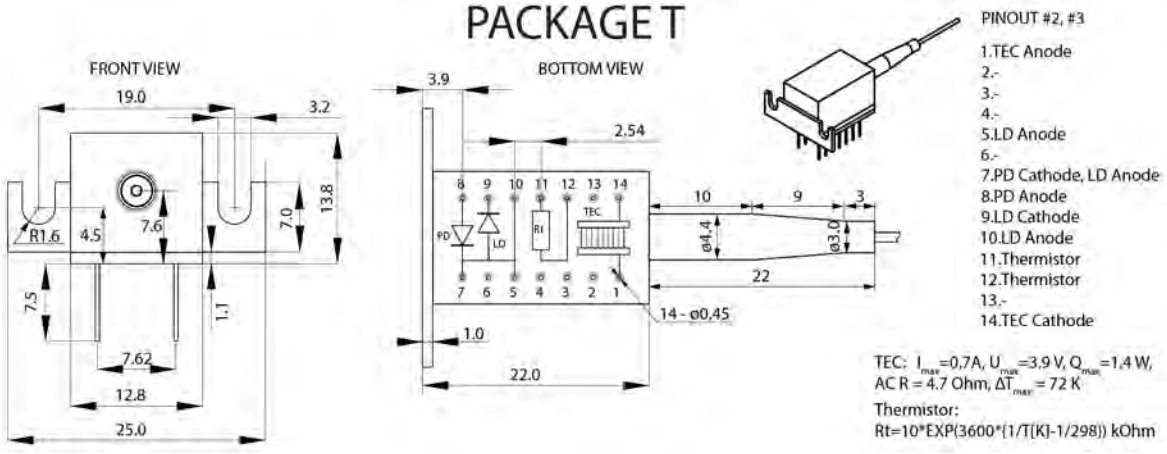


Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T



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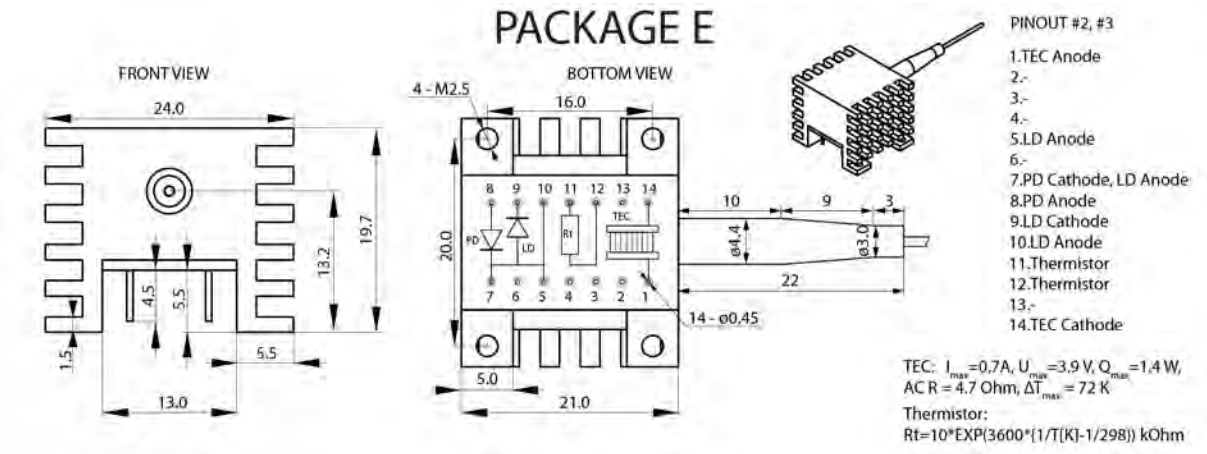
LDI-1550-FP-1.25G-15/50



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Coupling Light to Your Success

LDI-1550-FP-1.25G-15/50

Characteristics, data, materials and structures specified in this datasheet are subject to change without notice. Please refer to the latest specification before use of the products.

Safety and handling cautions

1. Avoid smashing and burning of the module. Avoid storing and using the module in conditions where water, organic solvents or aggressive acids or bases may contact the module or where there is a possibility of exposure to corrosive gases, explosive gases, dust, salinity or other harsh conditions. The module should be disposed as special industrial waste.
2. Exceeding absolute maximum ratings even for a short time can cause permanent damage of the module.
3. The module is sensitive to and can be broken by ESD (static electricity).

Conflict Minerals Policy Statement

LasersCom LLC achieves business objectives and customer needs with social responsibility. We do not support or contribute to the violence and human rights violations associated with the mining of conflict minerals coming from Conflict Regions according to US "Dodd-Frank Act". When possible, our suppliers' conflict mineral statements are reviewed. We do not directly purchase Conflict Minerals from any source and do not knowingly procure any parts and products containing Conflict Minerals from Conflict Regions.

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Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) is a European Union regulation 1907/2006/EC that addresses the production and use of chemical substances, and their potential impacts on human health and the environment. Based on information received from our supply sources, LasersCom LLC hereby states compliance of the parts and materials used in manufacturing to REACH regulation. LasersCom LLC does not manufacture or import any substances or preparations as defined under REACH.

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LDS-1570-DFB-2.5G-15/45

OVERVIEW

LDS-1570-DFB-2.5G-15/45 is the MQW laser diode coupled to an optical fiber and packaged into a hermetic case. The special feature of the LDS technology is the increased thermal stability of optical power

MAIN FEATURES

- Wavelength: 1570 nm
- Cavity type: DFB
- Linewidth: <500 kHz
- Data rate up to 2.5 Gbps
- Optical power: up to 15 mW in CW mode, up to 45 mW in pulse mode in SM fiber G.657.A1
- Package types: coaxial, coaxial with bracket, 14 pins DIL
- Built-in monitor photodiode

APPLICATIONS

- Optical fiber communication systems with data rate up to 2.5 Gbps

ORDERING INFORMATION

LDS-1570-DFB-2.5G-15/45-X-2-X-X-X-X

Case type

U: compact coaxial (pulse mode only)
B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SMT: SM, Corning Titania-Clad, furcation tubing ∅0.9 mm, ultrasmall bending radius 2.5 mm
SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm or **BSM1** ∅0.25mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm or **BSM3** ∅0.25mm
SMP13: PM, Fujikura SM13, PANDA type, furcation tubing ∅0.9 mm
Other type on request

Connector type

FA: FC/APC (SM1,SM3, SMT, SMP13)
SA: SC/APC (SM1)
N: no connector
FU: FC/UPC (SM1, SM3, SMT)
SU: SC/UPC (SM1)
Other type: on request

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)
P: pulse mode (10 μs; duty cycle = 1%)
CWP: both CW and pulse modes

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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LDS-1570-DFB-2.5G-15/45

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current	I_{FL}	120	mA	CW
		450	mA	Pulse
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	20	V	
Photodiode forward current	I_{Fp}	2	mA	
Operating temperature	T_{OP}	-40 - +85	°C	Package U, B
Operating temperature	T_{OP}	-40 - +50	°C	Package T, E
Storage temperature	T_{stg}	-50 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 10 seconds

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Wavelength	λ	1567	1570	1573	nm	CW, P = 15 mW
Spectral width	$\Delta\lambda$		0.09		nm	CW, P = 15 mW, -20 dB, OSA
Spectral width	Δf			500	kHz	CW, P = 15 mW, delayed self-heterodyne method
Wavelength-temperature coeff.	dλ/dT		0.13		nm/°C	
Side-mode suppression ratio	SMSR	40	55		dB	CW, P = 15 mW
Threshold current	I_{th}		8	12	mA	CW
Operating current	I_{op}		100	120	mA	CW, P = 15 mW, SM1
Slope efficiency	S_e	0.13	0.16		W/A	CW, SM1
Operating voltage	V_{op}		1.4	1.8	V	CW, P = 15 mW
Tracking error	E_r		0.15	0.30	dB	CW, P = 3 mW; T = -40 ÷ +80 °C
Pulse optical power	P_p	40	45		mW	Pulse, Iop = 450 mA
Rise and fall times	t_r, t_f		80	120	ps	20%-80%, package U, B
Resonance frequency	f_r		6.0		GHz	2.5Gbps, Imod = 40mA, Ibias = Ith+2 mA
Monitoring output current (PD)	I_m	1.0	1.7	4.0	mA	CW, P = 15 mW, V_{rd} = 5V
Capacitance (PD)	C_t		10	20	pF	V_{rd} = 5V, f = 1 MHz
Dark current (PD)	I_d			100	nA	V_{rd} = 5V
Polarization extinction ratio	PER	20			dB	CW, SMP13

Pulse mode: pulse duration 10 μs; duty cycle = 1%

Tracking error E_r = max |10 lg [P(T)/P(25°C)]|, I_m = const, T = T_{min} ÷ T_{max}

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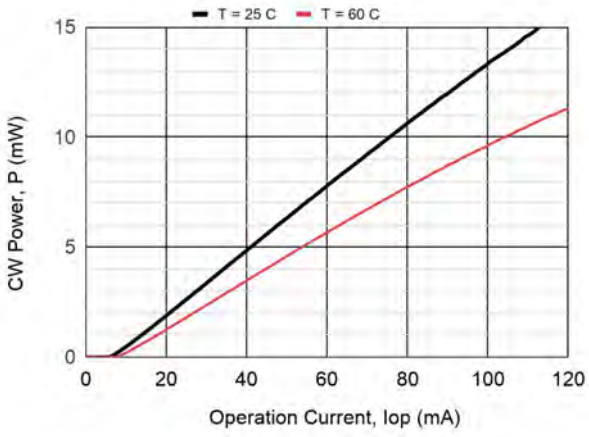
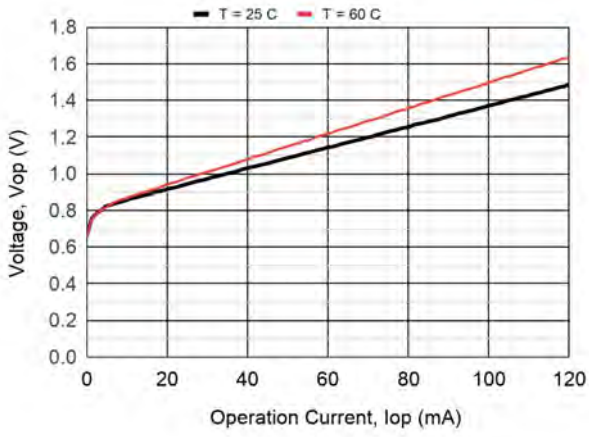
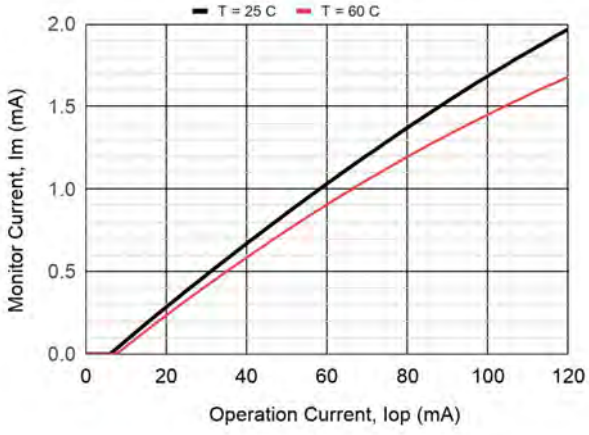
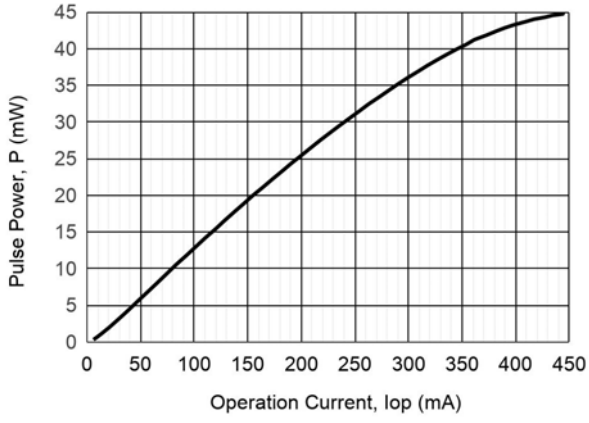
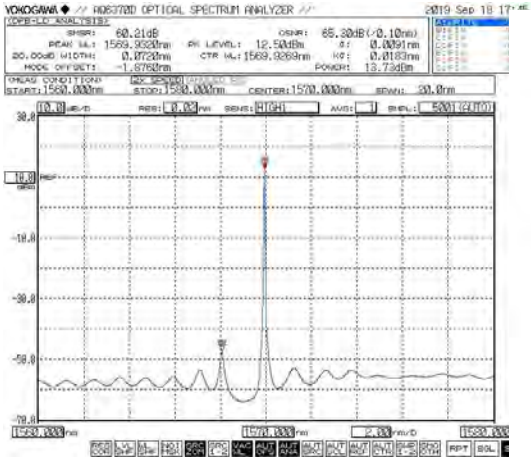
LDS-1570-DFB-2.5G-15/45

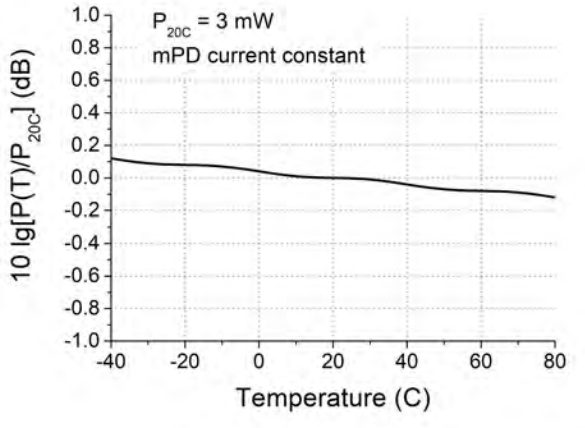












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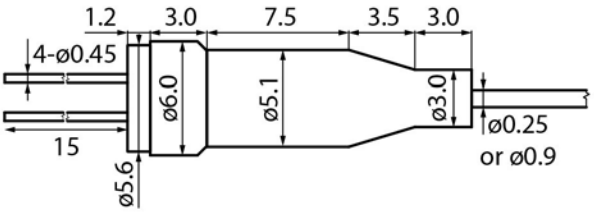
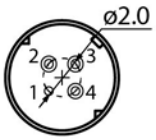
LDS-1570-DFB-2.5G-15/45

PACKAGE U

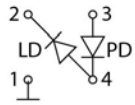
SIDE VIEW



BACK VIEW



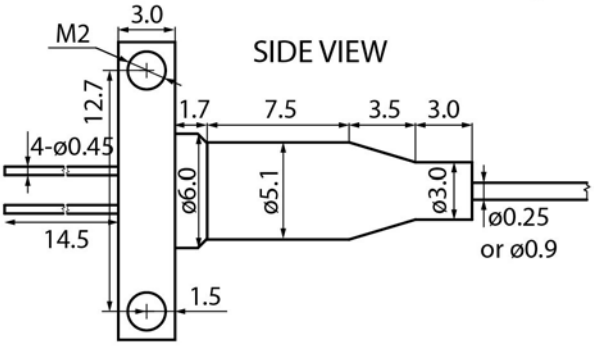
PINOUT #2



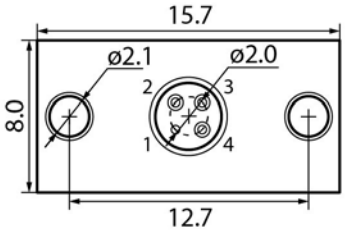
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE B



BACK VIEW



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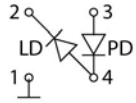
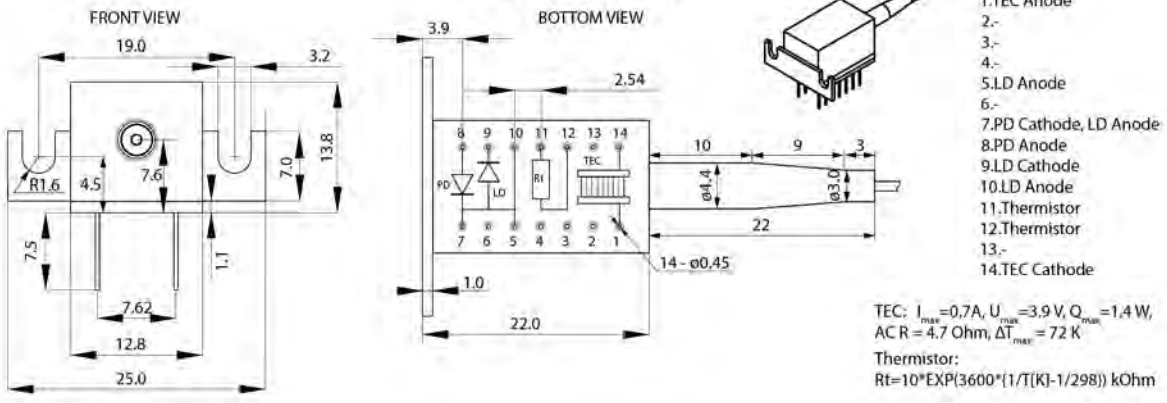


Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T



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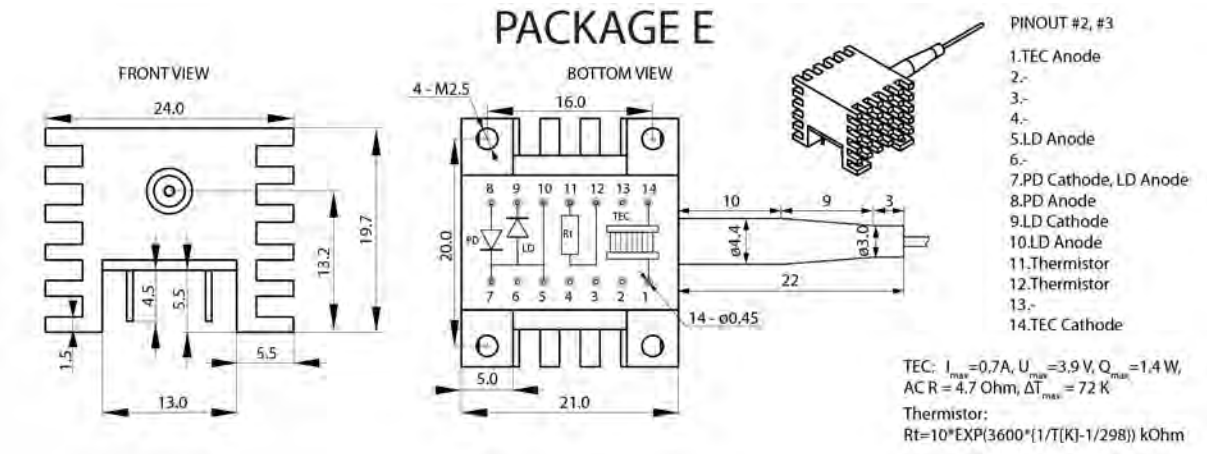
LDS-1570-DFB-2.5G-15/45



LDS-1570-DFB-2.5G-15/45

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Safety and handling cautions

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3. The module is sensitive to and can be broken by ESD (static electricity).

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LDI-1570-DFB-2.5G-20/60

OVERVIEW

LDI-1570-DFB-2.5G-20/60 is the MQW laser diode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Wavelength: 1570 nm
- Cavity type: DFB
- Linewidth: <500 kHz
- Data rate up to 2.5 Gbps
- Optical power: up to 20 mW in CW mode, up to 60 mW in pulse mode in SM fiber G.657.A1
- Package types: coaxial, coaxial with bracket, 14 pin DIL
- Built-in monitor photodiode

APPLICATIONS

- Optical fiber communication systems with data rate up to 2.5 Gbps

ORDERING INFORMATION

LDI-1570-DFB-2.5G-20/60-X-2-X-X-X-X

Case type

U: compact coaxial (pulse mode only)
B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SMT: SM, Corning Titania-Clad, furcation tubing ∅0.9 mm, ultrasmall bending radius 2.5 mm
SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm or **BSM1** ∅0.25mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm or **BSM3** ∅0.25mm
MM5: MM, 50/125, OM2, furcation tubing ∅0.9 mm
MM6: MM, 62.5/125, OM1, furcation tubing ∅0.9 mm
Other type on request

Connector type

FA: FC/APC (SM1,SM3, SMT)
SA: SC/APC (SM1)
N: no connector
Other type: on request
FU: FC/UPC (SM1, SM3, SMT, MM5, MM6)
SU: SC/UPC (SM1)

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)
P: pulse mode (10 µs; duty cycle = 1%)
CWP: both CW and pulse modes

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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LDI-1570-DFB-2.5G-20/60

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current	I_{FL}	120	mA	CW
		450	mA	Pulse
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	20	V	
Photodiode forward current	I_{Fp}	2	mA	
Operating temperature	T_{OP}	-40 - +85	°C	Package U, B
Operating temperature	T_{OP}	-40 - +50	°C	Package T, E
Storage temperature	T_{stg}	-40 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 10 seconds

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Wavelength	λ	1567	1570	1573	nm	CW, P = 20 mW
Spectral width	$\Delta\lambda$		0.09		nm	CW, P = 20 mW, -20 dB, OSA
Spectral width	Δf			500	kHz	CW, P = 20 mW, delayed self-heterodyne method
Wavelength-temperature coeff.	dλ/dT		0.13		nm/°C	
Side-mode suppression ratio	SMSR	40	55		dB	CW, P = 20 mW
Threshold current	I_{th}		8	12	mA	CW
Operating current	I_{op}		100	120	mA	CW, P = 20 mW, SM1
Slope efficiency	S_e	0.18	0.20		W/A	CW, SM1
Operating voltage	V_{op}		1.4	1.8	V	CW, P = 20 mW
Tracking error	E_r		0.4	0.6	dB	CW, P = 3 mW; T = -40 ÷ +80 °C
Pulse optical power	P_p	55	60		mW	Pulse, Iop = 450 mA
Rise and fall times	t_r, t_f		80	120	ps	20%-80%, package U, B
Resonance frequency	f_r		6.0		GHz	2.5Gbps, Imod = 40mA, Ibias = Ith+2 mA
Monitoring output current (PD)	I_m	1.0	1.7	4	mA	CW, P = 20 mW, V_{rd} = 5V
Capacitance (PD)	C_t		10	20	pF	V_{rd} = 5V, f = 1 MHz
Dark current (PD)	I_d			100	nA	V_{rd} = 5V

Pulse mode: pulse duration 10 μs; duty cycle = 1%

Tracking error E_r = max |10 lg [P(T)/P(25°C)]]|, I_m= const, T = T_{min} ÷ T_{max}

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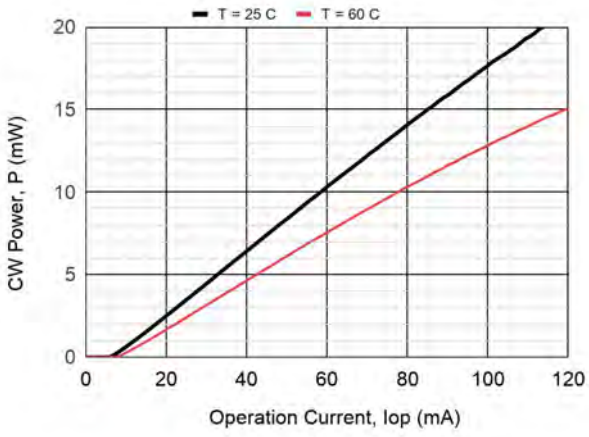
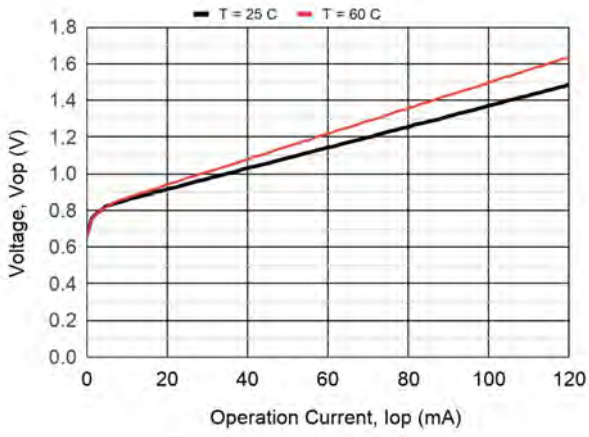
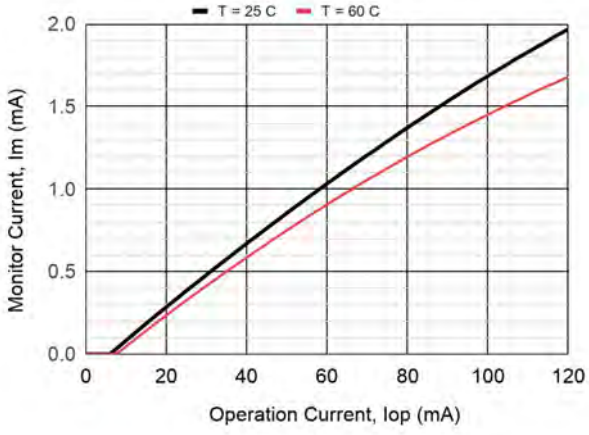
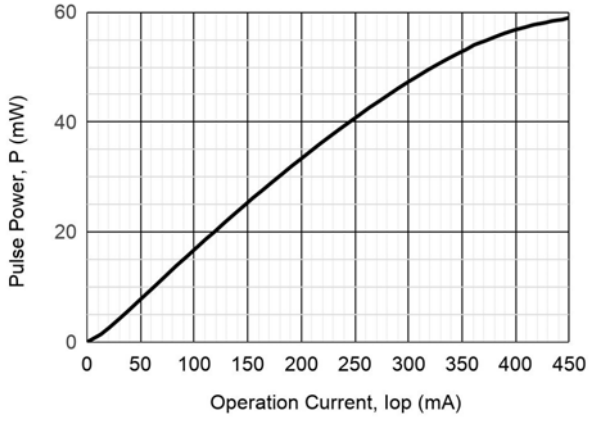
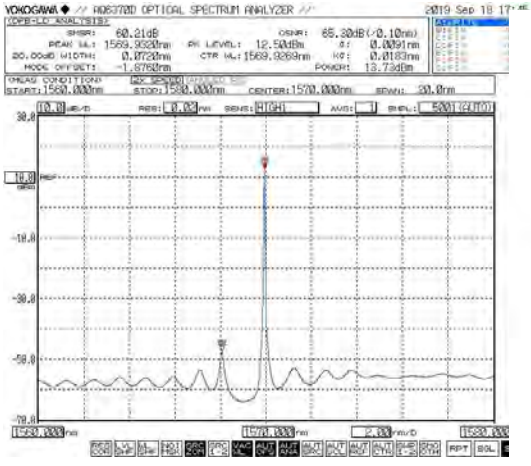
LDI-1570-DFB-2.5G-20/60

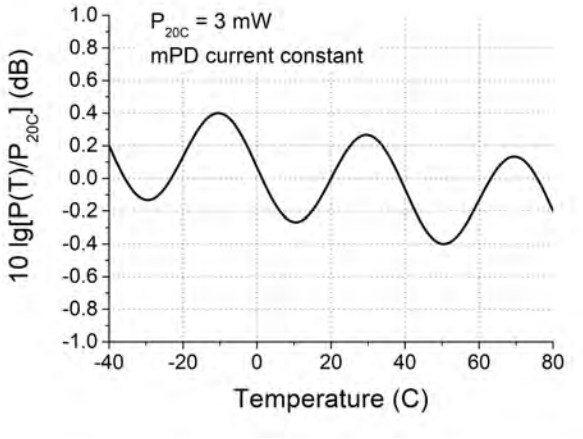












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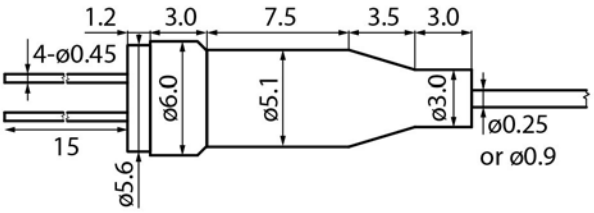
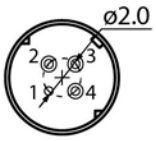
LDI-1570-DFB-2.5G-20/60

PACKAGE U

SIDE VIEW



BACK VIEW



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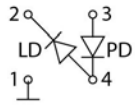
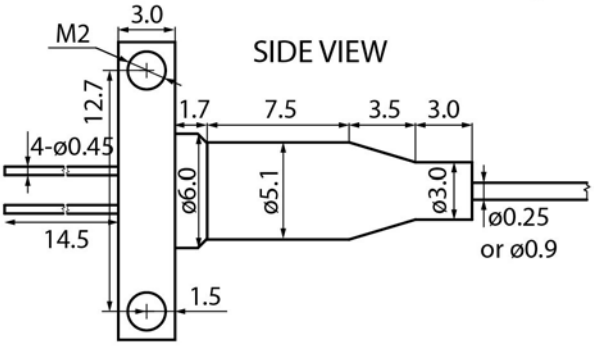


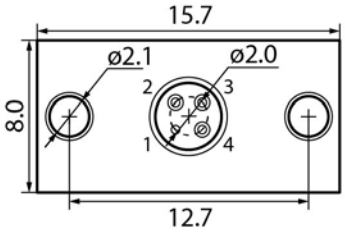
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

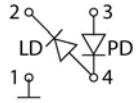
PACKAGE B



BACK VIEW



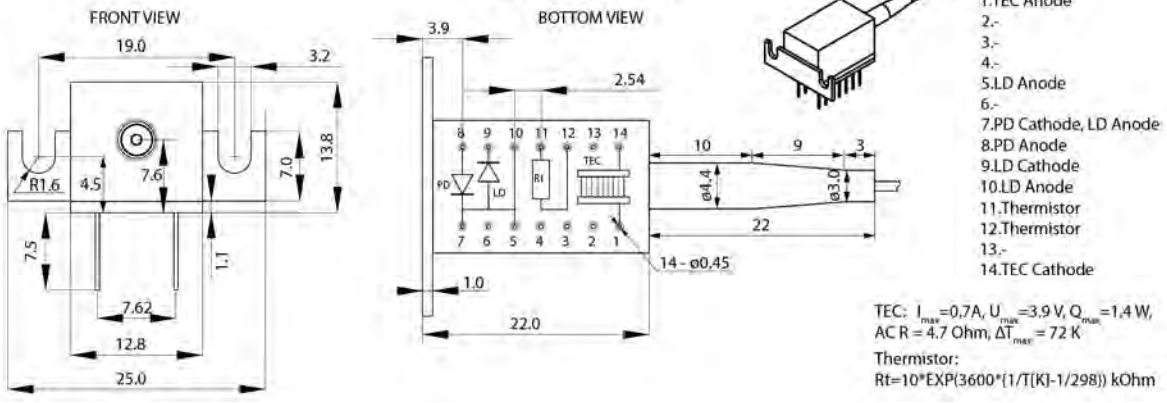
PINOUT #2



Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T



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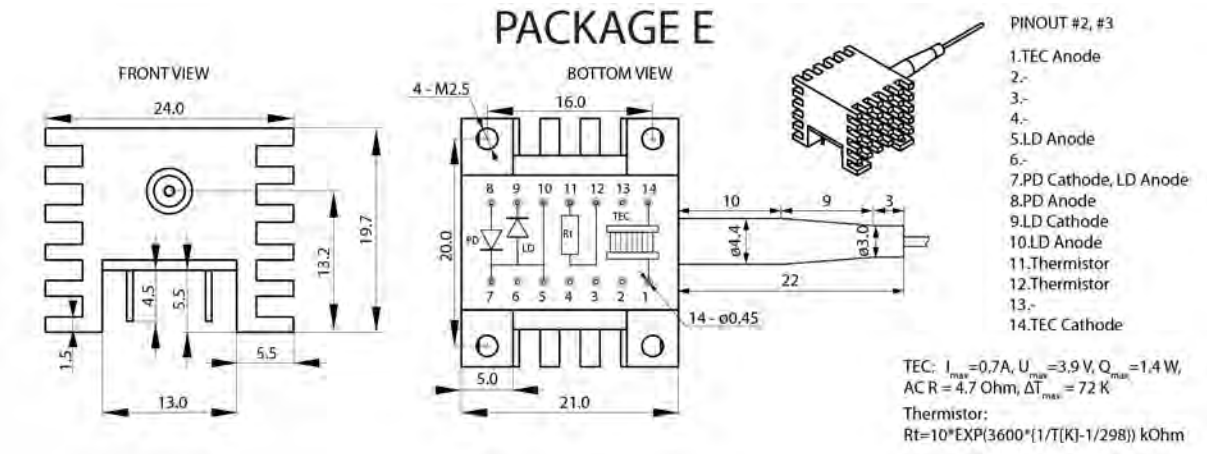
LDI-1570-DFB-2.5G-20/60



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Coupling Light to Your Success

LDI-1570-DFB-2.5G-20/60

Characteristics, data, materials and structures specified in this datasheet are subject to change without notice. Please refer to the latest specification before use of the products.

Safety and handling cautions

1. Avoid smashing and burning of the module. Avoid storing and using the module in conditions where water, organic solvents or aggressive acids or bases may contact the module or where there is a possibility of exposure to corrosive gases, explosive gases, dust, salinity or other harsh conditions. The module should be disposed as special industrial waste.
2. Exceeding absolute maximum ratings even for a short time can cause permanent damage of the module.
3. The module is sensitive to and can be broken by ESD (static electricity).

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REACH Compliance Statement

Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) is a European Union regulation 1907/2006/EC that addresses the production and use of chemical substances, and their potential impacts on human health and the environment. Based on information received from our supply sources, LasersCom LLC hereby states compliance of the parts and materials used in manufacturing to REACH regulation. LasersCom LLC does not manufacture or import any substances or preparations as defined under REACH.

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LDS-1590-DFB-2.5G-15/45

OVERVIEW

LDS-1590-DFB-2.5G-15/45 is the MQW laser diode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Wavelength: 1590 nm
- Cavity type: DFB
- Linewidth: <500 kHz
- Data rate up to 2.5 Gbps
- Optical power: up to 15 mW in CW mode, up to 45 mW in pulse mode in SM fiber G.657.A1
- Package types: coaxial, coaxial with bracket, 14 pins DIL
- Built-in monitor photodiode

APPLICATIONS

- Optical fiber communication systems with data rate up to 2.5 Gbps
- Laser systems

ORDERING INFORMATION

LDS-1590-DFB-2.5G-15/45-X-2-X-X-X-X

Case type

U: compact coaxial (pulse mode only)
B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SMT: SM, Corning Titania-Clad, furcation tubing ∅0.9 mm, ultrasmall bending radius 2.5 mm
SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm or **BSM1** ∅0.25mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm or **BSM3** ∅0.25mm
SMP13: PM, Fujikura SM13, PANDA type, furcation tubing ∅0.9 mm
Other type on request

Connector type

FA: FC/APC (SM1,SM3, SMT, SMP13)
SA: SC/APC (SM1)
N: no connector
FU: FC/UPC (SM1, SM3, SMT)
SU: SC/UPC (SM1)
Other type: on request

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)
P: pulse mode (10 µs; duty cycle = 1%)
CWP: both CW and pulse modes

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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LDS-1590-DFB-2.5G-15/45

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current	I_{FL}	120	mA	CW
		450	mA	Pulse
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	20	V	
Photodiode forward current	I_{Fp}	2	mA	
Operating temperature	T_{OP}	-40 - +85	°C	Package U, B
Operating temperature	T_{OP}	-40 - +50	°C	Package T, E
Storage temperature	T_{stg}	-50 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 10 seconds

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Wavelength	λ	1587	1590	1593	nm	CW, P = 15 mW
Spectral width	$\Delta\lambda$		0.09		nm	CW, P = 15 mW, -20 dB, OSA
Spectral width	Δf			500	kHz	CW, P = 15 mW, delayed self-heterodyne method
Wavelength-temperature coeff.	dλ/dT		0.14		nm/°C	
Side-mode suppression ratio	SMSR	40	55		dB	CW, P = 15 mW
Threshold current	I_{th}		8	12	mA	CW
Operating current	I_{op}		100	120	mA	CW, P = 15 mW, SM1
Slope efficiency	S_e	0.13	0.16		W/A	CW, SM1
Operating voltage	V_{op}		1.4	1.8	V	CW, P = 15 mW
Tracking error	E_r		0.15	0.30	dB	CW, P = 3 mW; T = -40 ÷ +80 °C
Pulse optical power	P_p	40	45		mW	Pulse, Iop = 450 mA
Rise and fall times	t_r, t_f		80	120	ps	20%-80%, package U, B
Resonance frequency	f_r		6.0		GHz	2.5Gbps, Imod = 40mA, Ibias = Ith+2 mA
Monitoring output current (PD)	I_m	1.0	1.8	5.0	mA	CW, P = 15 mW, V_{rd} = 5V
Capacitance (PD)	C_t		10	20	pF	V_{rd} = 5V, f = 1 MHz
Dark current (PD)	I_d			100	nA	V_{rd} = 5V
Polarization extinction ratio	PER	20			dB	CW, SMP13

Pulse mode: pulse duration 10 μs; duty cycle = 1%

Tracking error E_r = max |10 lg [P(T)/P(25°C)]]|, I_m= const, T = T_{min} ÷ T_{max}

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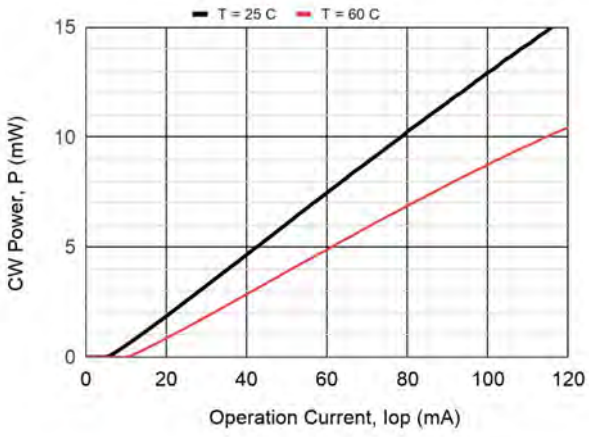
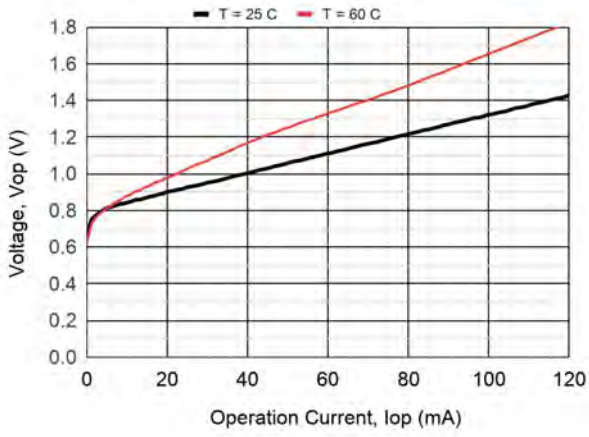
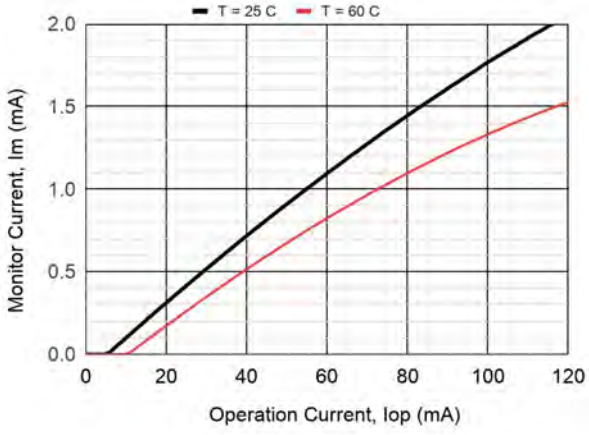
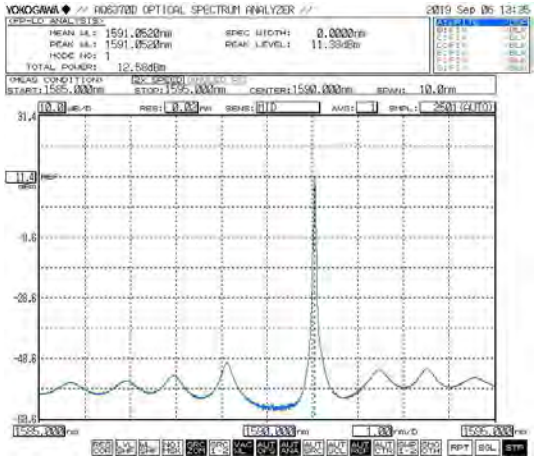
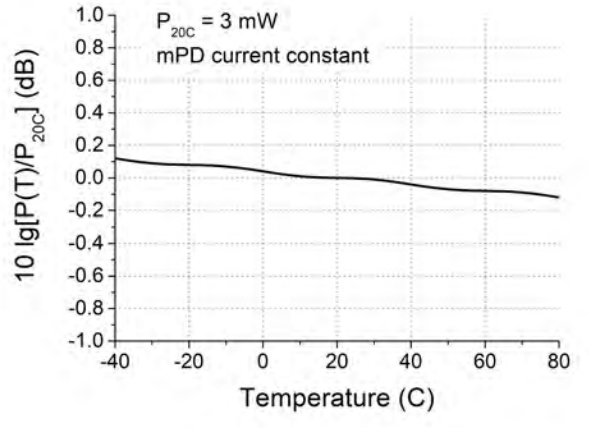
LDS-1590-DFB-2.5G-15/45











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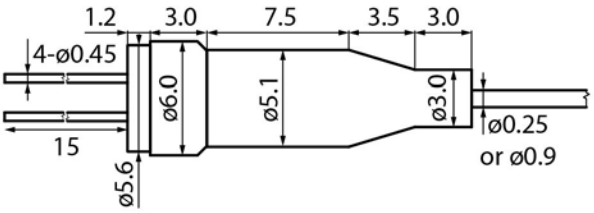
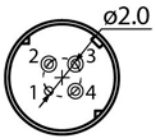
LDS-1590-DFB-2.5G-15/45

PACKAGE U

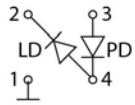
SIDE VIEW



BACK VIEW



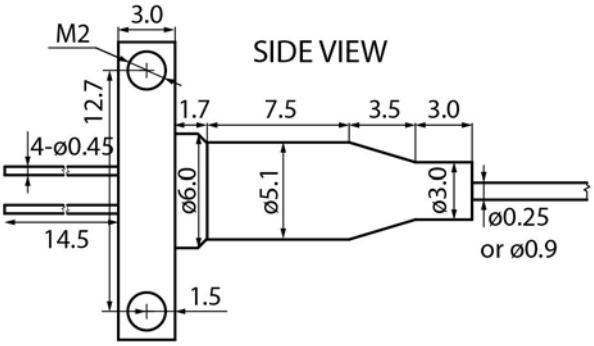
PINOUT #2



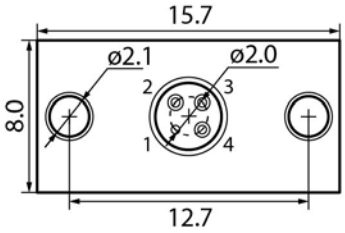
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE B



BACK VIEW



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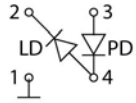
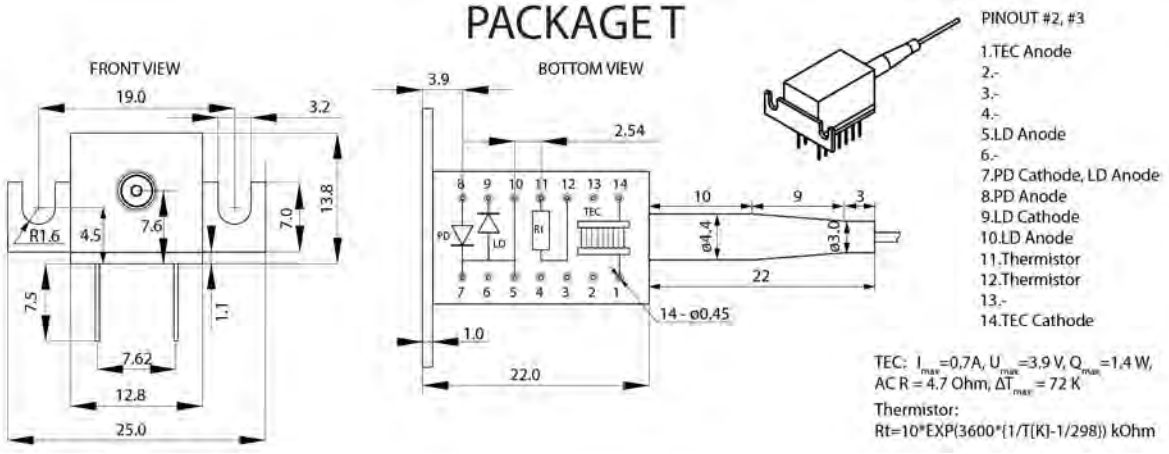


Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T



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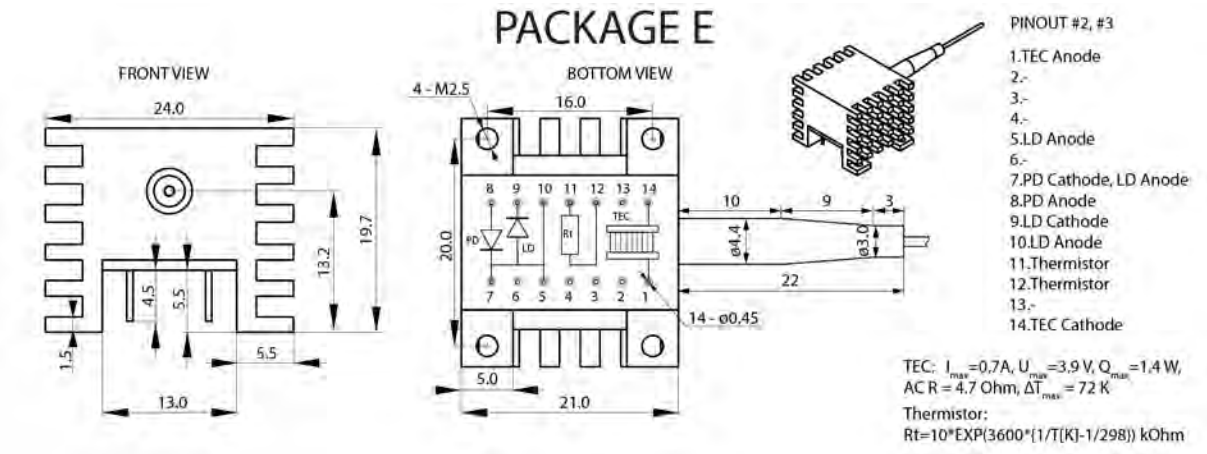
LDS-1590-DFB-2.5G-15/45



LDS-1590-DFB-2.5G-15/45

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LDI-1590-DFB-2.5G-20/60

OVERVIEW

LDI-1590-DFB-2.5G-20/60 is the MQW laser diode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Wavelength: 1590 nm
- Cavity type: DFB
- Linewidth: <500 kHz
- Data rate up to 2.5 Gbps
- Optical power: up to 20 mW in CW mode, up to 60 mW in pulse mode in SM fiber G.657.A1
- Package types: coaxial, coaxial with bracket, 14 pins DIL
- Built-in monitor photodiode

APPLICATIONS

- Optical fiber communication systems with data rate up to 2.5 Gbps
- Laser systems

ORDERING INFORMATION

LDI-1590-DFB-2.5G-20/60-X-2-X-X-X-X

Case type

U: compact coaxial (pulse mode only)
B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SMT: SM, Corning Titania-Clad, furcation tubing ∅0.9 mm, ultrasmall bending radius 2.5 mm
SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm or **BSM1** ∅0.25mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm or **BSM3** ∅0.25mm
MM5: MM, 50/125, OM2, furcation tubing ∅0.9 mm
MM6: MM, 62.5/125, OM1, furcation tubing ∅0.9 mm
Other type on request

Connector type

FA: FC/APC (SM1,SM3, SMT)
SA: SC/APC (SM1)
N: no connector
Other type: on request
FU: FC/UPC (SM1, SM3, SMT, MM5, MM6)
SU: SC/UPC (SM1)

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)
P: pulse mode (10 µs; duty cycle = 1%)
CWP: both CW and pulse modes

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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LDI-1590-DFB-2.5G-20/60

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current	I_{FL}	120	mA	CW
		450	mA	Pulse
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	20	V	
Photodiode forward current	I_{Fp}	2	mA	
Operating temperature	T_{OP}	-40 - +85	°C	Package U, B
Operating temperature	T_{OP}	-40 - +50	°C	Package T, E
Storage temperature	T_{stg}	-40 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 10 seconds

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Wavelength	λ	1587	1590	1593	nm	CW, P = 20 mW
Spectral width	$\Delta\lambda$		0.09		nm	CW, P = 20 mW, -20 dB, OSA
Spectral width	Δf			500	kHz	CW, P = 20 mW, delayed self-heterodyne method
Wavelength-temperature coeff.	dλ/dT		0.14		nm/°C	
Side-mode suppression ratio	SMSR	40	55		dB	CW, P = 20 mW
Threshold current	I_{th}		8	12	mA	CW
Operating current	I_{op}		100	120	mA	CW, P = 20 mW, SM1
Slope efficiency	S_e	0.18	0.20		W/A	CW, SM1
Operating voltage	V_{op}		1.4	1.8	V	CW, P = 20 mW
Tracking error	E_r		0.4	0.6	dB	CW, P = 3 mW; T = -40 ÷ +80 °C
Pulse optical power	P_p	55	60		mW	Pulse, Iop = 450 mA
Rise and fall times	t_r, t_f		80	120	ps	20%-80%, package U, B
Resonance frequency	f_r		6.0		GHz	2.5Gbps, Imod = 40mA, Ibias = Ith+2 mA
Monitoring output current (PD)	I_m	1.0	1.8	5.0	mA	CW, P = 20 mW, V_{rd} = 5V
Capacitance (PD)	C_t		10	20	pF	V_{rd} = 5V, f = 1 MHz
Dark current (PD)	I_d			100	nA	V_{rd} = 5V

Pulse mode: pulse duration 10 μs; duty cycle = 1%

Tracking error E_r = max |10 lg [P(T)/P(25°C)]|, I_m= const, T = T_{min} ÷ T_{max}

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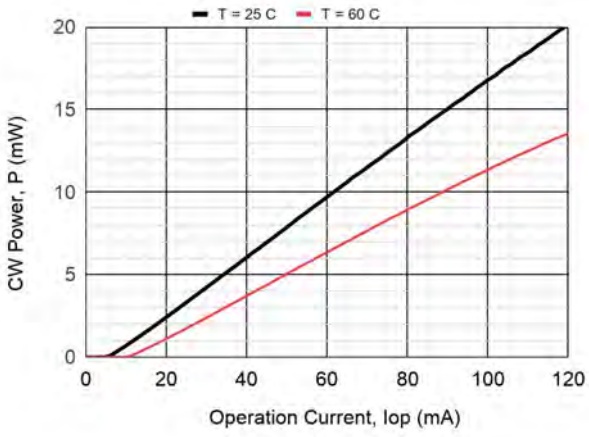
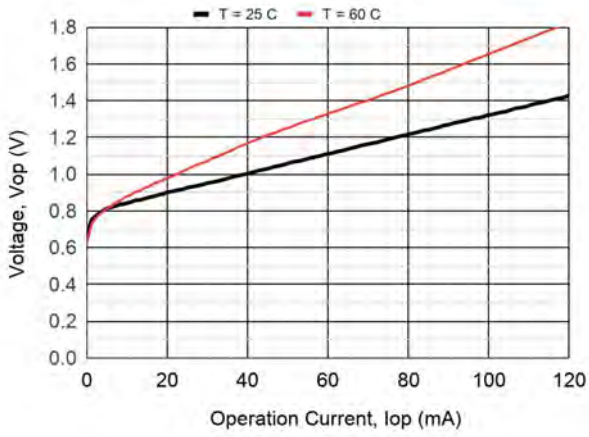
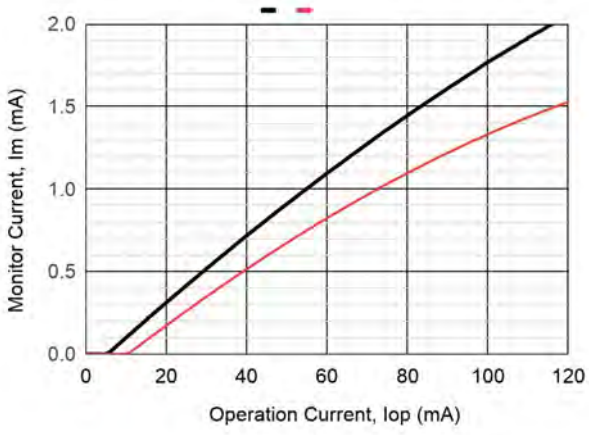
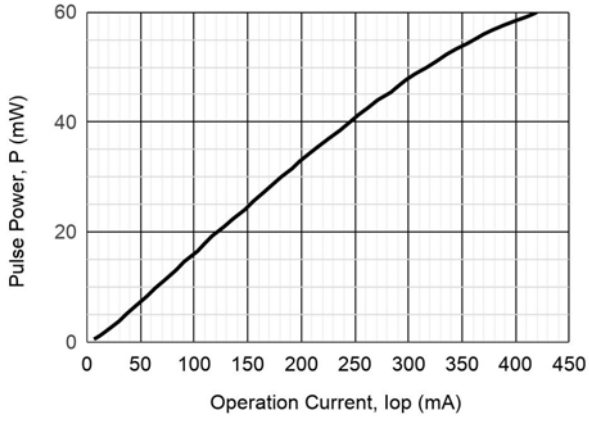
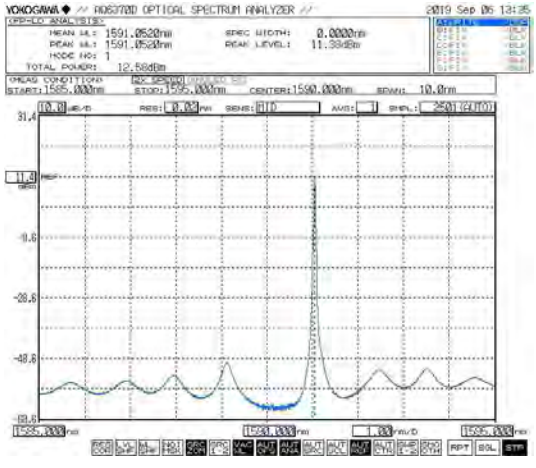
LDI-1590-DFB-2.5G-20/60

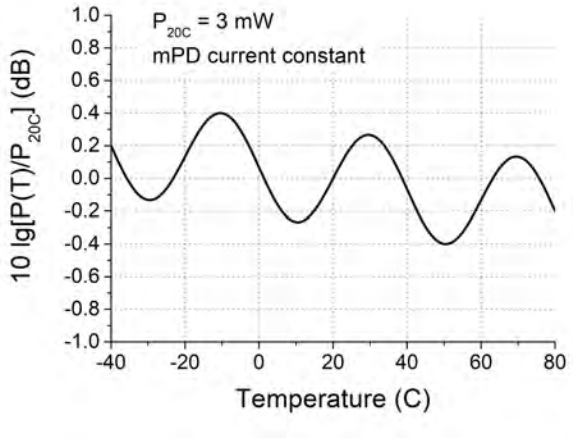












LASERSCOM
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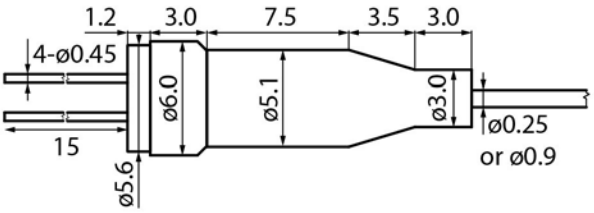
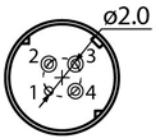
LDI-1590-DFB-2.5G-20/60

PACKAGE U

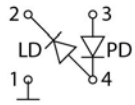
SIDE VIEW



BACK VIEW



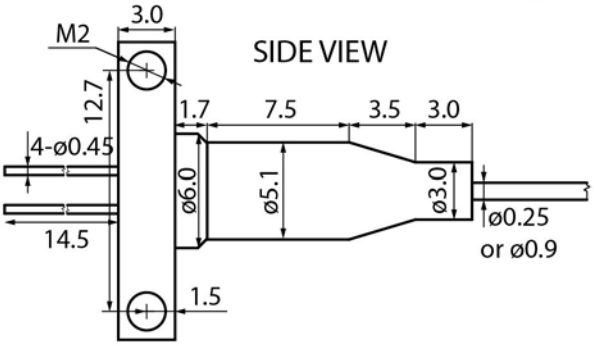
PINOUT #2



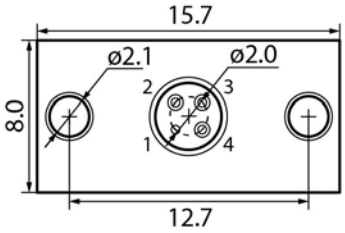
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

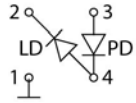
PACKAGE B



BACK VIEW



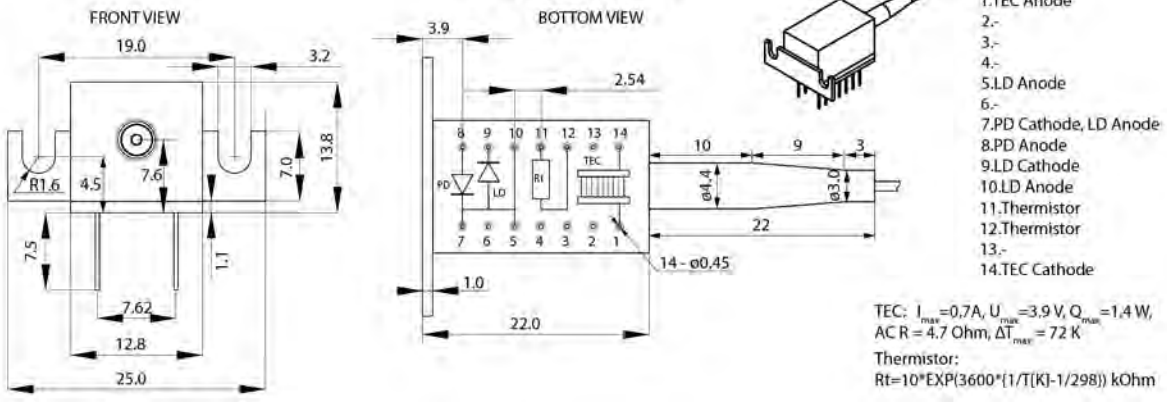
PINOUT #2



Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T



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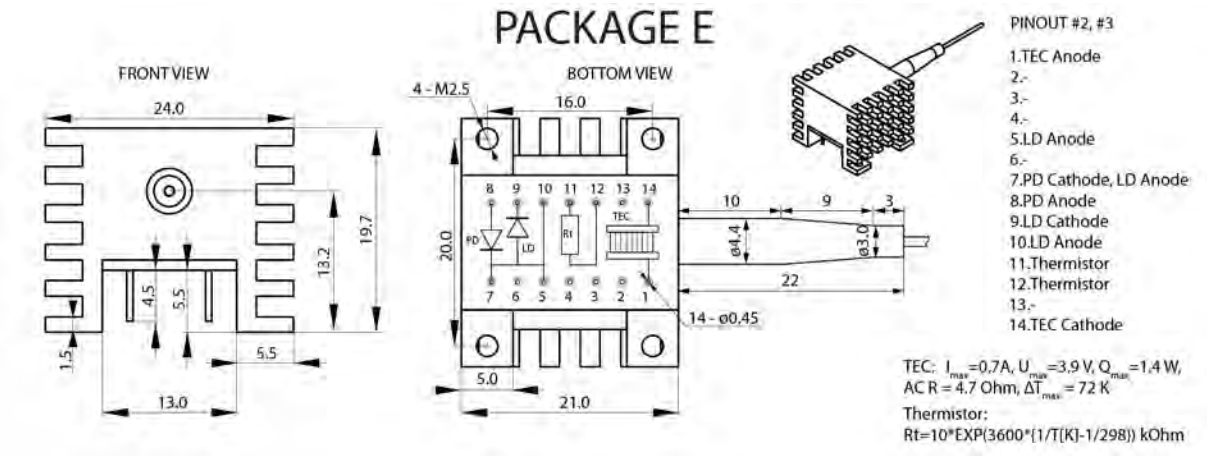

LASERSCOM
Coupling Light to Your Success

LDI-1590-DFB-2.5G-20/60

Characteristics, data, materials and structures specified in this datasheet are subject to change without notice. Please refer to the latest specification before use of the products.

Safety and handling cautions

1. Avoid smashing and burning of the module. Avoid storing and using the module in conditions where water, organic solvents or aggressive acids or bases may contact the module or where there is a possibility of exposure to corrosive gases, explosive gases, dust, salinity or other harsh conditions. The module should be disposed as special industrial waste.
2. Exceeding absolute maximum ratings even for a short time can cause permanent damage of the module.
3. The module is sensitive to and can be broken by ESD (static electricity).

Conflict Minerals Policy Statement

LasersCom LLC achieves business objectives and customer needs with social responsibility. We do not support or contribute to the violence and human rights violations associated with the mining of conflict minerals coming from Conflict Regions according to US "Dodd-Frank Act". When possible, our suppliers' conflict mineral statements are reviewed. We do not directly purchase Conflict Minerals from any source and do not knowingly procure any parts and products containing Conflict Minerals from Conflict Regions.

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Restriction of Hazardous Substances (RoHS) directive (Directive 2011/65/EC amended with Directive (EU) 2015/863) is the directive aimed at reducing the harmful environmental impact of waste electrical equipment by restricting the use of known dangerous substances. Based on information received from our supply sources, LasersCom LLC hereby states that the banned substances listed in the RoHS directive are not found in the parts and materials used above the threshold level listed other than exceptions approved by the European Commission.

REACH Compliance Statement

Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) is a European Union regulation 1907/2006/EC that addresses the production and use of chemical substances, and their potential impacts on human health and the environment. Based on information received from our supply sources, LasersCom LLC hereby states compliance of the parts and materials used in manufacturing to REACH regulation. LasersCom LLC does not manufacture or import any substances or preparations as defined under REACH.

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LDS-1610-DFB-2.5G-15/45

OVERVIEW

LDS-1610-DFB-2.5G-15/45 is the MQW laser diode coupled to an optical fiber and packaged into a hermetic case. The special feature of the LDS technology is the increased thermal stability of optical power

MAIN FEATURES

- Wavelength: 1610 nm
- Cavity type: DFB
- Linewidth: <500 kHz
- Data rate up to 2.5 Gbps
- Optical power: up to 15 mW in CW mode, up to 45 mW in pulse mode in SM fiber G.657.A1
- Package types: coaxial, coaxial with bracket, 14 pins DIL
- Built-in monitor photodiode

APPLICATIONS

- Optical fiber communication systems with data rate up to 2.5 Gbps
- Laser systems

ORDERING INFORMATION

LDS-1610-DFB-2.5G-15/45-X-2-X-X-X-X

Case type

U: compact coaxial (pulse mode only)
B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SMT: SM, Corning Titania-Clad, furcation tubing ∅0.9 mm, ultrasmall bending radius 2.5 mm
SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm or **BSM1** ∅0.25mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm or **BSM3** ∅0.25mm
SMP13: PM, Fujikura SM13, PANDA type, furcation tubing ∅0.9 mm
Other type on request

Connector type

FA: FC/APC (SM1,SM3, SMT, SMP13)
SA: SC/APC (SM1)
N: no connector
FU: FC/UPC (SM1, SM3, SMT)
SU: SC/UPC (SM1)
Other type: on request

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)
P: pulse mode (10 µs; duty cycle = 1%)
CWP: both CW and pulse modes

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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LDS-1610-DFB-2.5G-15/45

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current	I_{FL}	120	mA	CW
		450	mA	Pulse
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	20	V	
Photodiode forward current	I_{Fp}	2	mA	
Operating temperature	T_{OP}	-40 - +85	°C	Package U, B
Operating temperature	T_{OP}	-40 - +50	°C	Package T, E
Storage temperature	T_{stg}	-50 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 10 seconds

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Wavelength	λ	1607	1610	1613	nm	CW, P = 15 mW
Spectral width	$\Delta\lambda$		0.09		nm	CW, P = 15 mW, -20 dB, OSA
Spectral width	Δf			500	kHz	CW, P = 15 mW, delayed self-heterodyne method
Wavelength-temperature coeff.	dλ/dT		0.14		nm/°C	
Side-mode suppression ratio	SMSR	40	55		dB	CW, P = 15 mW
Threshold current	I_{th}		8	12	mA	CW
Operating current	I_{op}		100	120	mA	CW, P = 15 mW, SM1
Slope efficiency	S_e	0.13	0.16		W/A	CW, SM1
Operating voltage	V_{op}		1.4	1.8	V	CW, P = 15 mW
Tracking error	E_r		0.15	0.30	dB	CW, P = 3 mW; T = -40 ÷ +80 °C
Pulse optical power	P_p	40	45		mW	Pulse, Iop = 450 mA
Rise and fall times	t_r, t_f		80	120	ps	20%-80%, package U, B
Resonance frequency	f_r		6.0		GHz	2.5Gbps, Imod = 40mA, Ibias = Ith+2 mA
Monitoring output current (PD)	I_m	1.0	2.2	5.0	mA	CW, P = 15 mW, V_{rd} = 5V
Capacitance (PD)	C_t		10	20	pF	V_{rd} = 5V, f = 1 MHz
Dark current (PD)	I_d			100	nA	V_{rd} = 5V
Polarization extinction ratio	PER	20			dB	CW, SMP13

Pulse mode: pulse duration 10 μs; duty cycle = 1%

Tracking error E_r = max |10 lg [P(T)/P(25°C)]|, I_m= const, T = T_{min} ÷ T_{max}

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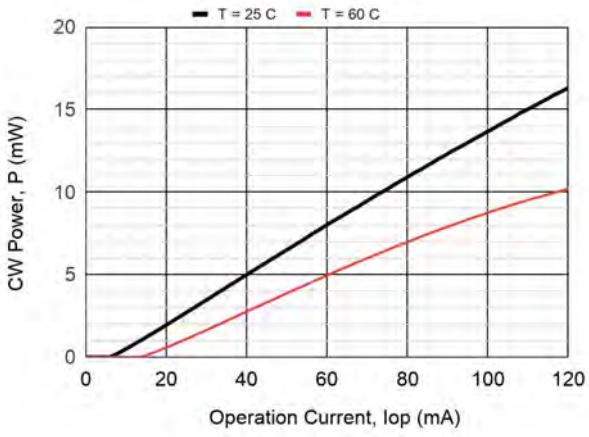
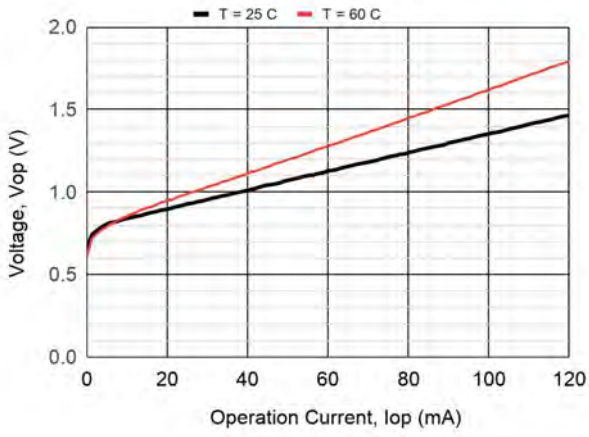
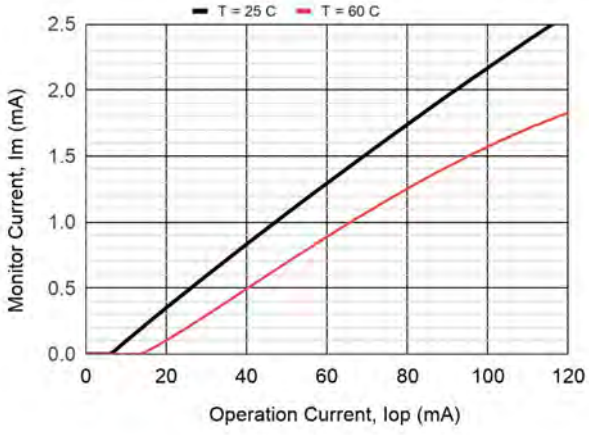
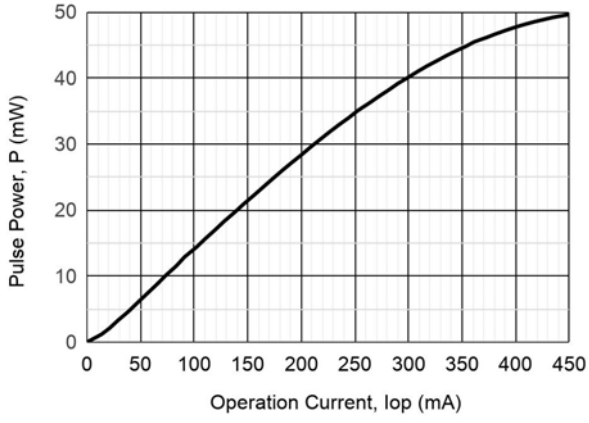
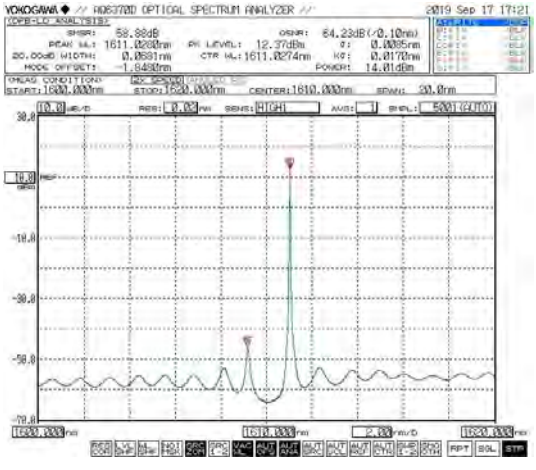
LDS-1610-DFB-2.5G-15/45

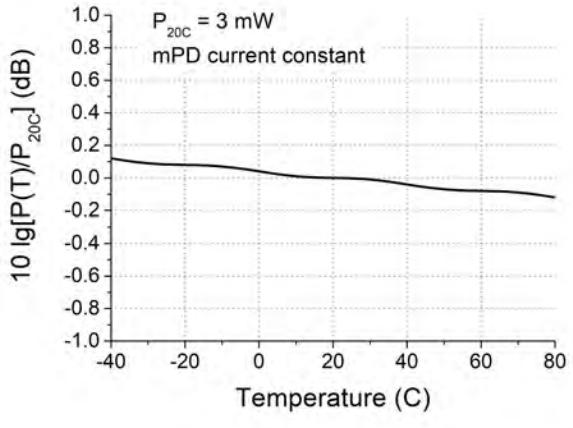












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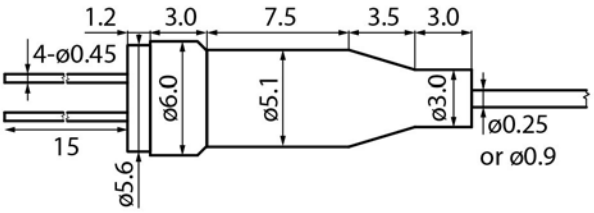
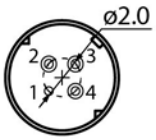
LDS-1610-DFB-2.5G-15/45

PACKAGE U

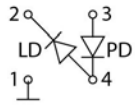
SIDE VIEW



BACK VIEW



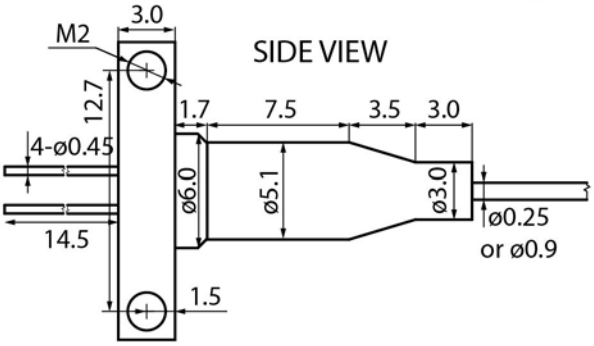
PINOUT #2



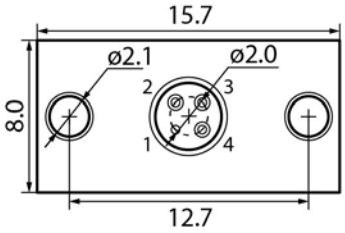
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE B



BACK VIEW



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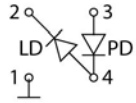
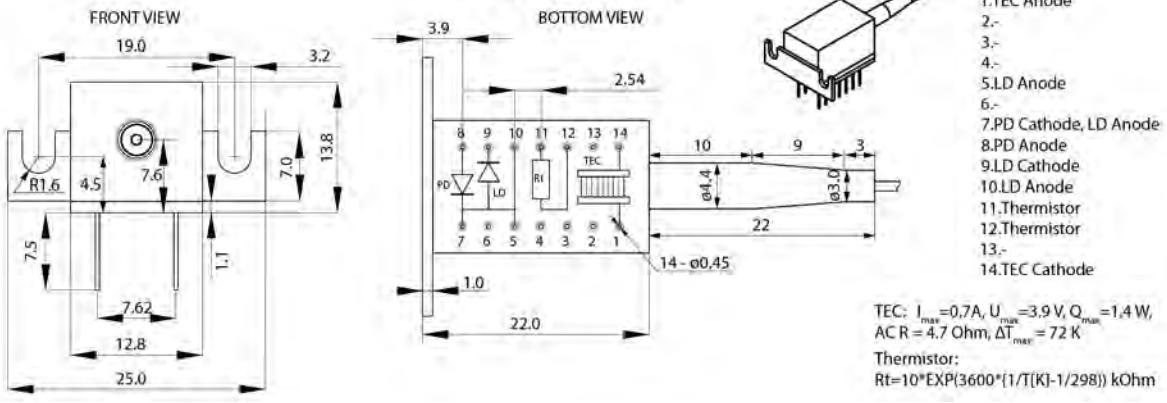


Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T



PINOUT #2, #3

1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.PD Cathode, LD Anode
8.PD Anode
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

TEC: I_{max}=0,7A, U_{max}=3.9 V, Q_{max}=1,4 W,
AC R = 4.7 Ohm, ΔT_{max} = 72 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

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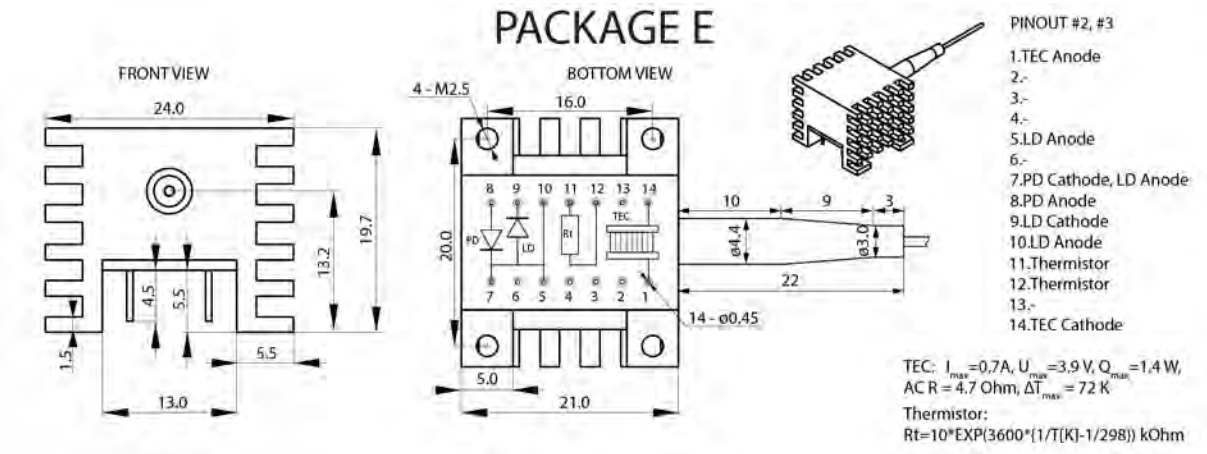

LDS-1610-DFB-2.5G-15/45

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Safety and handling cautions

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LDI-1610-DFB-2.5G-20/60

OVERVIEW

LDI-1610-DFB-2.5G-20/60 is the MQW laser diode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Wavelength: 1610 nm
- Cavity type: DFB
- Linewidth: <500 kHz
- Data rate up to 2.5 Gbps
- Optical power: up to 20 mW in CW mode, up to 60 mW in pulse mode in SM fiber G.657.A1
- Package types: coaxial, coaxial with bracket, 14 pins DIL
- Built-in monitor photodiode

APPLICATIONS

- Optical fiber communication systems with data rate up to 2.5 Gbps
- Laser systems

ORDERING INFORMATION

LDI-1610-DFB-2.5G-20/60-X-2-X-X-X-X

Case type

U: compact coaxial (pulse mode only)
B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SMT: SM, Corning Titania-Clad, furcation tubing ∅0.9 mm, ultrasmall bending radius 2.5 mm
SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm or **BSM1** ∅0.25mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm or **BSM3** ∅0.25mm
MM5: MM, 50/125, OM2, furcation tubing ∅0.9 mm
MM6: MM, 62.5/125, OM1, furcation tubing ∅0.9 mm
Other type on request

Connector type

FA: FC/APC (SM1,SM3, SMT)
SA: SC/APC (SM1)
N: no connector
FU: FC/UPC (SM1, SM3, SMT, MM5, MM6)
SU: SC/UPC (SM1)
Other type: on request

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)
P: pulse mode (10 µs; duty cycle = 1%)
CWP: both CW and pulse modes

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current	I_{FL}	120	mA	CW
		450	mA	Pulse
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	20	V	
Photodiode forward current	I_{Fp}	2	mA	
Operating temperature	T_{OP}	-40 - +85	°C	Package U, B
Operating temperature	T_{OP}	-40 - +50	°C	Package T, E
Storage temperature	T_{stg}	-40 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 10 seconds

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Wavelength	λ	1607	1610	1613	nm	CW, P = 20 mW
Spectral width	$\Delta\lambda$		0.09		nm	CW, P = 20 mW, -20 dB, OSA
Spectral width	Δf			500	kHz	CW, P = 20 mW, delayed self-heterodyne method
Wavelength-temperature coeff.	dλ/dT		0.14		nm/°C	
Side-mode suppression ratio	SMSR	40	55		dB	CW, P = 20 mW
Threshold current	I_{th}		8	12	mA	CW
Operating current	I_{op}		100	120	mA	CW, P = 20 mW, SM1
Slope efficiency	S_e	0.18	0.20		W/A	CW, SM1
Operating voltage	V_{op}		1.4	1.8	V	CW, P = 20 mW
Tracking error	E_r		0.4	0.6	dB	CW, P = 3 mW; T = -40 ÷ +80 °C
Pulse optical power	P_p	50	60		mW	Pulse, Iop = 450 mA
Rise and fall times	t_r, t_f		80	120	ps	20%-80%, package U, B
Resonance frequency	f_r		6.0		GHz	2.5Gbps, Imod = 40mA, Ibias = Ith+2 mA
Monitoring output current (PD)	I_m	1.0	2.2	5.0	mA	CW, P = 20 mW, V_{rd} = 5V
Capacitance (PD)	C_t		10	20	pF	V_{rd} = 5V, f = 1 MHz
Dark current (PD)	I_d			100	nA	V_{rd} = 5V

Pulse mode: pulse duration 10 μs; duty cycle = 1%

Tracking error E_r = max |10 lg [P(T)/P(25°C)]|, I_m= const, T = T_{min}÷ T_{max}

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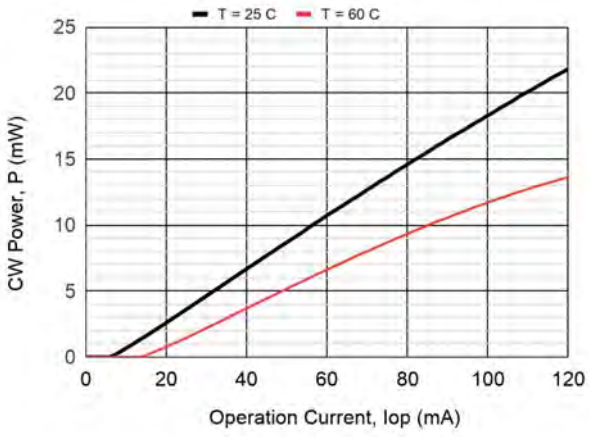
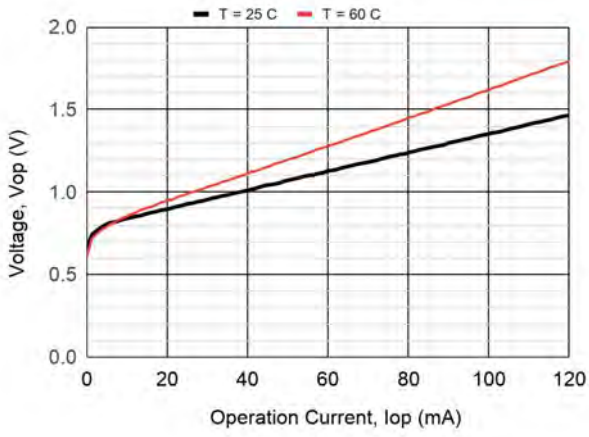
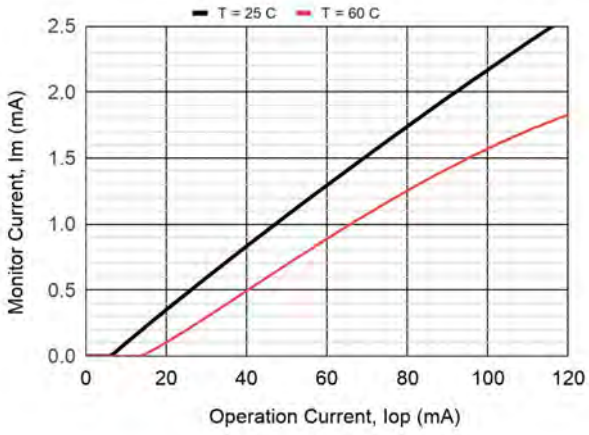
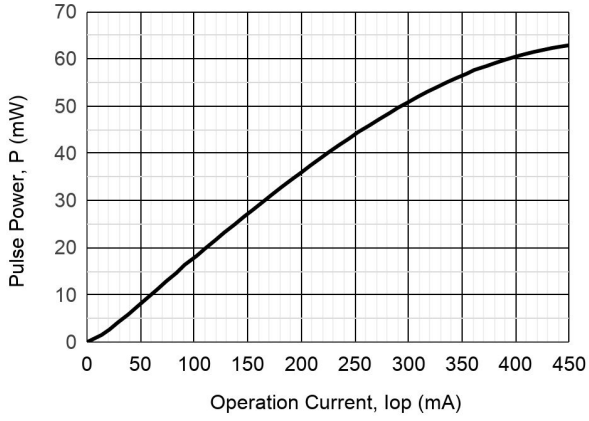
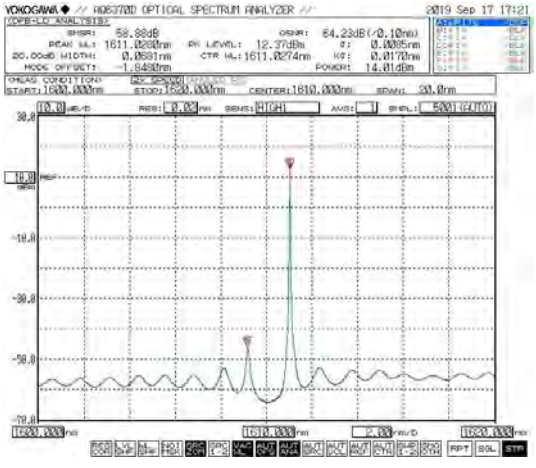
LDI-1610-DFB-2.5G-20/60

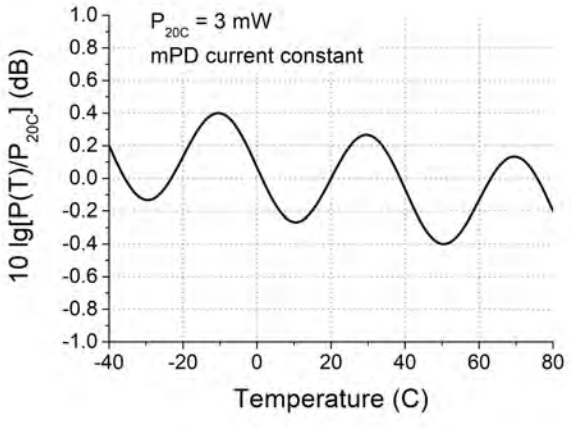












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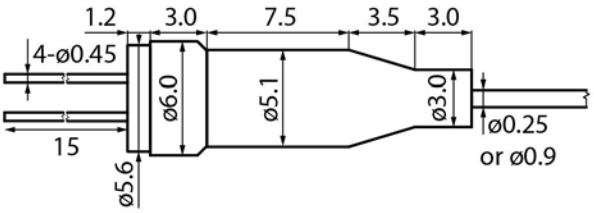
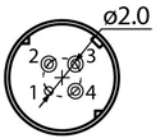
LDI-1610-DFB-2.5G-20/60

PACKAGE U

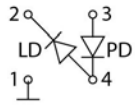
SIDE VIEW



BACK VIEW



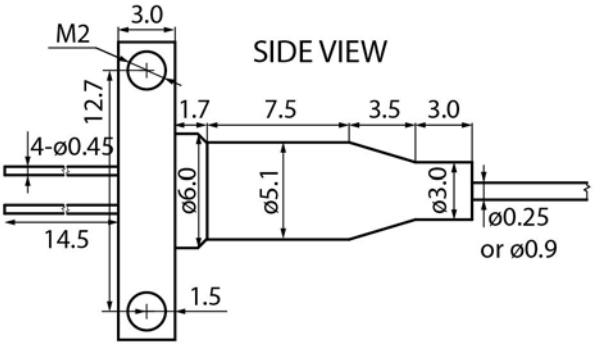
PINOUT #2



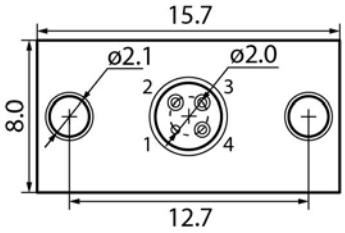
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE B



BACK VIEW



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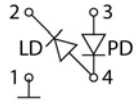
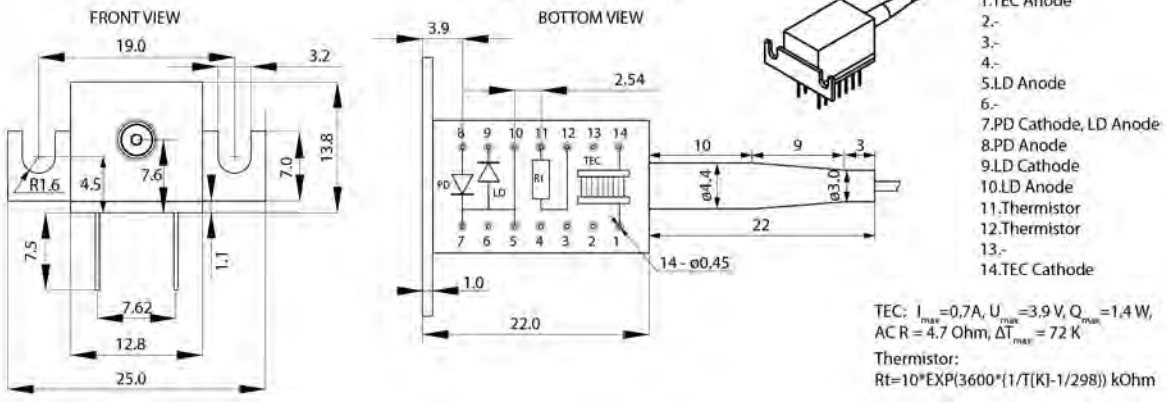


Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T



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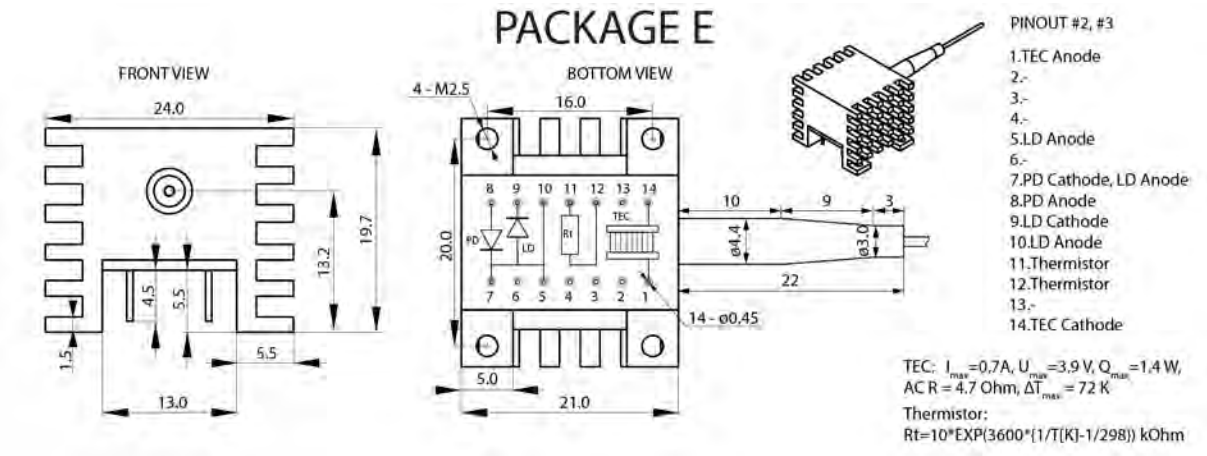
LDI-1610-DFB-2.5G-20/60



LDI-1610-DFB-2.5G-20/60

Characteristics, data, materials and structures specified in this datasheet are subject to change without notice. Please refer to the latest specification before use of the products.

Safety and handling cautions

1. Avoid smashing and burning of the module. Avoid storing and using the module in conditions where water, organic solvents or aggressive acids or bases may contact the module or where there is a possibility of exposure to corrosive gases, explosive gases, dust, salinity or other harsh conditions. The module should be disposed as special industrial waste.
2. Exceeding absolute maximum ratings even for a short time can cause permanent damage of the module.
3. The module is sensitive to and can be broken by ESD (static electricity).

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LDS-1625-DFB-1.25G-10/30

OVERVIEW

LDI-1625-DFB-1.25G-10/30 is the MQW laser diode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Wavelength: 1625 nm
- Cavity type: DFB
- Linewidth: <500 kHz
- Data rate up to 1.25 Gbps
- Optical power: up to 10 mW in CW mode, up to 30 mW in pulse mode in SM fiber G.657.A1
- Package types: coaxial, coaxial with bracket, 14 pins DIL
- Built-in monitor photodiode

APPLICATIONS

- Optical fiber communication systems with data rate up to 1.25 Gbps
- Laser systems

ORDERING INFORMATION

LDS-1625-DFB-1.25G-10/30-X-1-X-X-X-X

Case type

U: compact coaxial (pulse mode only)
B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SMT: SM, Corning Titania-Clad, furcation tubing ∅0.9 mm, ultrasmall bending radius 2.5 mm
SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm or **BSM1** ∅0.25mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm or **BSM3** ∅0.25mm
SMP13: PM, Fujikura SM13, PANDA type, furcation tubing ∅0.9 mm
Other type on request

Connector type

FA: FC/APC (SM1,SM3, SMT, SMP13)
SA: SC/APC (SM1)
N: no connector
FU: FC/UPC (SM1, SM3, SMT)
SU: SC/UPC (SM1)
Other type: on request

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)
P: pulse mode (10 µs; duty cycle = 1%)
CWP: both CW and pulse modes

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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LDS-1625-DFB-1.25G-10/30

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current	I_{FL}	120	mA	CW
		250	mA	Pulse
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	10	V	
Operating temperature	T_{OP}	-40 - +85	°C	Package U, B
Operating temperature	T_{OP}	-40 - +50	°C	Package T, E
Storage temperature	T_{stg}	-50 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 10 seconds

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Wavelength	λ	1620	1625	1630	nm	CW, P = 10 mW
Spectral width	$\Delta\lambda$		0.08		nm	CW, P = 10 mW, -20 dB, OSA
Spectral width	Δf			500	kHz	CW, P = 10 mW, delayed self-heterodyne method
Wavelength-temperature coeff.	dλ/dT		0.15		nm/°C	
Side-mode suppression ratio	SMSR	40	55		dB	CW, P = 10 mW
Threshold current	I_{th}		12	20	mA	CW
Operating current	I_{op}		100	120	mA	CW, P = 10 mW, SM1
Slope efficiency	S_e	0.11	0.12		W/A	CW, SM1
Operating voltage	V_{op}		1.4	1.8	V	CW, P = 10 mW
Tracking error	E_r		0.15	0.30	dB	CW, P = 3 mW; T = -40 ÷ +80 °C
Pulse optical power	P_p	25	30		mW	Pulse, Iop = 250 mA
Rise and fall times	t_r, t_f			200	ps	20%-80%, package U, B
Resonance frequency	f_r		3.5		GHz	
Monitoring output current (PD)	I_m	0.5	0.75	5.00	mA	CW, P = 10 mW, V_{rd} = 5V
Dark current (PD)	I_d			200	nA	V_{rd} = 5V
Polarization extinction ratio	PER	20			dB	CW, SMP13

Pulse mode: pulse duration 10 μs; duty cycle = 1%

Tracking error E_r = max |10 lg [P(T)/P(25°C)]|, I_m= const, T = T_{min} ÷ T_{max}

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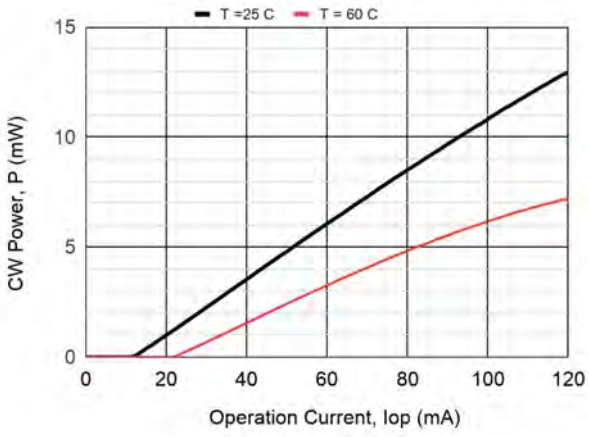
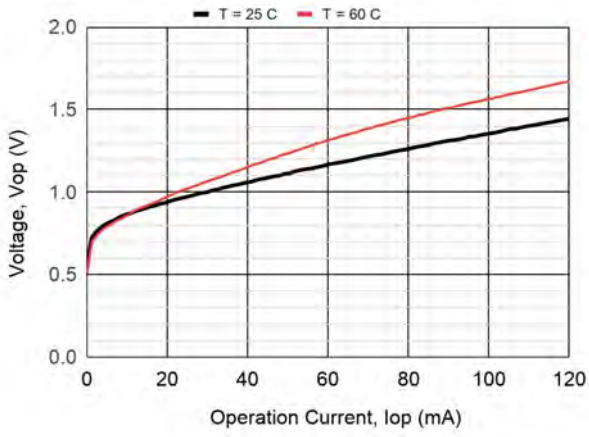
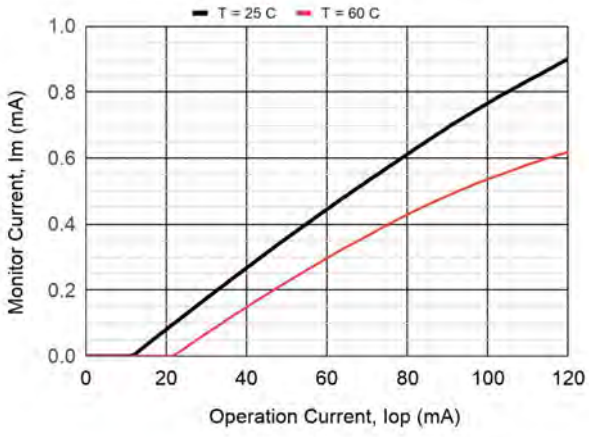
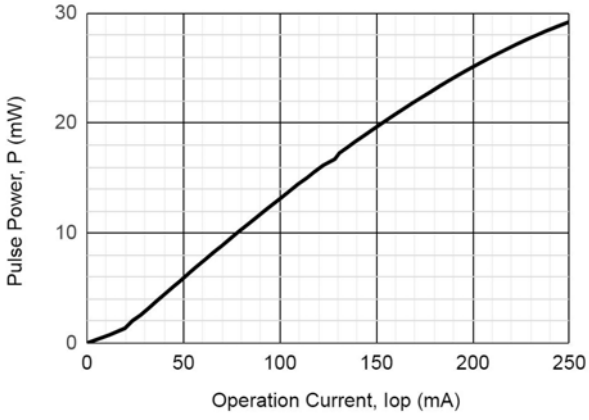
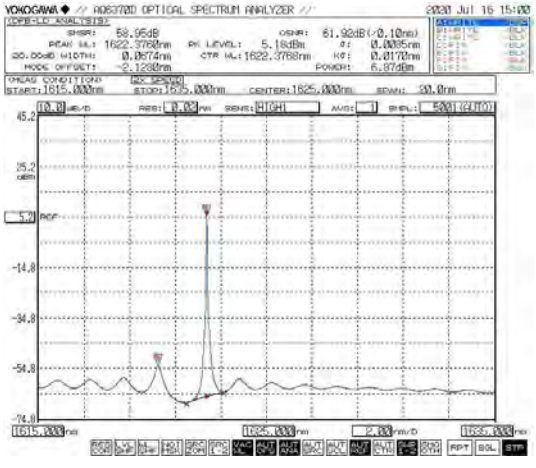
LDS-1625-DFB-1.25G-10/30

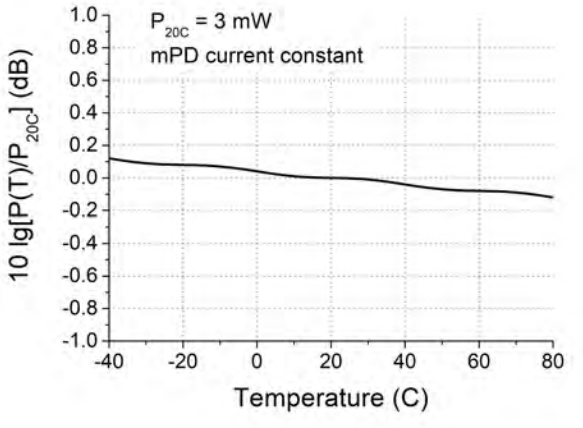












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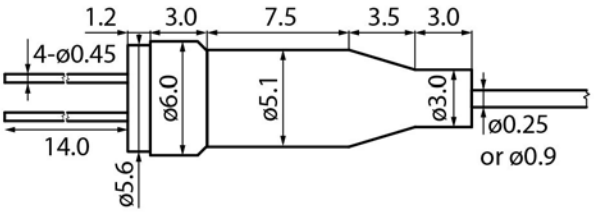
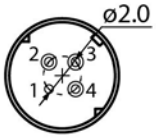
LDS-1625-DFB-1.25G-10/30

PACKAGE U

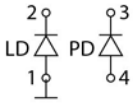
SIDE VIEW



BACK VIEW



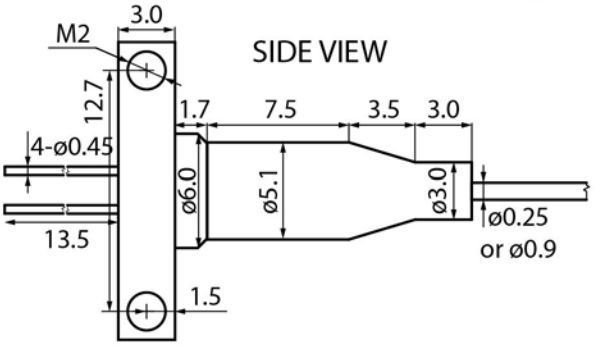
PINOUT #1



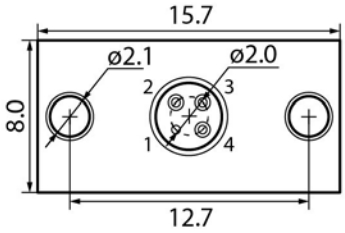
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE B



BACK VIEW



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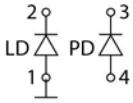
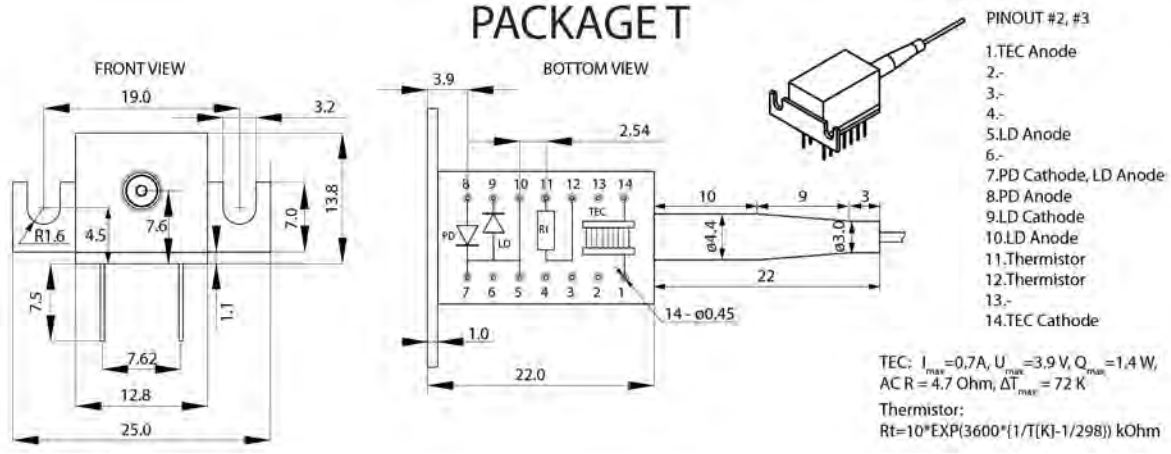


Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T



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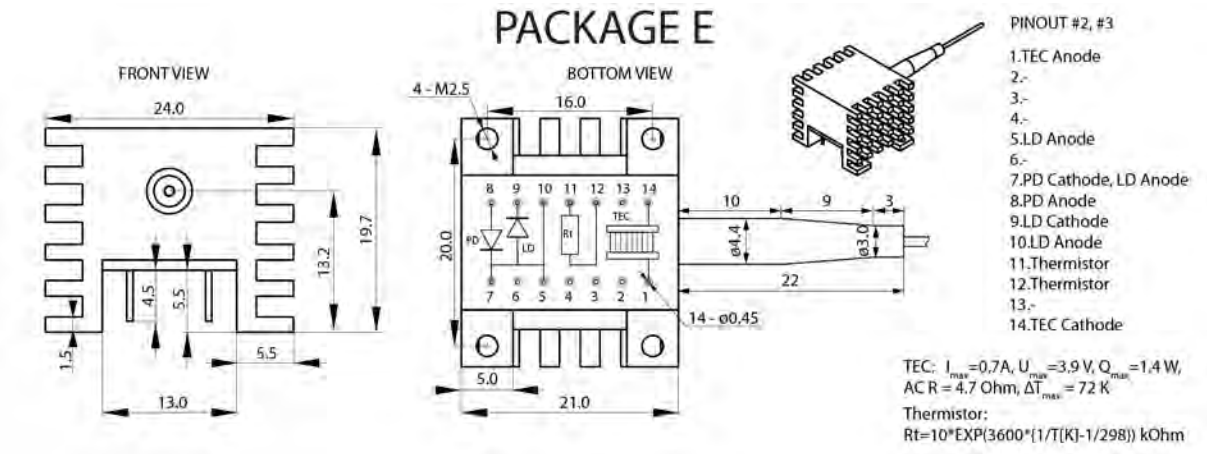
LDS-1625-DFB-1.25G-10/30



LDS-1625-DFB-1.25G-10/30

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Safety and handling cautions

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2. Exceeding absolute maximum ratings even for a short time can cause permanent damage of the module.
3. The module is sensitive to and can be broken by ESD (static electricity).

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LDI-1625-DFB-1.25G-15/40

OVERVIEW

LDI-1625-DFB-1.25G-15/40 is the MQW laser diode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Wavelength: 1625 nm
- Cavity type: DFB
- Linewidth: <500 kHz
- Data rate up to 1.25 Gbps
- Optical power: up to 15 mW in CW mode, up to 40 mW in pulse mode in SM fiber G.657.A1
- Package types: coaxial, coaxial with bracket, 14 pins DIL
- Built-in monitor photodiode

APPLICATIONS

- Optical fiber communication systems with data rate up to 1.25 Gbps
- Laser systems

ORDERING INFORMATION

LDI-1625-DFB-1.25G-15/40-X-1-X-X-X-X

Case type

U: compact coaxial (pulse mode only)
B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SMT: SM, Corning Titania-Clad, furcation tubing ∅0.9 mm, ultrasmall bending radius 2.5 mm
SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm or **BSM1** ∅0.25mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm or **BSM3** ∅0.25mm
MM5: MM, 50/125, OM2, furcation tubing ∅0.9 mm
MM6: MM, 62.5/125, OM1, furcation tubing ∅0.9 mm
Other type on request

Connector type

FA: FC/APC (SM1,SM3, SMT)
SA: SC/APC (SM1)
N: no connector
Other type: on request
FU: FC/UPC (SM1, SM3, SMT, MM5, MM6)
SU: SC/UPC (SM1)

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)
P: pulse mode (10 µs; duty cycle = 1%)
CWP: both CW and pulse modes

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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LDI-1625-DFB-1.25G-15/40

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current	I_{FL}	120	mA	CW
		250	mA	Pulse
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	10	V	
Operating temperature	T_{OP}	-40 - +85	°C	Package U, B
Operating temperature	T_{OP}	-40 - +50	°C	Package T, E
Storage temperature	T_{stg}	-40 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 10 seconds

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Wavelength	λ	1620	1625	1630	nm	CW, P = 15 mW
Spectral width	$\Delta\lambda$		0.08		nm	CW, P = 15 mW, -20 dB, OSA
Spectral width	Δf			500	kHz	CW, P = 15 mW, delayed self-heterodyne method
Wavelength-temperature coeff.	dλ/dT		0.15		nm/°C	
Side-mode suppression ratio	SMSR	40	55		dB	CW, P = 15 mW
Threshold current	I_{th}		12	20	mA	CW
Operating current	I_{op}		100	120	mA	CW, P = 15 mW, SM1
Slope efficiency	S_e	0.17	0.18		W/A	CW, SM1
Operating voltage	V_{op}		1.4	1.8	V	CW, P = 15 mW
Tracking error	E_r		0.4	0.6	dB	CW, P = 3 mW; T = -40 ÷ +80 °C
Pulse optical power	P_p	35	40		mW	Pulse, Iop = 250 mA
Rise and fall times	t_r, t_f			200	ps	20%-80%, package U, B
Resonance frequency	f_r		3.5		GHz	
Monitoring output current (PD)	I_m	0.5	0.75	5.00	mA	CW, P = 15 mW, V_{rd} = 5V
Dark current (PD)	I_d			200	nA	V_{rd} = 5V

Pulse mode: pulse duration 10 μs; duty cycle = 1%

Tracking error E_r = max |10 lg [P(T)/P(25°C)]|, I_m = const, T = T_{min} ÷ T_{max}

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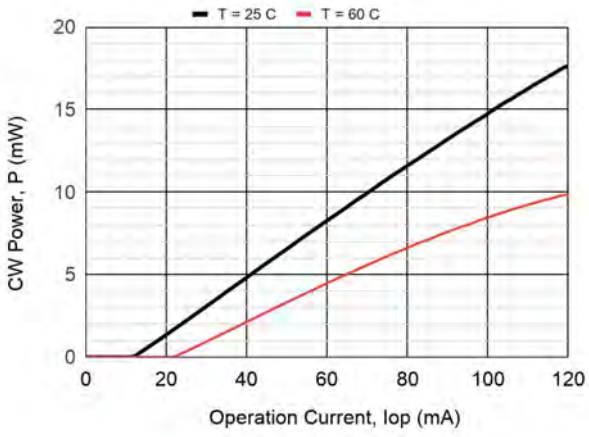
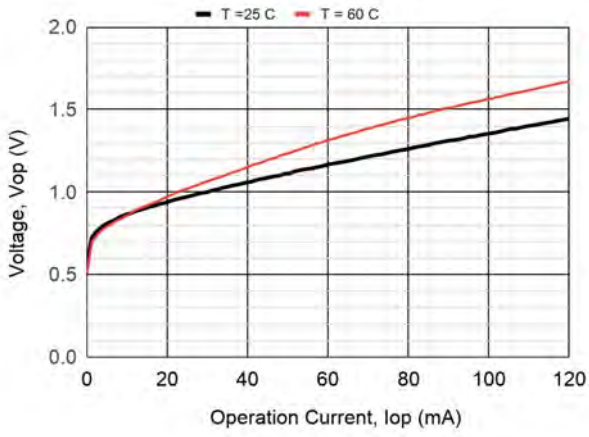
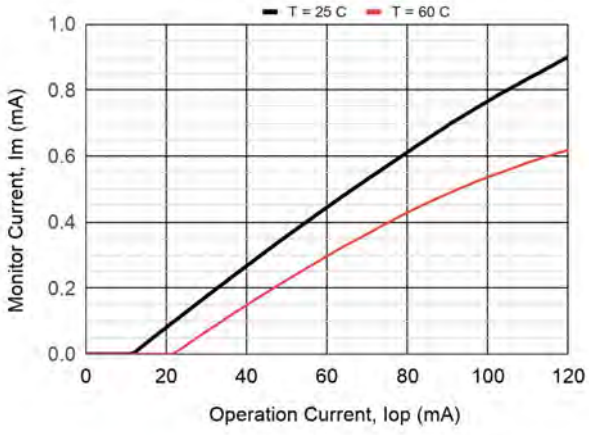
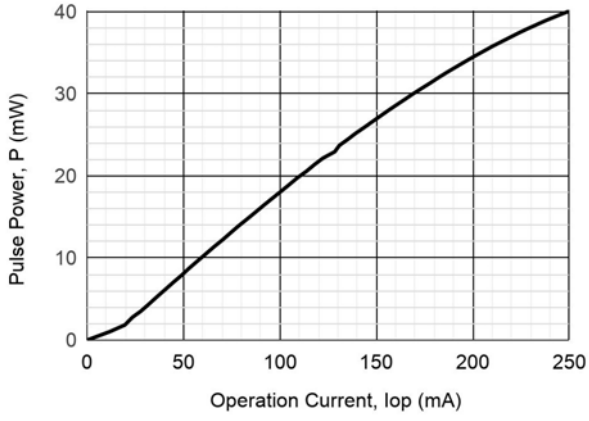
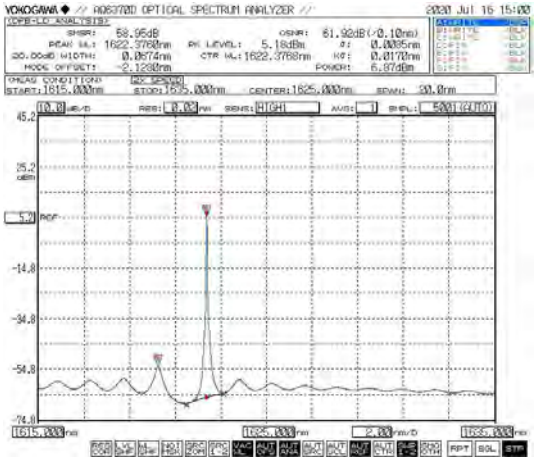
LDI-1625-DFB-1.25G-15/40

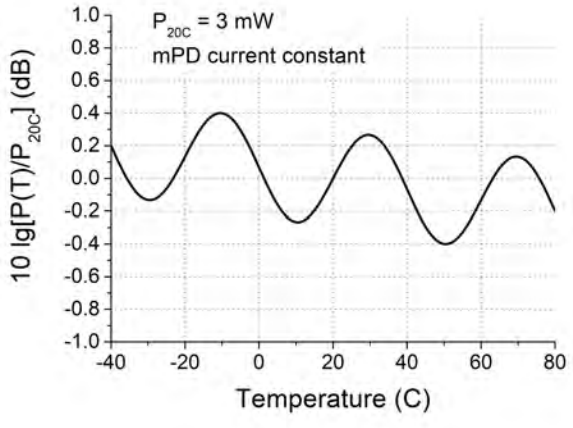












LASERSCOM
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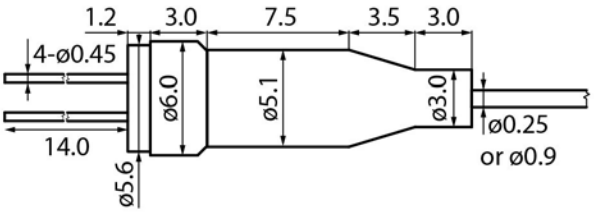
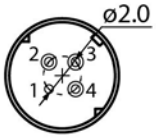
LDI-1625-DFB-1.25G-15/40

PACKAGE U

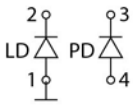
SIDE VIEW



BACK VIEW



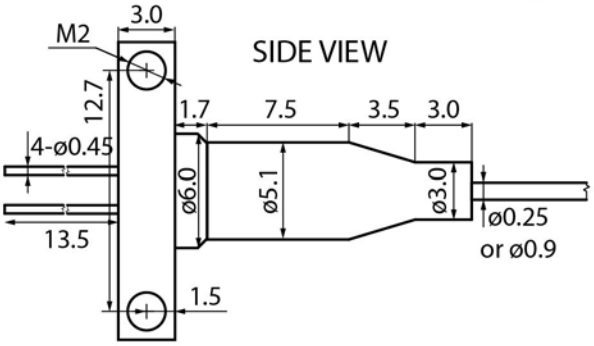
PINOUT #1



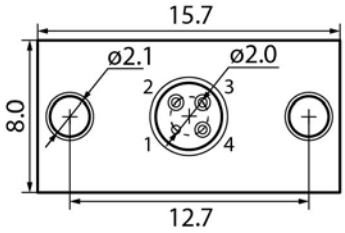
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

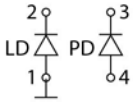
PACKAGE B



BACK VIEW



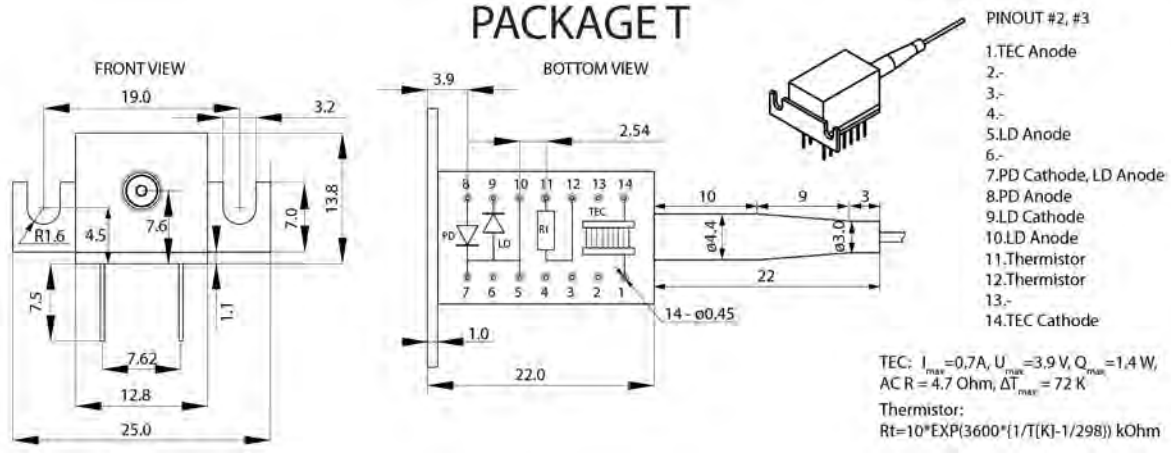
PINOUT #1



Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T



PINOUT #2, #3

1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.PD Cathode, LD Anode
8.PD Anode
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

TEC: I_{max}=0,7A, U_{max}=3.9 V, Q_{max}=1,4 W,
AC R = 4.7 Ohm, ΔT_{max} = 72 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

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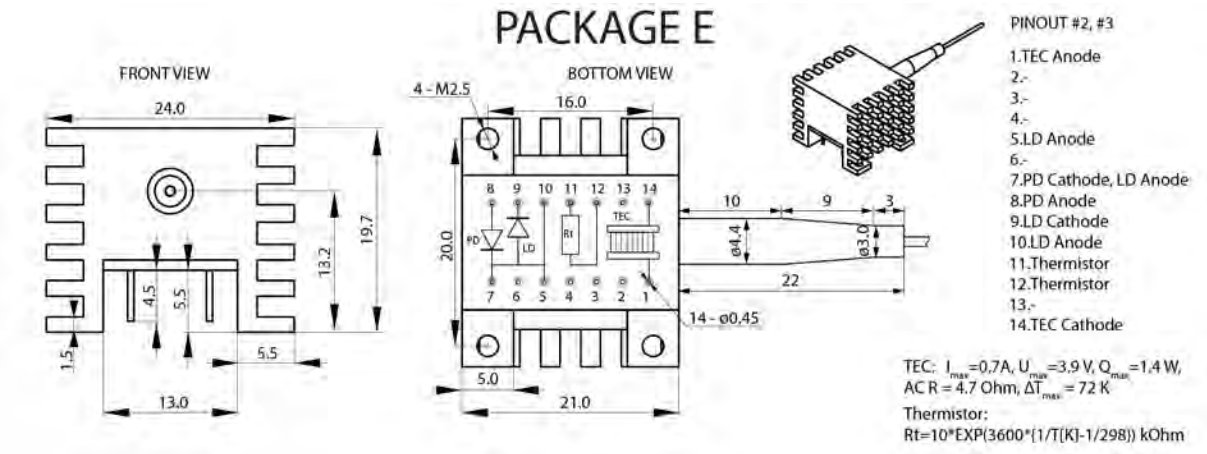
LDI-1625-DFB-1.25G-15/40



LASERSCOM
Coupling Light to Your Success

LDI-1625-DFB-1.25G-15/40

Characteristics, data, materials and structures specified in this datasheet are subject to change without notice. Please refer to the latest specification before use of the products.

Safety and handling cautions

1. Avoid smashing and burning of the module. Avoid storing and using the module in conditions where water, organic solvents or aggressive acids or bases may contact the module or where there is a possibility of exposure to corrosive gases, explosive gases, dust, salinity or other harsh conditions. The module should be disposed as special industrial waste.
2. Exceeding absolute maximum ratings even for a short time can cause permanent damage of the module.
3. The module is sensitive to and can be broken by ESD (static electricity).

Conflict Minerals Policy Statement

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LDI-1625-FP-20/70

OVERVIEW

LDI-1625-FP-20/70 is the MQW laser diode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Wavelength: 1625 nm
- Cavity type: Fabry-Perot
- Optical power: up to 20 mW in CW mode, up to 70 mW in pulse mode in SM fiber G.657.A1
- Package types: coaxial, coaxial with bracket, 14 pins DIL
- Built-in monitor photodiode

APPLICATIONS

- OTDR

ORDERING INFORMATION

LDI-1625-FP-20/70-X-2-X-X-X-X

Case type

U: compact coaxial (pulse mode only)
B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SMT: SM, Corning Titania-Clad, furcation tubing ∅0.9 mm, ultrasmall bending radius 2.5 mm
SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm
MM5: MM, 50/125, OM2, furcation tubing ∅0.9 mm
MM6: MM, 62.5/125, OM1, furcation tubing ∅0.9 mm
Other type on request

Connector type

FA: FC/APC (SM1,SM3, SMT)
SA: SC/APC (SM1)
N: no connector
FU: FC/UPC (SM1, SM3, SMT, MM5, MM6)
SU: SC/UPC (SM1)
Other type: on request

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)
P: pulse mode (10 µs; duty cycle = 1%)
CWP: both CW and pulse modes

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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LDI-1625-FP-20/70

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current	I_{FL}	190	mA	CW
		600	mA	Pulse
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	10	V	
Operating temperature	T_{OP}	-40 - +85	°C	Package U, B
Operating temperature	T_{OP}	-40 - +50	°C	Package T, E
Storage temperature	T_{stg}	-40 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 10 seconds

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Wavelength	λ	1590	1625	1650	nm	CW, P = 20 mW
Spectral width	$\Delta\lambda$		4	7	nm	CW, P = 20 mW, -20 dB, OSA
Threshold current	I_{th}		50	70	mA	CW
Operating current	I_{op}		140	190	mA	CW, P = 20 mW, SM1
Slope efficiency	S_e	0.18	0.22		W/A	CW, SM1
Operating voltage	V_{op}		1.5	2.0	V	CW, P = 20 mW
Tracking error	E_r		0.4	0.6	dB	CW, P = 3 mW; T = -40 ÷ +80 °C
Pulse optical power	P_p	60	70		mW	Pulse, Iop = 600 mA
Monitoring output current (PD)	I_m	0.2	0.3	3.0	mA	CW, P = 20 mW, V_{rd} = 5V

Pulse mode: pulse duration 10 μs; duty cycle = 1%

Tracking error E_r = max |10 lg [P(T)/P(25°C)]|, I_m= const, T = T_{min}÷ T_{max}

LASERSCOM
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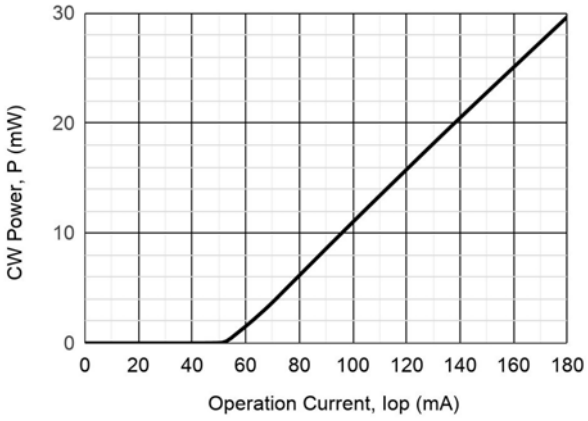
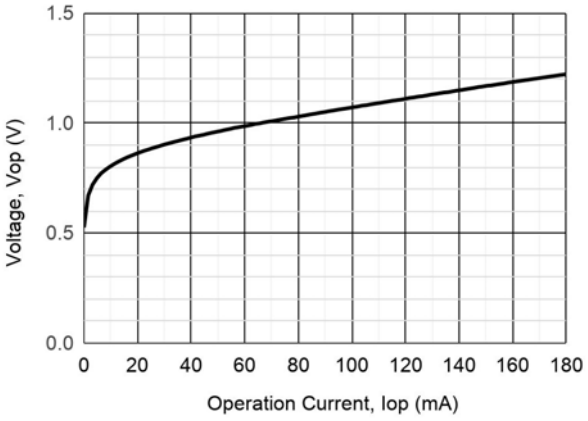
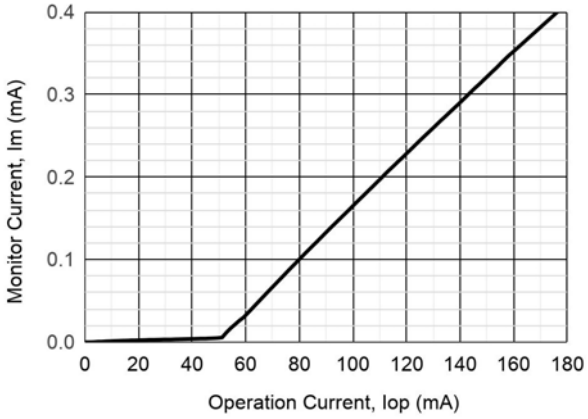
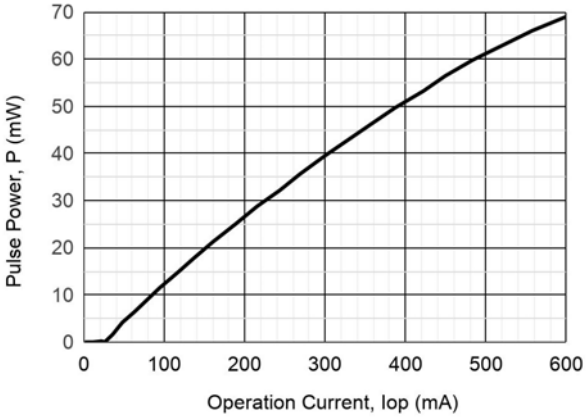
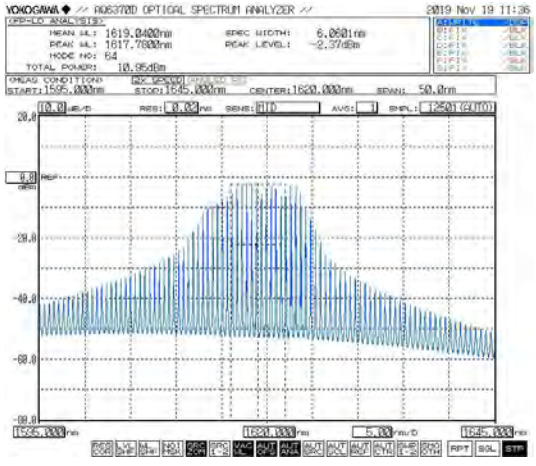
LDI-1625-FP-20/70

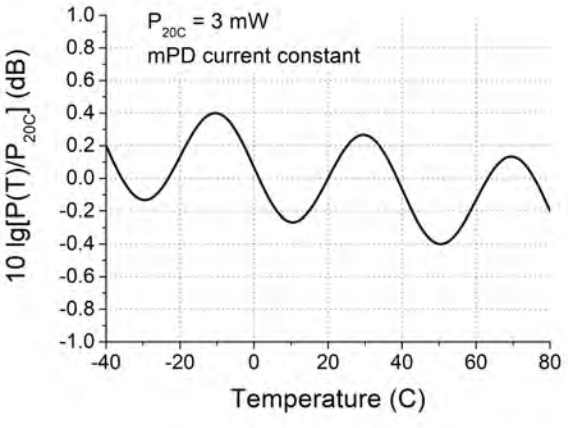












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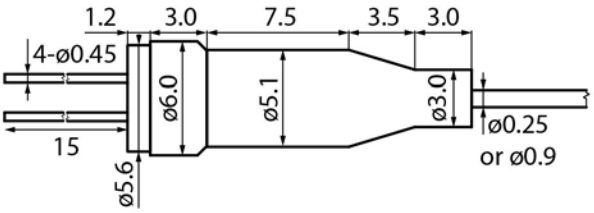
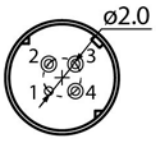
LDI-1625-FP-20/70

PACKAGE U

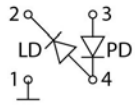
SIDE VIEW



BACK VIEW



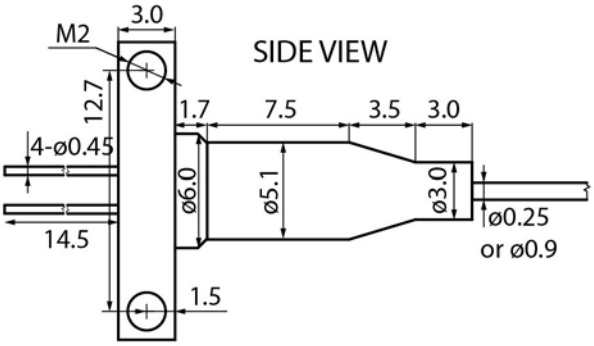
PINOUT
#2



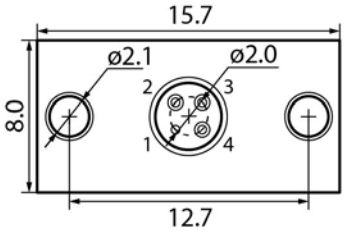
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

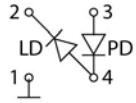
PACKAGE B



BACK VIEW



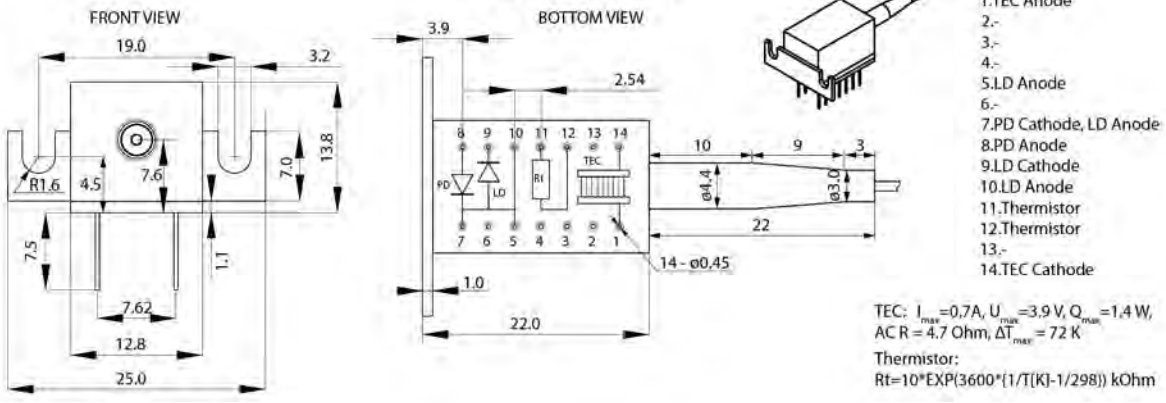
PINOUT
#2



Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T



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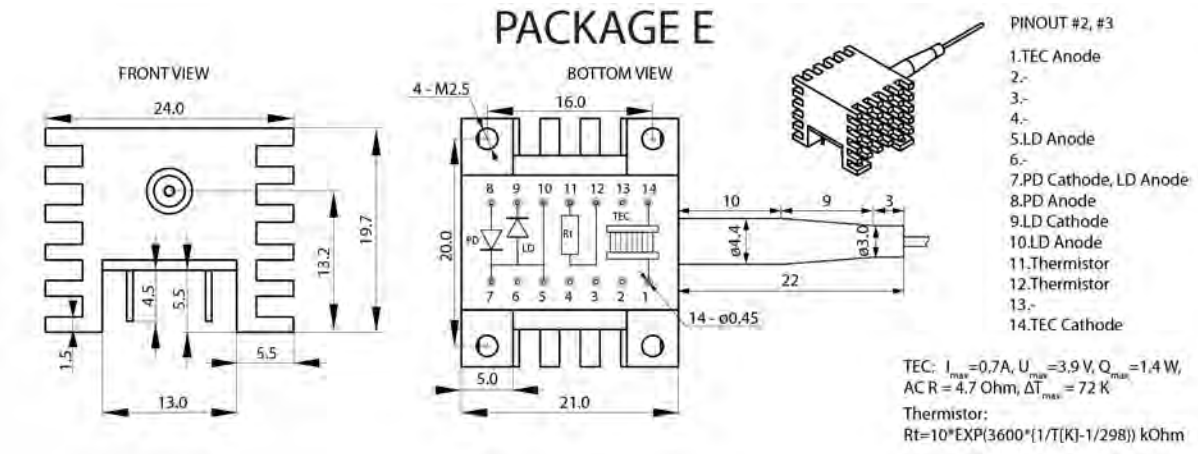
LDI-1625-FP-20/70



LDI-1625-FP-20/70

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Safety and handling cautions

1. Avoid smashing and burning of the module. Avoid storing and using the module in conditions where water, organic solvents or aggressive acids or bases may contact the module or where there is a possibility of exposure to corrosive gases, explosive gases, dust, salinity or other harsh conditions. The module should be disposed as special industrial waste.
2. Exceeding absolute maximum ratings even for a short time can cause permanent damage of the module.
3. The module is sensitive to and can be broken by ESD (static electricity).

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LDS-1650-DFB-1.25G-10/20

OVERVIEW

LDS-1650-DFB-1.25G-10/20 is the MQW laser diode coupled to an optical fiber and packaged into a hermetic case. The special feature of the LDS technology is the increased thermal stability of optical power

MAIN FEATURES

- Wavelength: 1650 nm
- Cavity type: DFB
- Linewidth: <500 kHz
- Data rate up to 1.25 Gbps
- Optical power: up to 10 mW in CW mode, up to 20 mW in pulse mode in SM fiber G.657.A1
- Package types: coaxial, coaxial with bracket, 14 pins DIL
- Built-in monitor photodiode

APPLICATIONS

- Optical fiber systems
- Laser systems

ORDERING INFORMATION

LDS-1650-DFB-1.25G-10/20-X-2-X-X-X-X

Case type

U: compact coaxial (pulse mode only)
B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SMT: SM, Corning Titania-Clad, furcation tubing ∅0.9 mm, ultrasmall bending radius 2.5 mm
SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm or **BSM1** ∅0.25mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm or **BSM3** ∅0.25mm
SMP13: PM, Fujikura SM13, PANDA type, furcation tubing ∅0.9 mm
Other type on request

Connector type

FA: FC/APC (SM1,SM3, SMT, SMP13)
SA: SC/APC (SM1)
N: no connector
FU: FC/UPC (SM1, SM3, SMT)
SU: SC/UPC (SM1)
Other type: on request

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)
P: pulse mode (10 µs; duty cycle = 1%)
CWP: both CW and pulse modes

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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LDS-1650-DFB-1.25G-10/20

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current	I_{FL}	120	mA	CW
		250	mA	Pulse
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	10	V	
Operating temperature	T_{OP}	-40 - +85	°C	Package U, B
Operating temperature	T_{OP}	-40 - +50	°C	Package T, E
Storage temperature	T_{stg}	-50 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 10 seconds

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Wavelength	λ	1645	1650	1655	nm	CW, P = 10 mW
Spectral width	$\Delta\lambda$		0.08		nm	CW, P = 10 mW, -20 dB, OSA
Spectral width	Δf			500	kHz	CW, P = 10 mW, delayed self-heterodyne method
Wavelength-temperature coeff.	dλ/dT		0.15		nm/°C	
Side-mode suppression ratio	SMSR	40	55		dB	CW, P = 10 mW
Threshold current	I_{th}		15	20	mA	CW
Operating current	I_{op}		100	120	mA	CW, P = 10 mW, SM1
Slope efficiency	S_e	0.10	0.12		W/A	CW, SM1
Operating voltage	V_{op}		1.4	1.8	V	CW, P = 10 mW
Tracking error	E_r		0.15	0.30	dB	CW, P = 3 mW; T = -40 ÷ +80 °C
Pulse optical power	P_p	15	20		mW	Pulse, Iop = 250 mA
Monitoring output current (PD)	I_m	0.2	0.5	5.0	mA	CW, P = 10 mW, V_{rd} = 5V
Dark current (PD)	I_d			200	nA	V_{rd} = 5V
Polarization extinction ratio	PER	20			dB	CW, SMP13

Pulse mode: pulse duration 10 μs; duty cycle = 1%

Tracking error E_r = max |10 lg [P(T)/P(25°C)]|, I_m = const, T = T_{min} ÷ T_{max}

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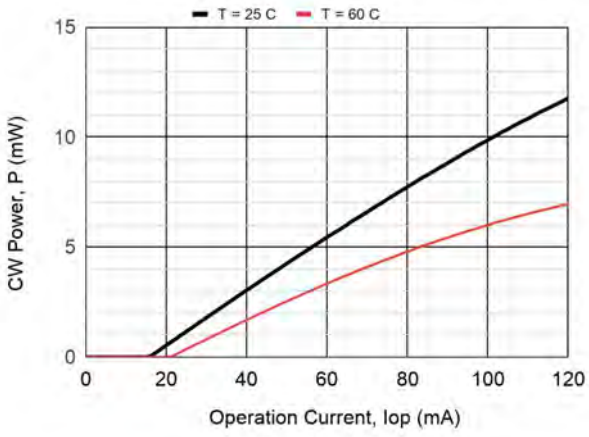
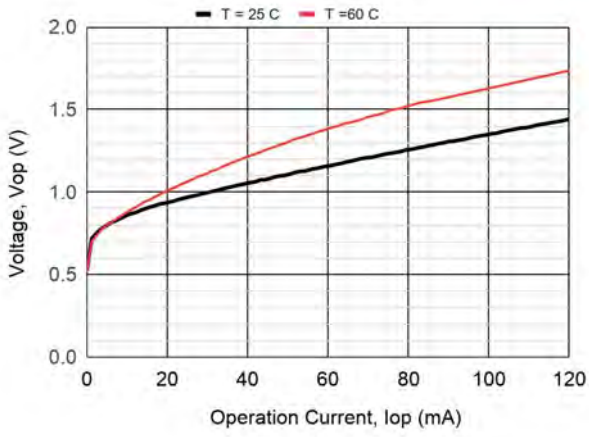
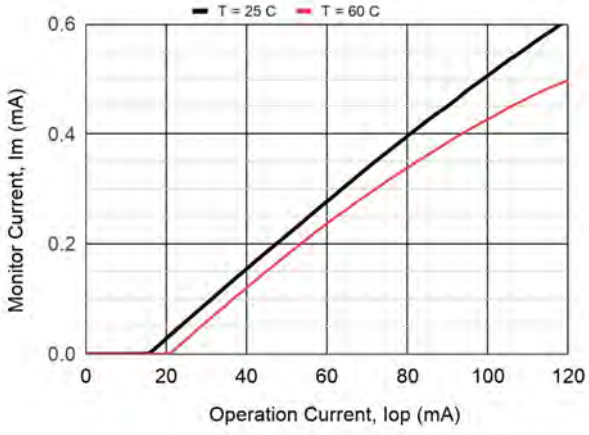
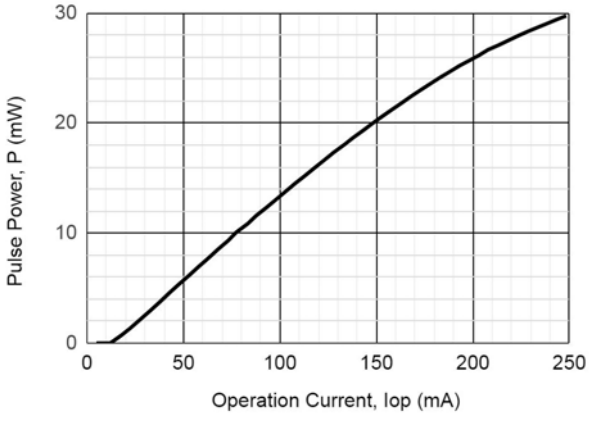
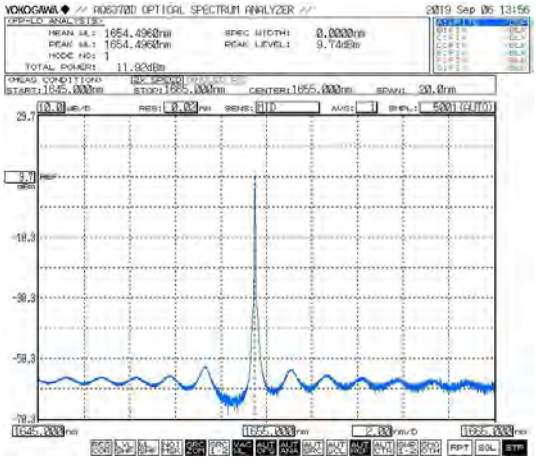
LDS-1650-DFB-1.25G-10/20

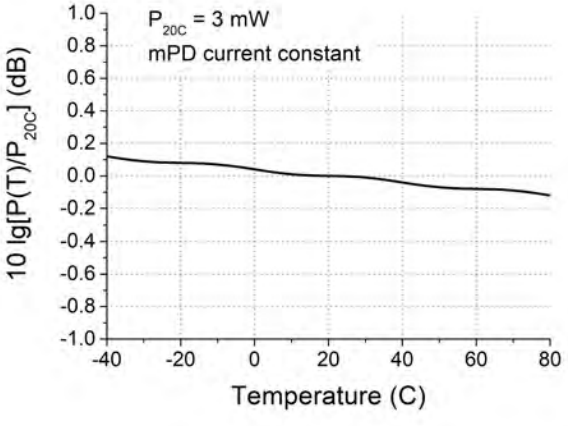












LASERSCOM
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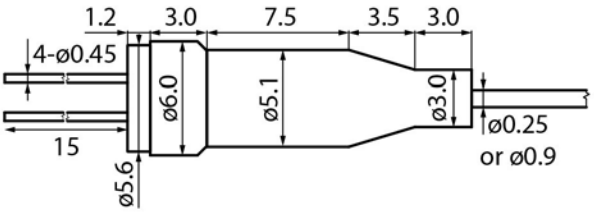
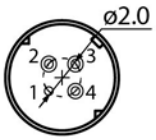
LDS-1650-DFB-1.25G-10/20

PACKAGE U

SIDE VIEW



BACK VIEW



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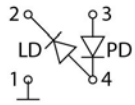
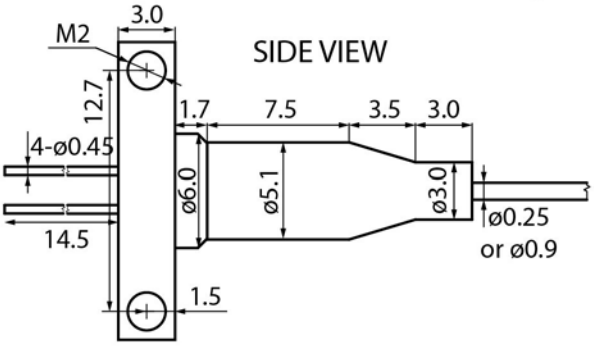


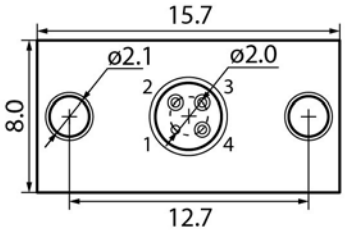
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

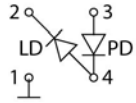
PACKAGE B



BACK VIEW



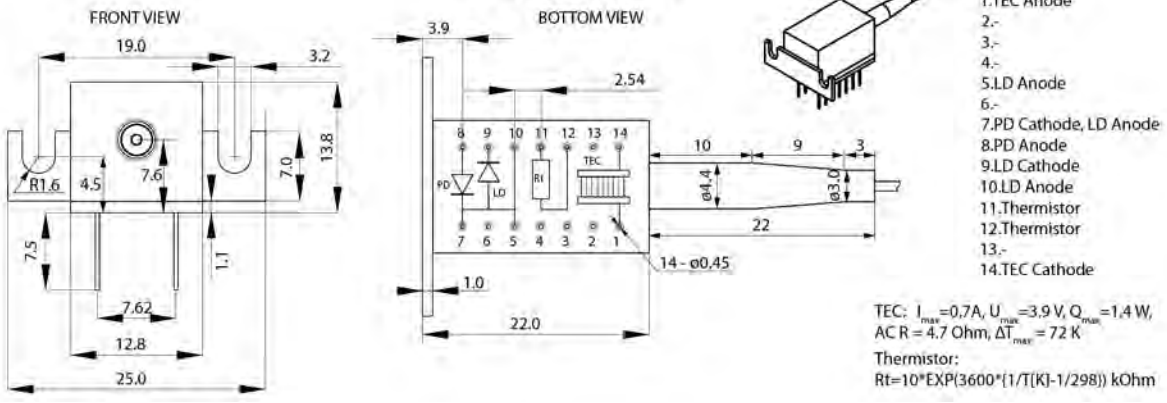
PINOUT #2



Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T



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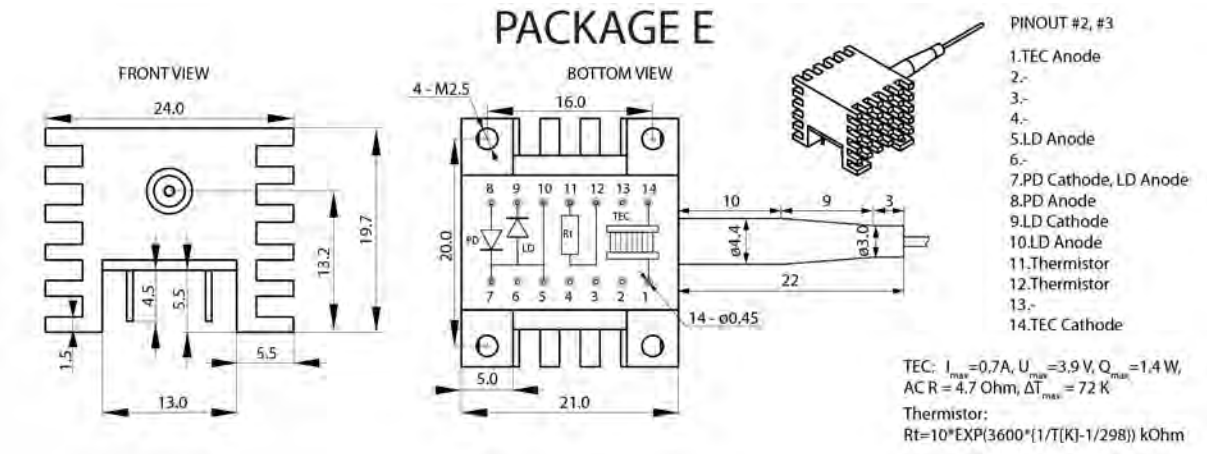

LDS-1650-DFB-1.25G-10/20

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Safety and handling cautions

1. Avoid smashing and burning of the module. Avoid storing and using the module in conditions where water, organic solvents or aggressive acids or bases may contact the module or where there is a possibility of exposure to corrosive gases, explosive gases, dust, salinity or other harsh conditions. The module should be disposed as special industrial waste.
2. Exceeding absolute maximum ratings even for a short time can cause permanent damage of the module.
3. The module is sensitive to and can be broken by ESD (static electricity).

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LDI-1650-DFB-1.25G-15/30

OVERVIEW

LDI-1650-DFB-1.25G-15/30 is the MQW laser diode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Wavelength: 1650 nm
- Cavity type: DFB
- Linewidth: <500 kHz
- Data rate up to 1.25 Gbps
- Optical power: up to 15 mW in CW mode, up to 30 mW in pulse mode in SM fiber G.657.A1
- Package types: coaxial, coaxial with bracket, 14 pins DIL
- Built-in monitor photodiode

APPLICATIONS

- Optical fiber systems
- Laser systems

ORDERING INFORMATION

LDI-1650-DFB-1.25G-15/30-X-2-X-X-X-X

Case type

U: compact coaxial (pulse mode only)
B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SMT: SM, Corning Titania-Clad, furcation tubing ∅0.9 mm, ultrasmall bending radius 2.5 mm
SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm or **BSM1** ∅0.25mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm or **BSM3** ∅0.25mm
MM5: MM, 50/125, OM2, furcation tubing ∅0.9 mm
MM6: MM, 62.5/125, OM1, furcation tubing ∅0.9 mm
Other type on request

Connector type

FA: FC/APC (SM1,SM3, SMT)
SA: SC/APC (SM1)
N: no connector
FU: FC/UPC (SM1, SM3, SMT, MM5, MM6)
SU: SC/UPC (SM1)
Other type: on request

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)
P: pulse mode (10 µs; duty cycle = 1%)
CWP: both CW and pulse modes

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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LDI-1650-DFB-1.25G-15/30

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current	I_{FL}	120	mA	CW
		250	mA	Pulse
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	10	V	
Operating temperature	T_{OP}	-40 - +85	°C	Package U, B
Operating temperature	T_{OP}	-40 - +50	°C	Package T, E
Storage temperature	T_{stg}	-50 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 10 seconds

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Wavelength	λ	1645	1650	1655	nm	CW, P = 15 mW
Spectral width	$\Delta\lambda$		0.08		nm	CW, P = 15 mW, -20 dB, OSA
Spectral width	Δf			500	kHz	CW, P = 15 mW, delayed self-heterodyne method
Wavelength-temperature coeff.	dλ/dT		0.15		nm/°C	
Side-mode suppression ratio	SMSR	40	55		dB	CW, P = 15 mW
Threshold current	I_{th}		15	20	mA	CW
Operating current	I_{op}		100	120	mA	CW, P = 15 mW, SM1
Slope efficiency	S_e	0.15	0.18		W/A	CW, SM1
Operating voltage	V_{op}		1.4	1.8	V	CW, P = 15 mW
Tracking error	E_r		0.4	0.6	dB	CW, P = 3 mW; T = -40 ÷ +80 °C
Pulse optical power	P_p	25	30		mW	Pulse, Iop = 250 mA
Monitoring output current (PD)	I_m	0.2	0.5	5.0	mA	CW, P = 15 mW, V_{rd} = 5V
Dark current (PD)	I_d			200	nA	V_{rd} = 5V

Pulse mode: pulse duration 10 μs; duty cycle = 1%

Tracking error E_r = max |10 lg [P(T)/P(25°C)]]|, I_m= const, T = T_{min}÷ T_{max}

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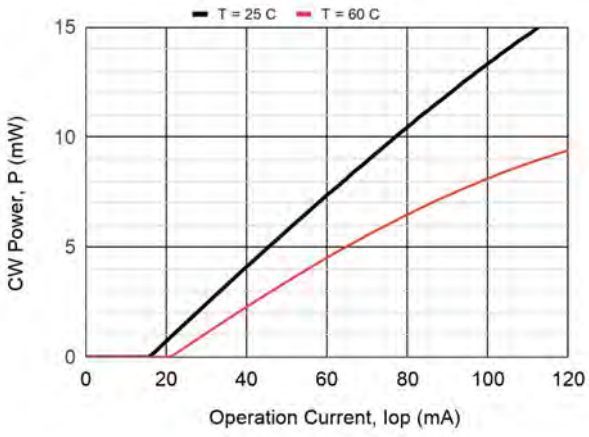
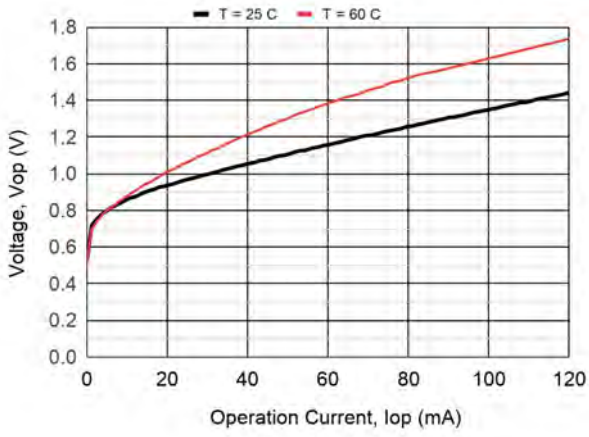
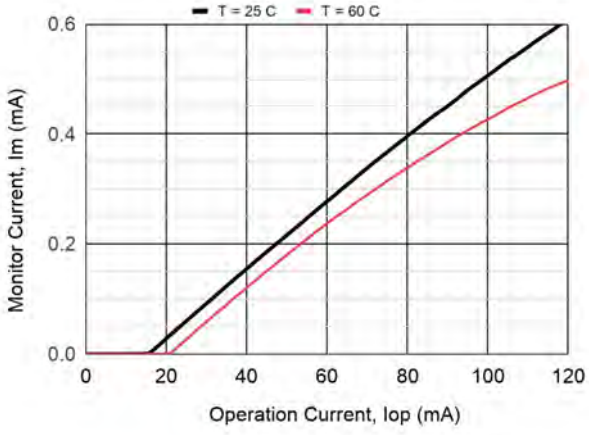
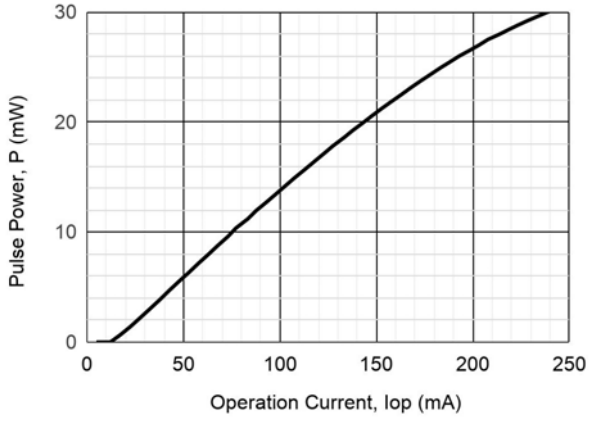
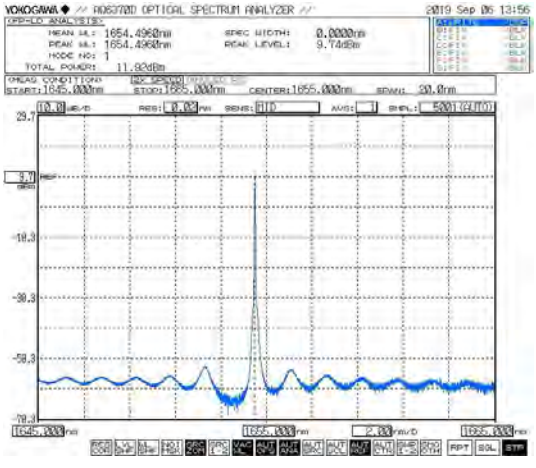
LDI-1650-DFB-1.25G-15/30

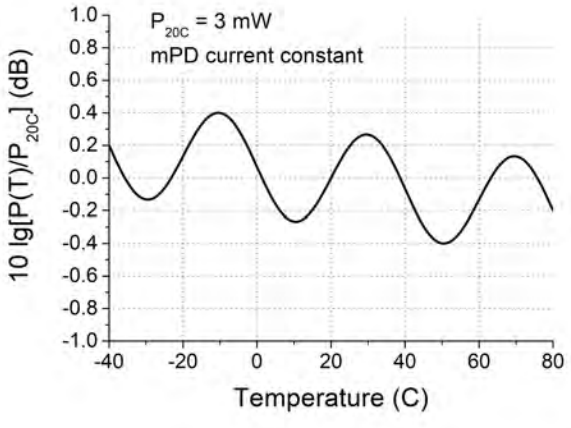












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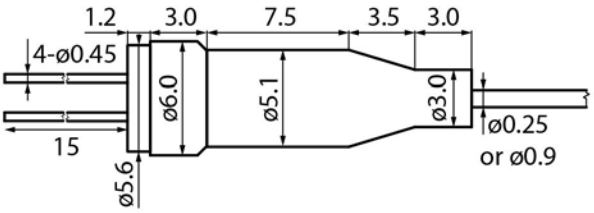
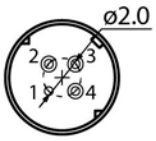
LDI-1650-DFB-1.25G-15/30

PACKAGE U

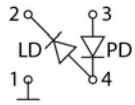
SIDE VIEW



BACK VIEW



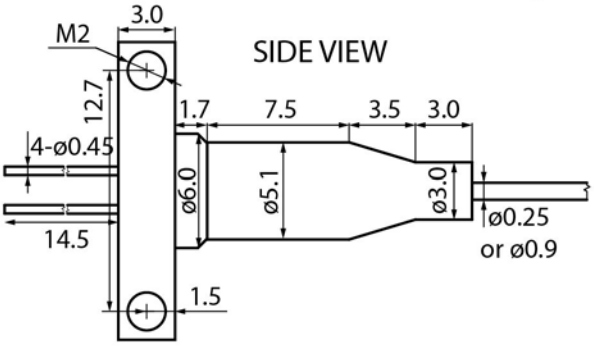
PINOUT #2



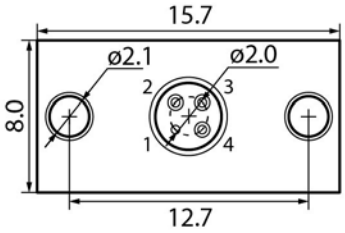
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE B



BACK VIEW



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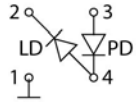
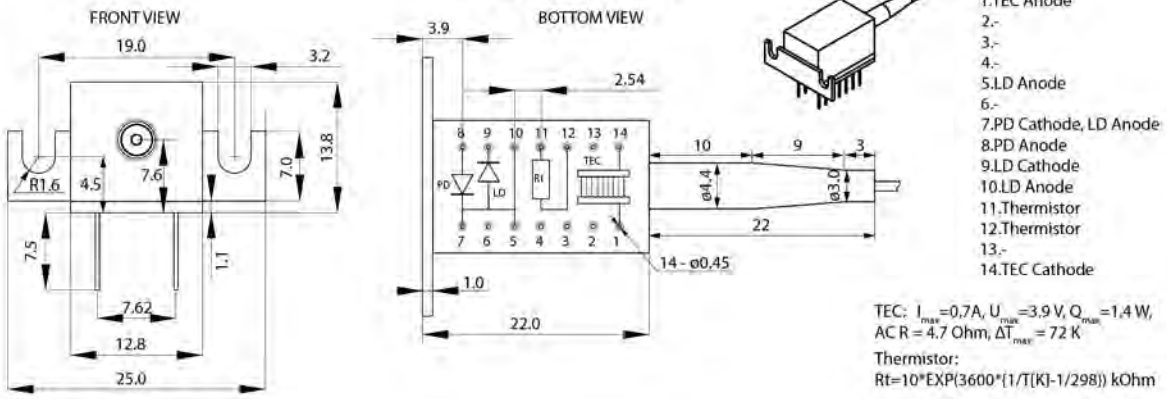


Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T



PINOUT #2, #3

1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.PD Cathode, LD Anode
8.PD Anode
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

TEC: I_{max}=0,7A, U_{max}=3.9 V, Q_{max}=1,4 W,
AC R = 4.7 Ohm, ΔT_{max} = 72 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

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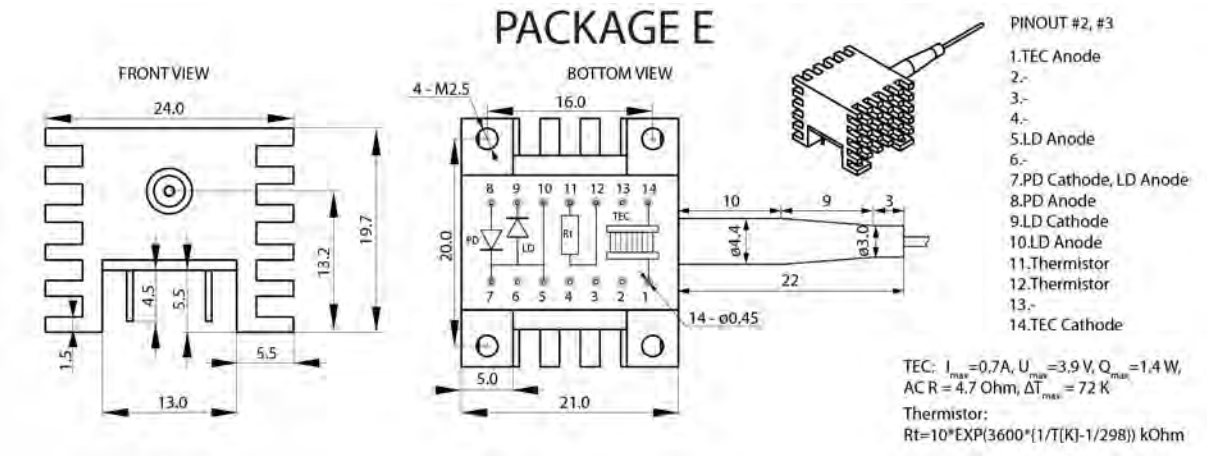

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LDI-1650-DFB-1.25G-15/30

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Safety and handling cautions

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LDI-1650-FP-20/50

OVERVIEW

LDI-1650-FP-20/50 is the MQW laser diode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Wavelength: 1650 nm
- Cavity type: Fabry-Perot
- Optical power: up to 20 mW in CW mode, up to 50 mW in SM fiber G.657.A1
- Package types: coaxial, coaxial with bracket, 14 pins DIL
- Built-in monitor photodiode

APPLICATIONS

- OTDR

ORDERING INFORMATION

LDI-1650-FP-20/50-X-2-X-X-X-X

Case type

U: compact coaxial (pulse mode only)
B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SMT: SM, Corning Titania-Clad, furcation tubing ∅0.9 mm, ultrasmall bending radius 2.5 mm
SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm
MM5: MM, 50/125, OM2, furcation tubing ∅0.9 mm
MM6: MM, 62.5/125, OM1, furcation tubing ∅0.9 mm
Other type on request

Connector type

FA: FC/APC (SM1,SM3, SMT)
SA: SC/APC (SM1)
N: no connector
Other type: on request

FU: FC/UPC (SM1, SM3, SMT, MM5, MM6)
SU: SC/UPC (SM1)

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)
P: pulse mode (10 µs; duty cycle = 1%)
CWP: both CW and pulse modes

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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LDI-1650-FP-20/50

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current	I_{FL}	220	mA	CW
		600	mA	Pulse
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	10	V	
Operating temperature	T_{OP}	-40 - +85	°C	Package U, B
Operating temperature	T_{OP}	-40 - +50	°C	Package T, E
Storage temperature	T_{stg}	-40 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 10 seconds

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Wavelength	λ	1630	1650	1670	nm	CW, P = 20 mW
Spectral width	$\Delta\lambda$		4	7	nm	CW, P = 20 mW, -20 dB, OSA
Threshold current	I_{th}		50	75	mA	CW
Operating current	I_{op}		170	220	mA	CW, P = 20 mW, SM1
Slope efficiency	S_e	0.11	0.17		W/A	CW, SM1
Operating voltage	V_{op}		1.2	2.0	V	CW, P = 20 mW
Tracking error	E_r		0.4	0.6	dB	CW, P = 3 mW; T = -40 ÷ +80 °C
Pulse optical power	P_p	45	50		mW	Pulse, Iop = 600 mA
Monitoring output current (PD)	I_m	0.2	1.8	3.0	mA	CW, P = 20 mW, V_{rd} = 5V

Pulse mode: pulse duration 10 μs; duty cycle = 1%

Tracking error E_r = max |10 lg [P(T)/P(25°C)]|, I_m = const, T = T_{min} ÷ T_{max}

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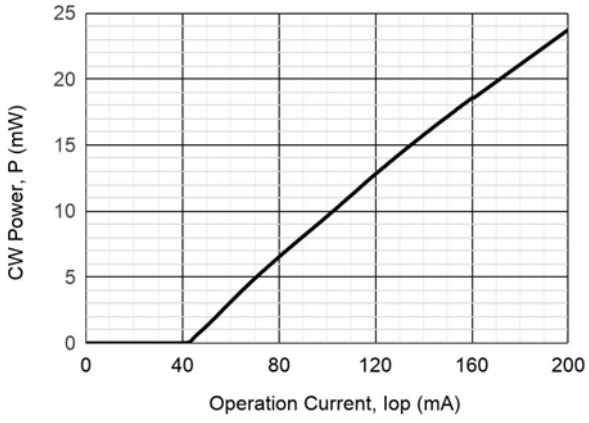
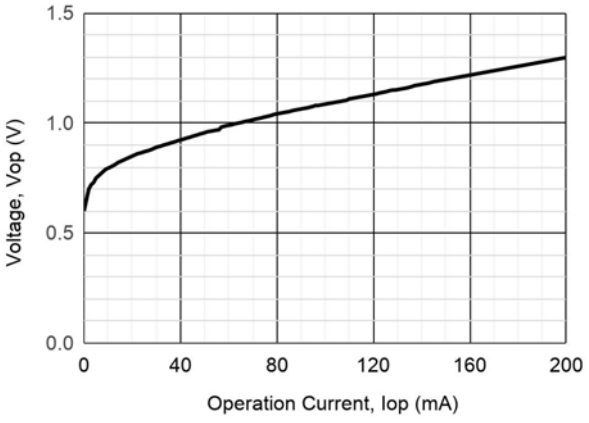
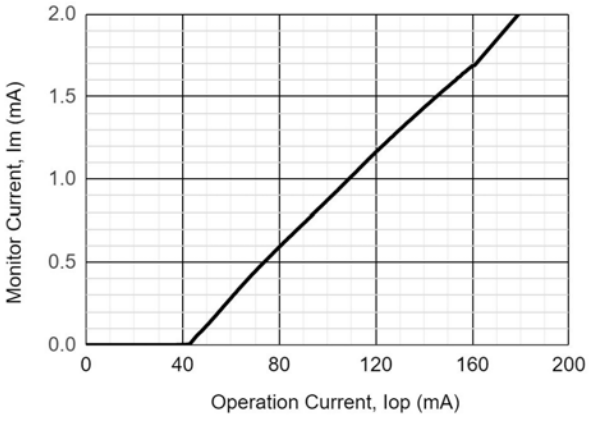
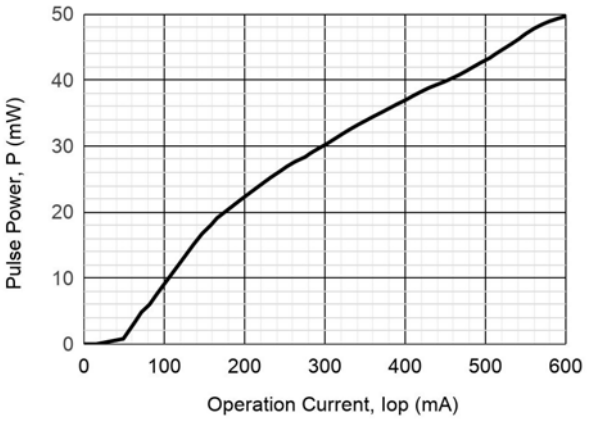
LDI-1650-FP-20/50









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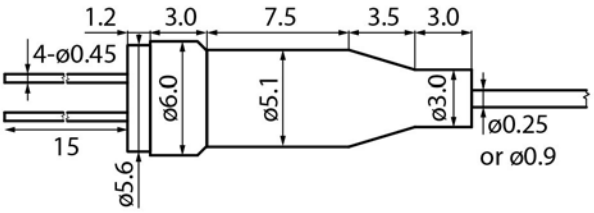
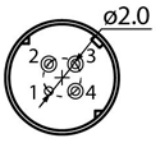
LDI-1650-FP-20/50

PACKAGE U

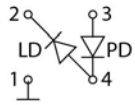
SIDE VIEW



BACK VIEW



PINOUT #2

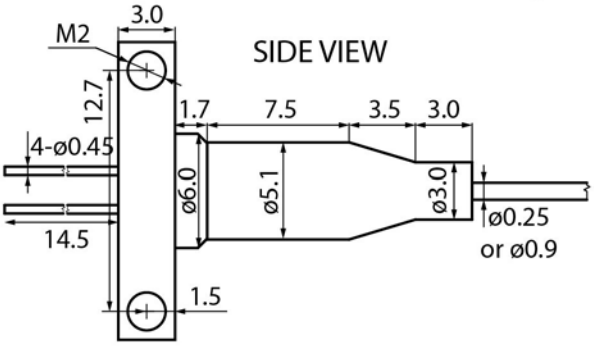


Connector FC/UPC, FC/APC, no connector, or by request

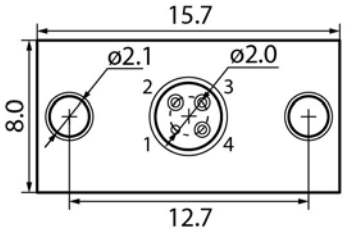
Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE B

SIDE VIEW



BACK VIEW



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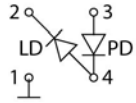
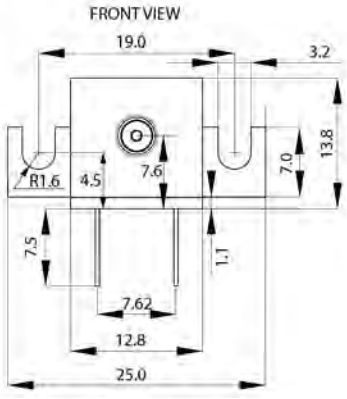


Connector FC/UPC, FC/APC, no connector, or by request

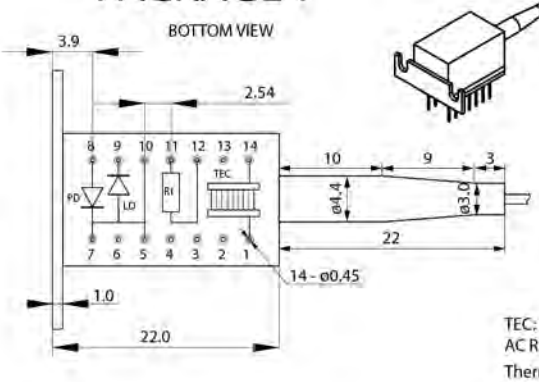
Fiber length 500+/-50, 1000+/-100, or by request

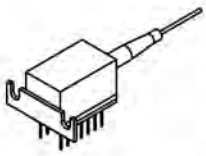
PACKAGE T

FRONT VIEW



BOTTOM VIEW





PINOUT #2, #3

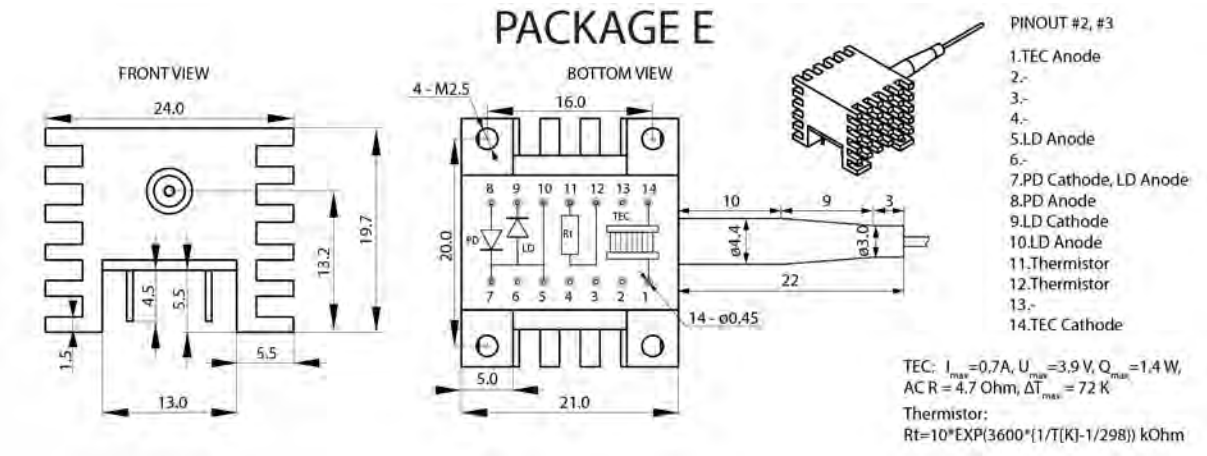
1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.PD Cathode, LD Anode
8.PD Anode
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

TEC: I_{max}=0,7A, U_{max}=3.9 V, Q_{max}=1,4 W,
AC R = 4.7 Ohm, ΔT_{max} = 72 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

LASERSCOM
Coupling Light to Your Success

LDI-1650-FP-20/50



LASERSCOM
Coupling Light to Your Success

LDI-1650-FP-20/50

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Safety and handling cautions

1. Avoid smashing and burning of the module. Avoid storing and using the module in conditions where water, organic solvents or aggressive acids or bases may contact the module or where there is a possibility of exposure to corrosive gases, explosive gases, dust, salinity or other harsh conditions. The module should be disposed as special industrial waste.
2. Exceeding absolute maximum ratings even for a short time can cause permanent damage of the module.
3. The module is sensitive to and can be broken by ESD (static electricity).

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LASERSCOM
Coupling Light to Your Success

LDI-1650-FP-20/80

OVERVIEW

LDI-1650-FP-20/80 is the MQW laser diode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Wavelength: 1650 nm
- Cavity type: Fabry-Perot
- Optical power: up to 20 mW in CW mode, up to 80 mW in pulse mode in SM fiber G.657.A1
- Package types: coaxial, coaxial with bracket
- Built-in monitor photodiode

APPLICATIONS

- OTDR

ORDERING INFORMATION

LDI-1650-FP-20/80-X-9-X-X-X-X

Case type

U: compact coaxial (pulse mode only)
B: compact coaxial with double-sided bracket
Other type on request

Fiber type

SMT: SM, Corning Titania-Clad, furcation tubing ∅0.9 mm, ultrasmall bending radius 2.5 mm
SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm
MM5: MM, 50/125, OM2, furcation tubing ∅0.9 mm
MM6: MM, 62.5/125, OM1, furcation tubing ∅0.9 mm
Other type on request

Connector type

FA: FC/APC (SM1,SM3, SMT)
SA: SC/APC (SM1)
N: no connector
Other type: on request

FU: FC/UPC (SM1, SM3, SMT, MM5, MM6)
SU: SC/UPC (SM1)

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)
P: pulse mode (10 µs; duty cycle = 1%)
CWP: both CW and pulse modes

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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LASERSCOM
Coupling Light to Your Success

LDI-1650-FP-20/80

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current	I_{FL}	170	mA	CW
		650	mA	Pulse, T = 25 C
		1000	mA	Pulse, T = 60 C
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	10	V	
Operating temperature	T_{OP}	-40 - +60	°C	Package U, B
Storage temperature	T_{stg}	-40 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 10 seconds

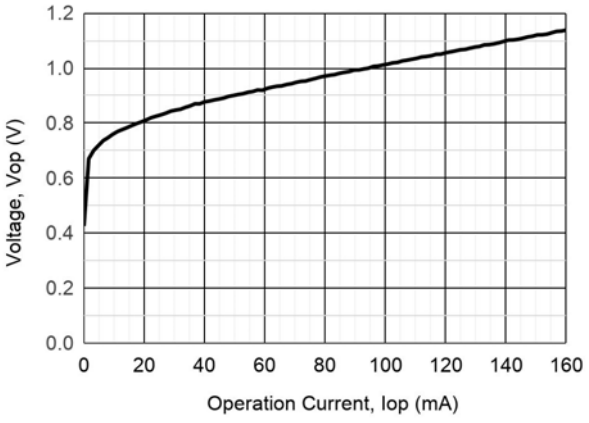
ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

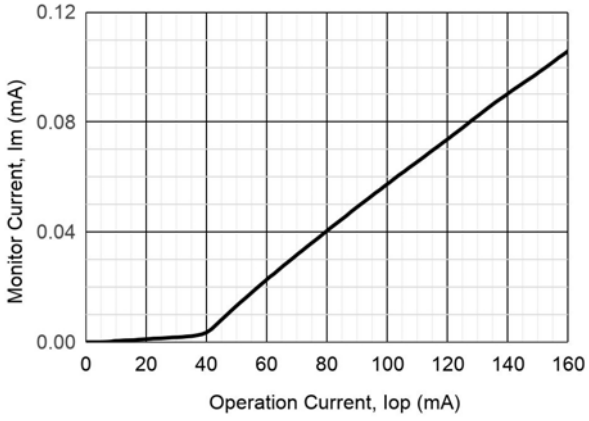
Parameter		MIN	TYP	MAX	Unit	Conditions
Wavelength	λ	1620	1640	1660	nm	CW, P = 20 mW
Spectral width	$\Delta\lambda$		5	10	nm	CW, P = 20 mW, -3 dB, OSA
Wavelength	λ	1630	1650	1670	nm	Pulse, Iop = 550 mA
Spectral width	$\Delta\lambda$		10	15	nm	Pulse, Iop = 550 mA
Threshold current	I_{th}		35	50	mA	CW
Operating current	I_{op}		145	160	mA	CW, P = 20 mW, SM1
Slope efficiency	S_e	0.15	0.20		W/A	CW, SM1
Operating voltage	V_{op}		1.1	1.5	V	CW
Pulse optical power	P_p	70	80		mW	Pulse, Iop = 550 mA @ T = 25 C, Iop = 900 mA @ 60C
Monitoring output current (PD)	I_m	0.05	0.10	0.30	mA	CW, P = 20 mW, V_{rd} = 5V

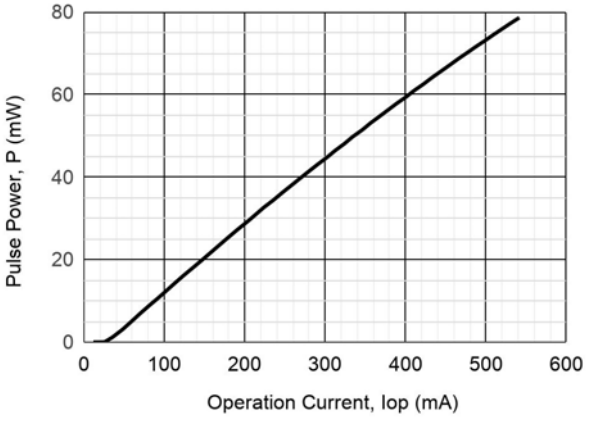
Pulse mode: pulse duration 10 μs; duty cycle = 1%

LASERS COM
Coupling Light to Your Success

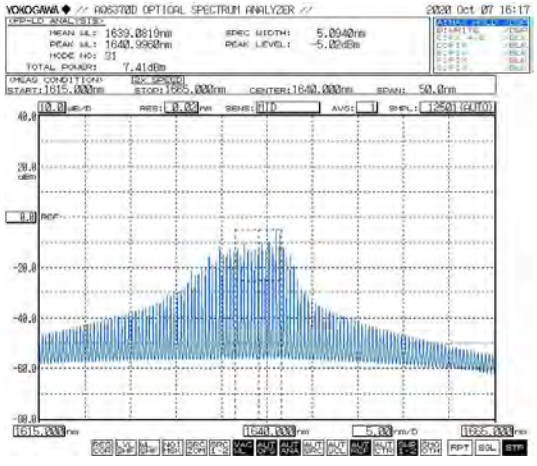
LDI-1650-FP-20/80



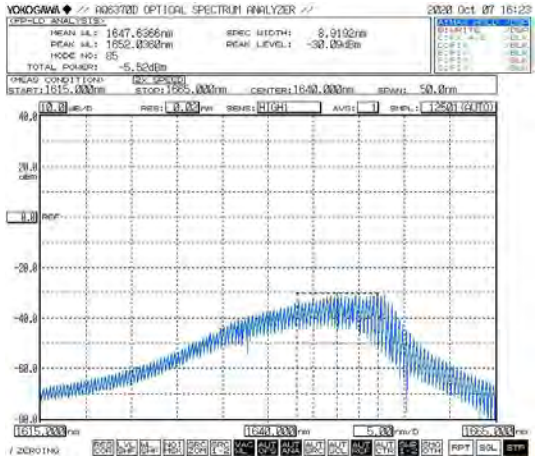




CW spectrum



Pulse spectrum



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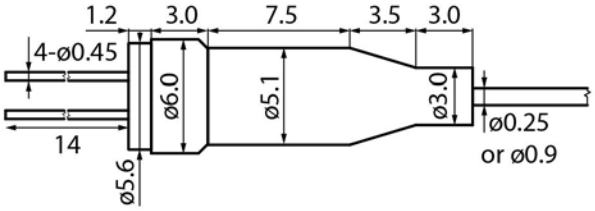
Coupling Light to Your Success

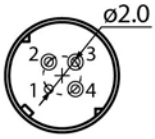
LDI-1650-FP-20/80

PACKAGE U

SIDE VIEW



BACK VIEW



PINOUT
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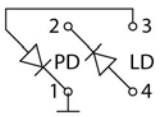
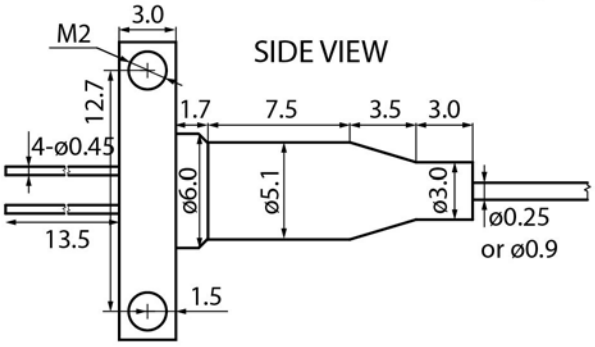


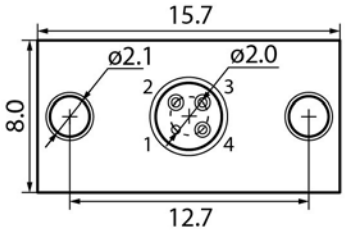
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE B



BACK VIEW



PINOUT
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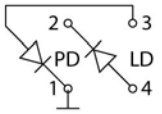

Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

LDI-1650-FP-20/80

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Safety and handling cautions

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LASERSCOM
Coupling Light to Your Success

ELED-780-2

Preliminary

OVERVIEW

ELED-780-2 is the edge-emitting superluminescent diode (SLD) coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Wavelength:780 nm
- Optical power: up to 2 mW in CW mode in single-mode fiber Corning HI-780
- Package types: compact coaxial with bracket
- Built-in monitor photodiode

APPLICATIONS

- Sensorics
- Optical fiber systems

ORDERING INFORMATION

ELED-780-2-X-3-X-X-X-X

Case type

B9: compact coaxial with double-sided bracket
Other type on request

Fiber type

SM05: SM, Corning HI-780, furcation tubing ∅0.9 mm
SMP04: PM, Fujikura SM63, furcation tubing ∅0.9 mm
SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm or **BSM1** ∅0.25mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm or **BSM3** ∅0.25mm
MM5: MM, 50/125, OM2, furcation tubing ∅0.9 mm
MM6: MM, 62.5/125, OM1, furcation tubing ∅0.9 mm
Other type on request

Connector type

FU: FC/UPC (SM05, SMP04, SM1, SM3, MM5, MM6), not for free-space applications
FA: FC/APC (SM05, SMP04, SM1, SM3)
N: no connector
Other type: on request

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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ELED-780-2

ABSOLUTE MAXIMUM RATINGS

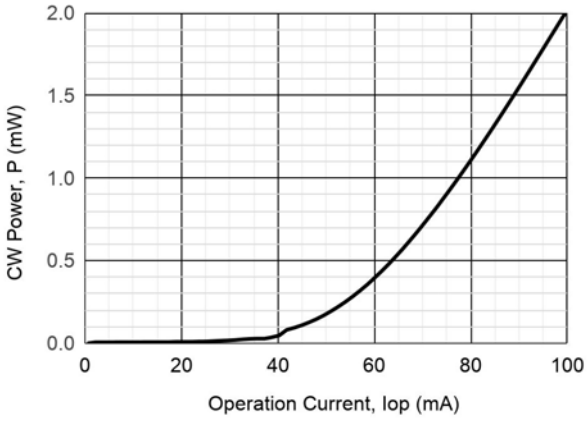
Parameter		Value	Unit	Conditions
Optical output power	P_0	2	mW	
SLD forward current	I_{FL}	120	mA	CW
SLD reverse voltage	V_{RL}	2	V	
SLD forward voltage	V_F	2	V	
Operating temperature	T_{OP}	-40 - +50	°C	Package B9
Storage temperature	T_{stg}	-40 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 10 seconds

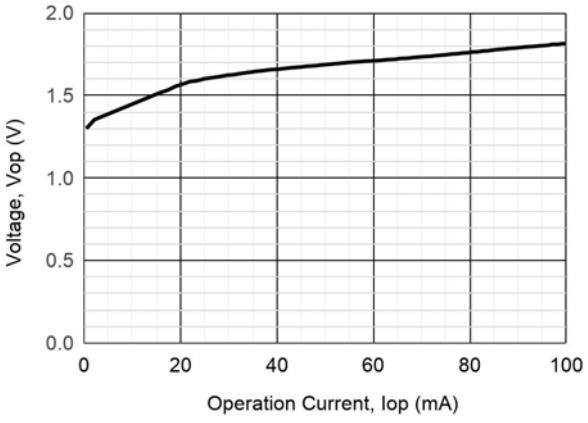
ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

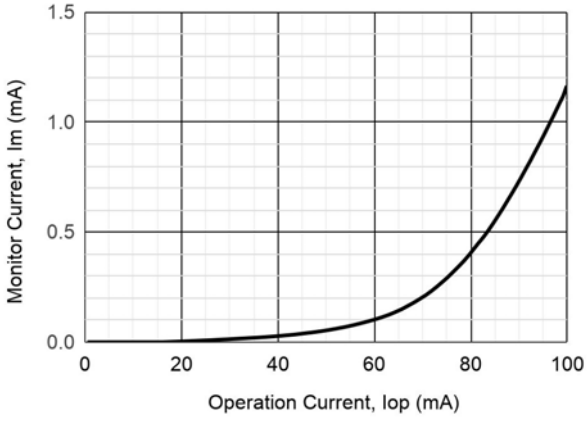
Parameter		MIN	TYP	MAX	Unit	Conditions
Wavelength	λ	770	780	790	nm	CW, P = 2 mW
Spectral width	$\Delta\lambda$	10	15		nm	CW, P = 2 mW, FWHM
Spectral modulation			1	4	%	CW, P = 2 mW
Operating current	I_{op}		100	120	mA	CW, P = 2 mW, SM05
Operating voltage	V_{op}		1.8	2.5	V	CW, P = 2 mW
Monitor current	I_m	0.6	1.2	2.4	mA	CW, P = 2 mW, V_r = 5V
Polarization extinction ratio	PER	10			dB	CW, SMP04

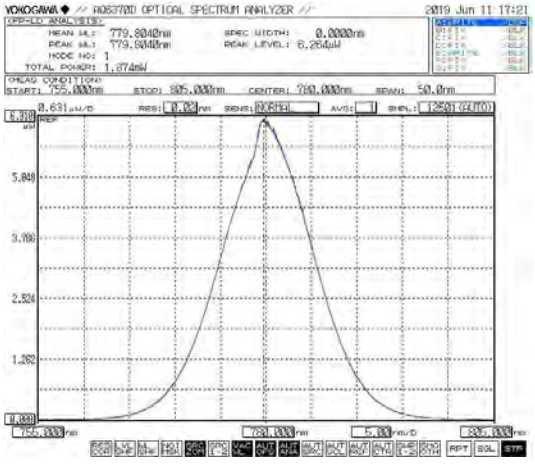
LASERSCOM
Coupling Light to Your Success

ELED-780-2





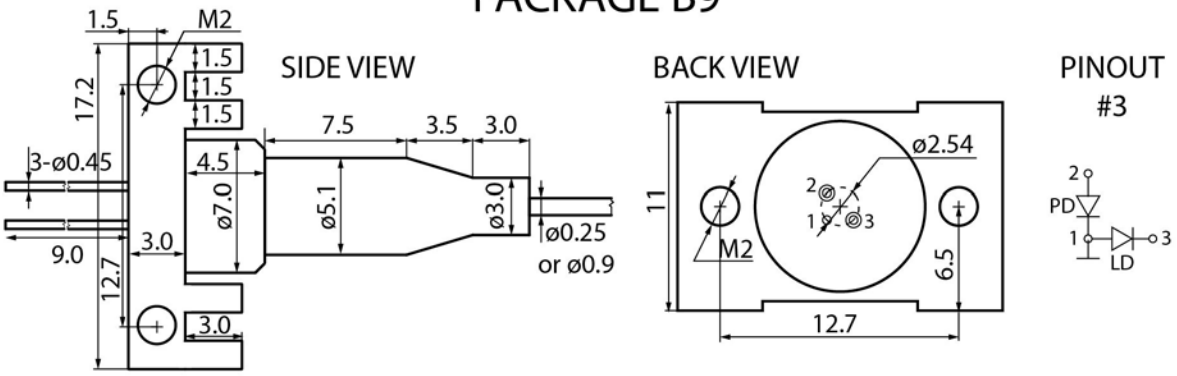




LASERS COM
Coupling Light to Your Success

ELED-780-2

PACKAGE B9



Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

ELED-780-2

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Safety and handling cautions

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LASERSCOM
Coupling Light to Your Success

ELED-840-2

Preliminary

OVERVIEW

ELED-840-2 is the edge-emitting superluminescent diode (SLD) coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Wavelength: 840 nm
- Optical power: up to 2 mW in CW mode in single-mode fiber Corning HI-780
- Package types: compact coaxial with bracket
- Built-in monitor photodiode

APPLICATIONS

- Sensorics
- Optical fiber systems

ORDERING INFORMATION

ELED-840-2-X-3-X-X-X-X

Case type

B9:compact coaxial with double-sided bracket
Other type on request

Fiber type

SM05: SM, Corning HI-780, furcation tubing ∅0.9 mm
SMP05: PM, Fujikura SM85, furcation tubing ∅0.9 mm
SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm or **BSM1** ∅0.25mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm or **BSM3** ∅0.25mm
MM5: MM, 50/125, OM2, furcation tubing ∅0.9 mm
MM6: MM, 62.5/125, OM1, furcation tubing ∅0.9 mm
Other type on request

Connector type

FU: FC/UPC (SM05, SMP05, SM1, SM3, MM5, MM6), not for free-space applications
FA: FC/APC (SM05, SMP05, SM1, SM3)
N: no connector
Other type: on request

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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LASERSCOM
Coupling Light to Your Success

ELED-840-2

ABSOLUTE MAXIMUM RATINGS

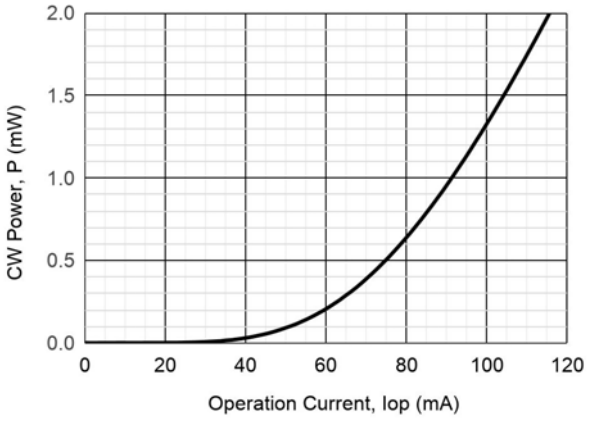
Parameter		Value	Unit	Conditions
Optical output power	P_0	2	mW	
SLD forward current	I_{FL}	135	mA	CW
SLD reverse voltage	V_{RL}	2	V	
SLD forward voltage	V_F	2	V	
Operating temperature	T_{OP}	-40 - +50	°C	Package B9
Storage temperature	T_{stg}	-40 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 10 seconds

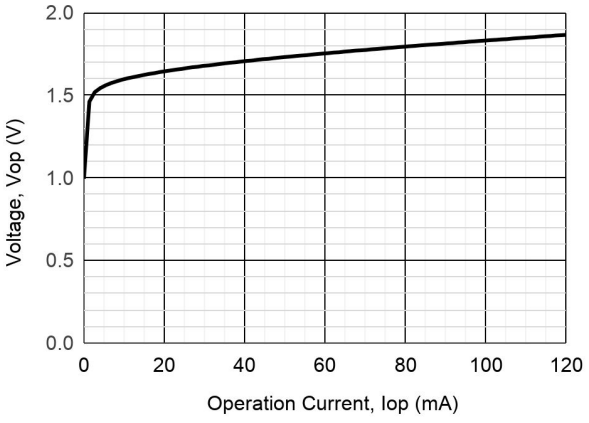
ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

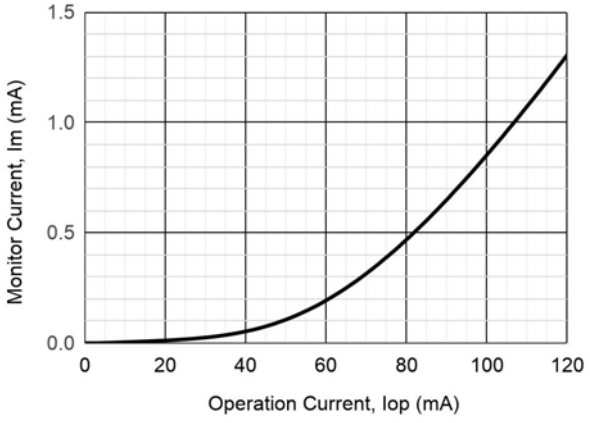
Parameter		MIN	TYP	MAX	Unit	Conditions
Wavelength	λ	810	840	870	nm	CW, P = 2 mW
Spectral width	$\Delta\lambda$	20	25		nm	CW, P = 2 mW, FWHM
Spectral modulation			1	4	%	CW, P = 2 mW
Operating current	I_{op}		115	135	mA	CW, P = 2 mW, SM05
Operating voltage	V_{op}		1.8	2.5	V	CW, P = 2 mW
Monitor current	I_m	0.6	1.2	2.4	mA	CW, P = 2 mW, V_r = 5V
Polarization extinction ratio	PER	10			dB	CW, SMP05

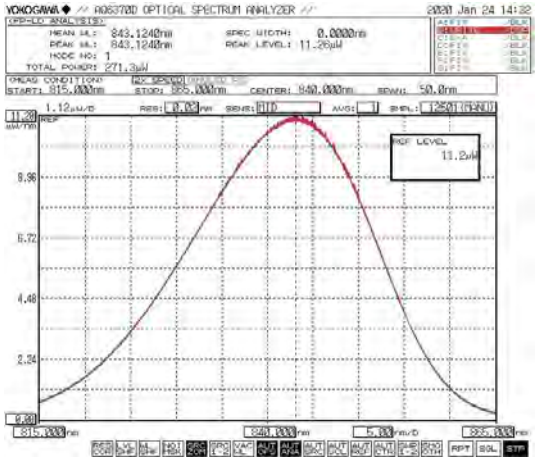
LASERS COM
Coupling Light to Your Success

ELED-840-2





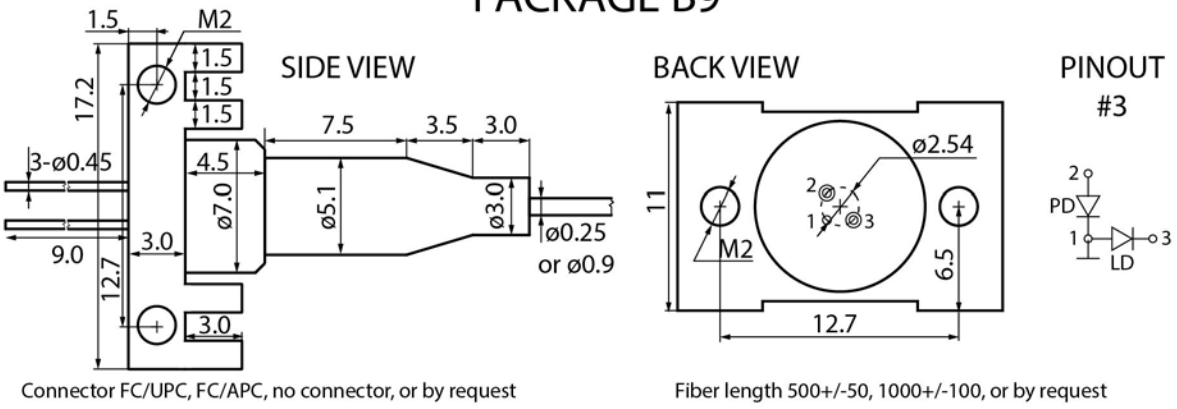




LASERS COM
Coupling Light to Your Success

ELED-840-2

PACKAGE B9



Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

ELED-840-2

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Safety and handling cautions

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2. Exceeding absolute maximum ratings even for a short time can cause permanent damage of the module.
3. The module is sensitive to and can be broken by ESD (static electricity).

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REACH Compliance Statement

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LASERSCOM
Coupling Light to Your Success

ELED-980-1

OVERVIEW

ELED-980-1 is the edge-emitting superluminescent diode (SLD) coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Wavelength: 980 nm
- Optical power: up to 1 mW in CW mode in single-mode fiber Corning HI-1060
- Package types: coaxial, compact coaxial with bracket
- Built-in monitor photodiode

APPLICATIONS

- Sensorics
- Optical fiber systems

ORDERING INFORMATION

ELED-980-1-X-3-X-X-X-X

Case type

U9: compat coaxial
B9: compact coaxial with double-sided bracket
Other type on request

Fiber type

SM05: SM, Corning HI-780, furcation tubing ∅0.9 mm
SM06: SM, Corning Hi-1060, furcation tubing ∅0.9 mm
SMP06: PM, Fujikura SM98, PANDA type, furcation tubing ∅0.9 mm
SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm or **BSM1** ∅0.25mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm or **BSM3** ∅0.25mm
MM5: MM, 50/125, OM2, furcation tubing ∅0.9 mm
MM6: MM, 62.5/125, OM1, furcation tubing ∅0.9 mm
Other type on request

Connector type

FU: FC/UPC (SM05, SM06, SMP06, SM1, SM3, MM5, MM6), not for free-space applications
FA: FC/APC (SM05, SM06, SMP06, SM1, SM3)
N: no connector
Other type: on request

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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ELED-980-1

ABSOLUTE MAXIMUM RATINGS

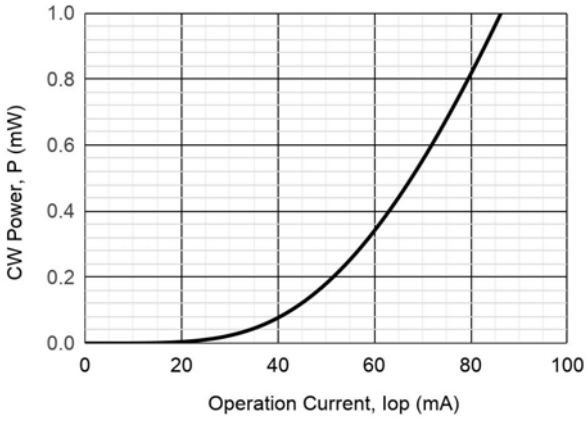
Parameter		Value	Unit	Conditions
SLD forward current	I_{FL}	140	mA	CW
SLD reverse voltage	V_{RL}	2	V	
SLD forward voltage	V_F	2.2	V	
Photodiode reverse voltage	V_{RP}	20	V	
Operating temperature	T_{OP}	-40- +50	°C	Package U, B
Storage temperature	T_{stg}	-40 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 10 seconds

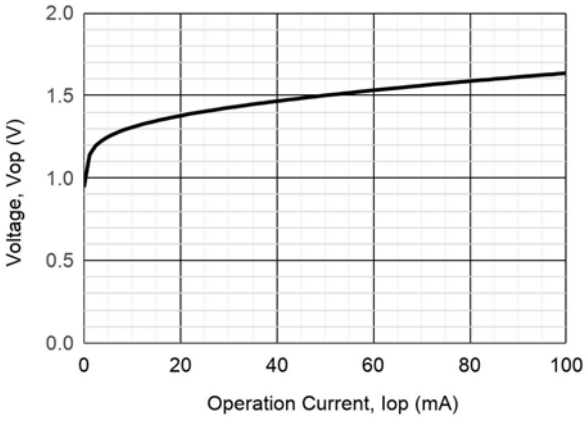
ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

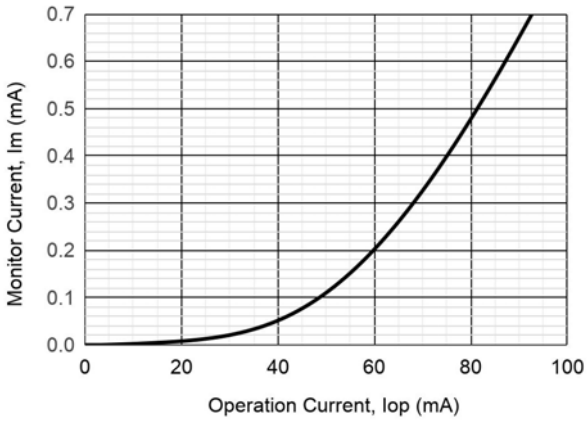
Parameter		MIN	TYP	MAX	Unit	Conditions
Wavelength	λ	970	980	990	nm	CW, P = 1 mW
Spectral width	$\Delta\lambda$	20	25		nm	CW, P = 1 mW, FWHM
Spectral modulation			1	4	%	CW, P = 1 mW
Operating current	I_{op}		90	120	mA	CW, P = 1 mW, SM05
Operating voltage	V_{op}		1.6	2.2	V	CW, P = 1 mW
Monitor current	I_m	0.3	0.7	5.0	mA	CW, P = 1 mW, V_r = 5V
Polarization extinction ratio	PER	10			dB	CW, SMP06

LASERSCOM
Coupling Light to Your Success

ELED-980-1







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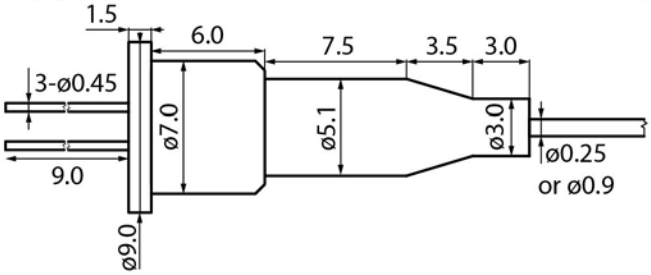
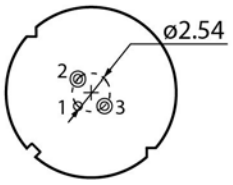
ELED-980-1

PACKAGE U9

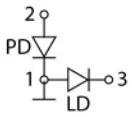
SIDE VIEW



BACK VIEW



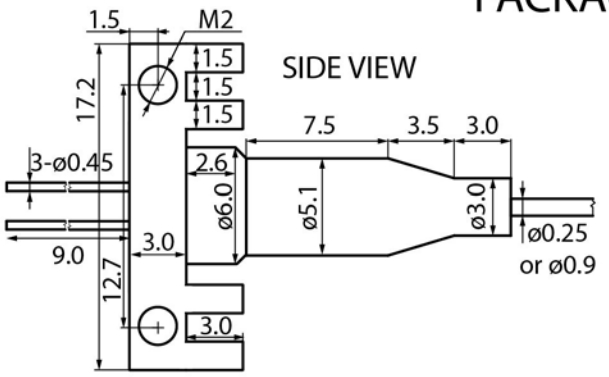
PINOUT
#3



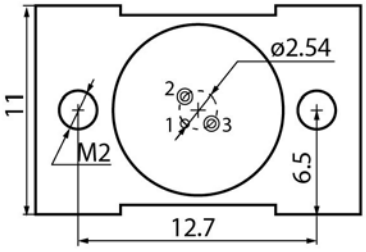
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE B9



BACK VIEW



PINOUT
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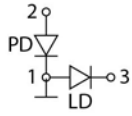

Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

ELED-980-1

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Safety and handling cautions

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ELED-1300-1

OVERVIEW

ELED-1300-1 is the edge-emitting superluminescent diode (SLD) coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Wavelength: 1300 nm
- Optical power: up to 1 mW in CW mode in single-mode fiber Corning SMF-28 Ultra
- Package types: compact coaxial with bracket, 14 pins DIL
- Built-in monitor photodiode

APPLICATIONS

- Sensorics
- Optical fiber systems

ORDERING INFORMATION

ELED-1300-1-X-9-X-X-X-X

Case type

B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SM1: SM,Corning SMF-28 Ultra, furcation tubing ∅0.9 mm
SM3: SM, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm
SMP13: PM, Fujikura SM13, furcation tubing ∅0.9 mm
MM5: MM, 50/125, OM2, furcation tubing ∅0.9 mm
MM6: MM, 62.5/125, OM1, furcation tubing ∅0.9 mm
Other type on request

Connector type

FA: FC/APC (SM1,SM3, SMP13)
SA: SC/APC (SM1)
N: no connector
Other type: on request
FU: FC/UPC (SM1, SM3, MM5, MM6)
SU: SC/UPC (SM1)

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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ABSOLUTE MAXIMUM RATINGS

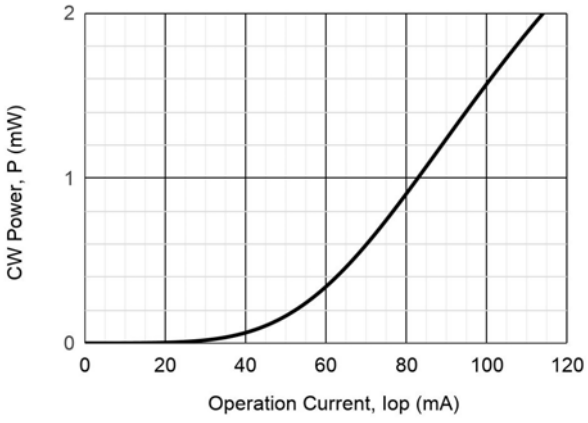
Parameter		Value	Unit	Conditions
SLD forward current	I_{FL}	150	mA	CW
SLD reverse voltage	V_{RL}	2	V	
SLD forward voltage	V_F	2.5	V	
Photodiode reverse voltage	V_{RP}	20	V	
Operating temperature	T_{OP}	-40 - +65	°C	Package B
Storage temperature	T_{stg}	-40 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 10 seconds

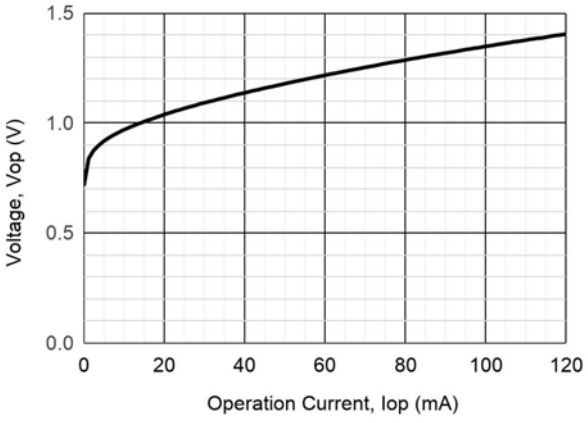
ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

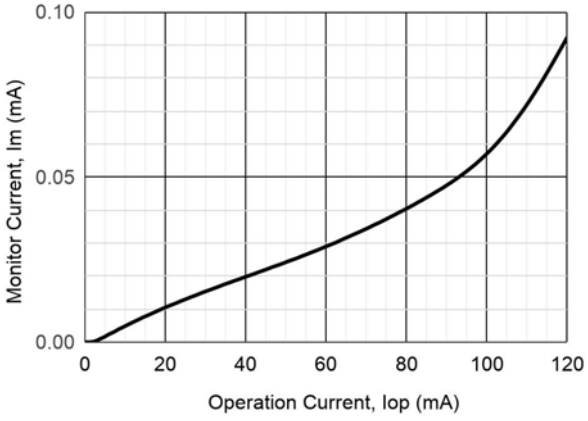
Parameter		MIN	TYP	MAX	Unit	Conditions
Wavelength	λ	1280	1300	1340	nm	CW, P = 1 mW
Spectral width	$\Delta\lambda$	35	40		nm	CW, P = 1 mW, FWHM
Spectral modulation			1	4	%	CW, P = 1 mW
Operating current	I_{op}		85	120	mA	CW, P = 1 mW, SM1
Operating voltage	V_{op}		1.3	2.0	V	CW, P = 1 mW
Monitor current	I_m	0.01	0.04	0.5	mA	CW, P = 1 mW, V_r = 5V
Polarization extinction ratio	PER	17			dB	CW, SMP13

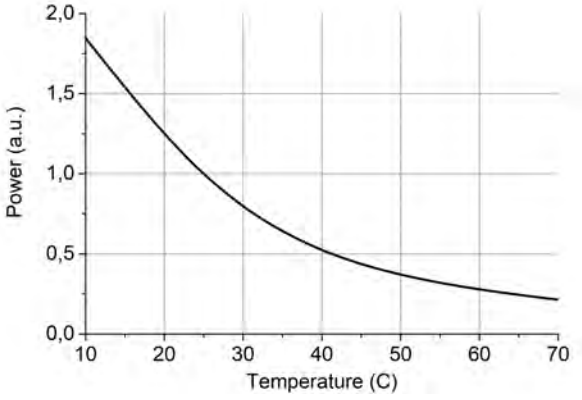
LASERSCOM
Coupling Light to Your Success

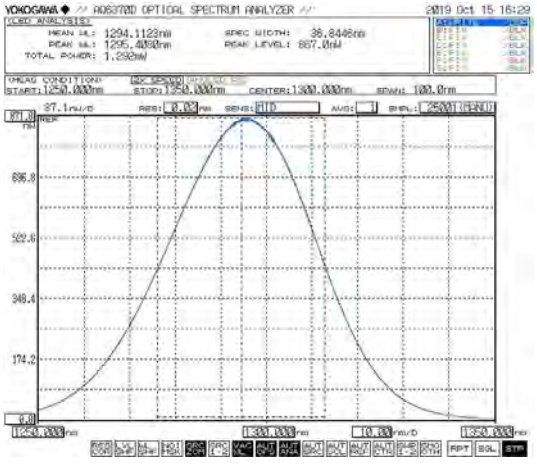
ELED-1300-1











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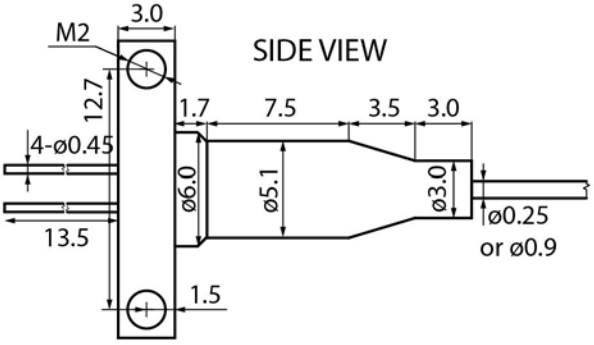
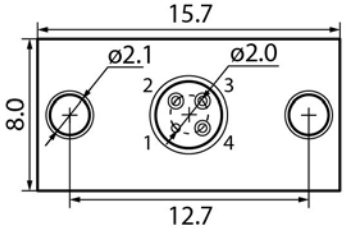
ELED-1300-1

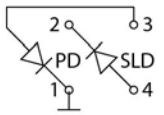
PACKAGE B



SIDE VIEW



BACK VIEW

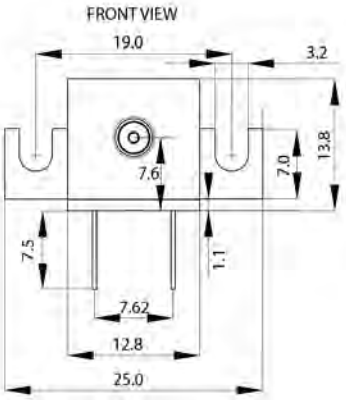


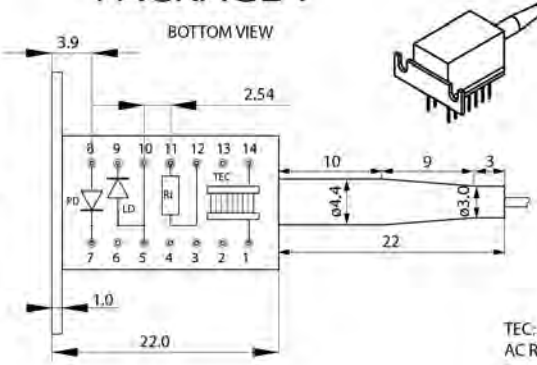
PINOUT
#9

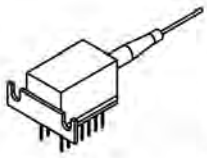
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T







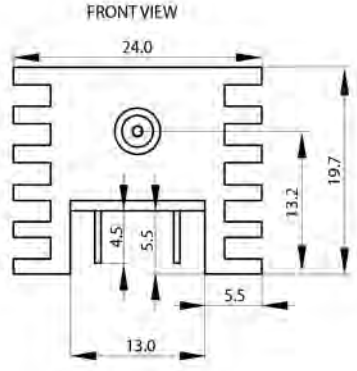
PINOUT #1, #9, #12, #14

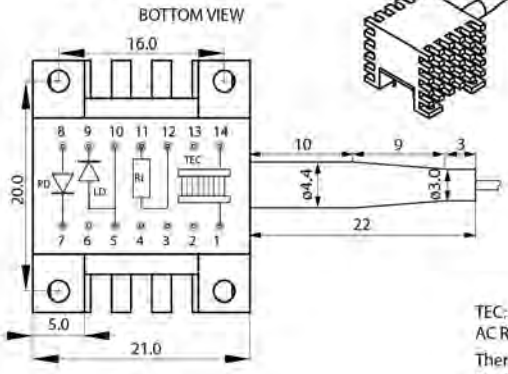
1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.PD Cathode
8.PD Anode
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

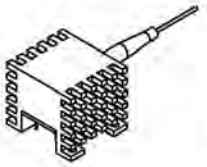
TEC: I_{max}=0.7A, U_{max}=3.9 V, Q_{max}=1.4 W,
AC R = 4.7 Ohm, ΔT_{max} = 72 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

PACKAGE E







PINOUT #1, #9, #12, #14

1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.PD Cathode
8.PD Anode
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

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AC R = 4.7 Ohm, ΔT_{max} = 72 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

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ELED-1300-1

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LASERSCOM
Coupling Light to Your Success

ELED-1550-1

OVERVIEW

ELED-1550-1 is the edge-emitting superluminescent diode (SLD) coupled to an optical fiber

MAIN FEATURES

- Wavelength: 1550 nm
- Optical power: up to 1 mW in CW mode in single-mode fiber Corning SMF-28 Ultra
- Package types: compact coaxial with bracket, 14 pins DIL
- Built-in monitor photodiode

APPLICATIONS

- Sensorics
- Optical fiber systems

ORDERING INFORMATION

ELED-1550-1-X-9-X-X-X-X

Case type

B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
Other type on request

Fiber type

SM1: SM, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm
SM3: SM, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm
SMT: SM, Corning Titania-Clad, furcation tubing ∅0.9 mm, ultrasmall bending radius 2.5 mm
SMP13: PM, Fujikura SM 13, furcation tubing ∅0.9 mm
MM5: MM, 50/125, OM2, furcation tubing ∅0.9 mm
MM6: MM, 62.5/125, OM1, furcation tubing ∅0.9 mm
Other type on request

Connector type

FA: FC/APC (SM1,SM3, SMT, SMP13)
SA: SC/APC (SM1)
N: no connector
Other type: on request

FU: FC/UPC (SM1, SM3, SMT, MM5, MM6)
SU: SC/UPC (SM1)

Test measurements

CW: CW mode (electro-optical parameters at T=25+/-5 C and spectrum)

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length on request

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LASERSCOM
Coupling Light to Your Success

ELED-1550-1

ABSOLUTE MAXIMUM RATINGS

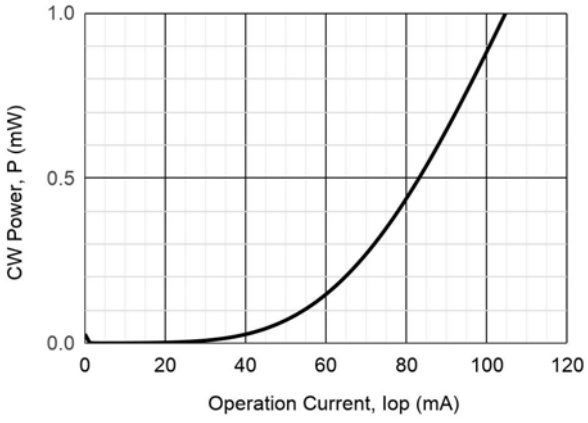
Parameter		Value	Unit	Conditions
SLD forward current	I_{FL}	150	mA	CW
SLD reverse voltage	V_{RL}	2	V	
SLD forward voltage	V_F	2.5	V	
Photodiode reverse voltage	V_{RP}	20	V	
Operating temperature	T_{OP}	-40 - +65	°C	Package B
Operating temperature	T_{OP}	-40 - +50	°C	Package T, E
Storage temperature	T_{stg}	-40 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 10 seconds

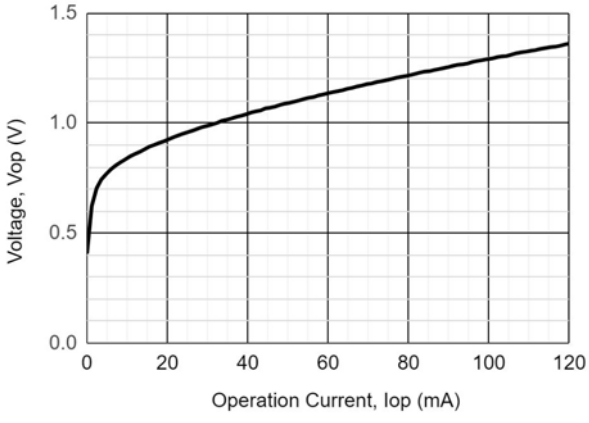
ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

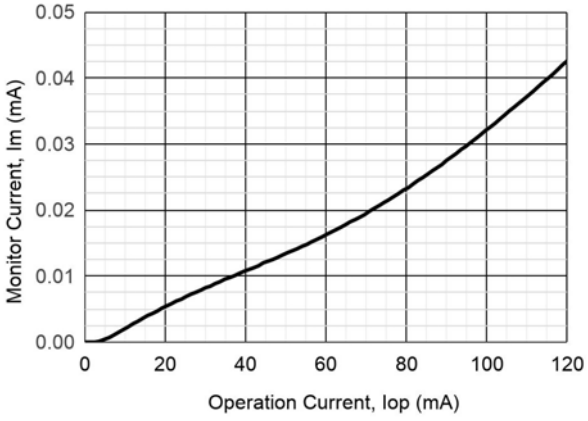
Parameter		MIN	TYP	MAX	Unit	Conditions
Wavelength	λ	1520	1550	1580	nm	CW, P = 1 mW
Spectral width	$\Delta\lambda$	35	45		nm	CW, P = 1 mW, FWHM
Spectral modulation			1	4	%	
Operating current	I_{op}		105	120	mA	CW, P = 1 mW, SM1
Operating voltage	V_{op}		1.3	2.0	V	CW, P = 1 mW
Monitor current	I_m	0.01	0.03	0.5	mA	CW, P = 1 mW, V_r = 5V
Polarization extinction ratio	PER	17			dB	CW, SMP13

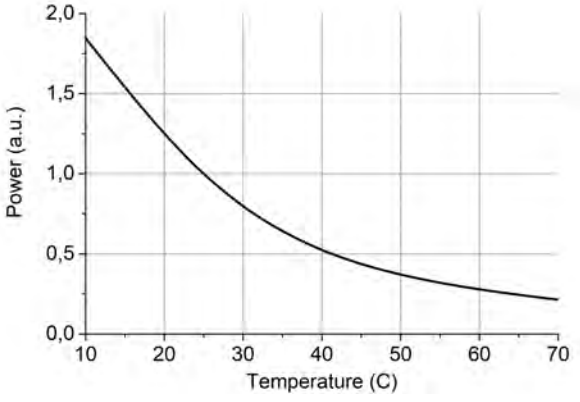
LASERSCOM
Coupling Light to Your Success

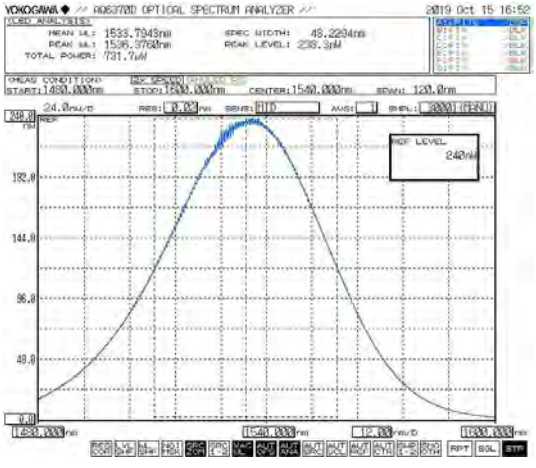
ELED-1550-1











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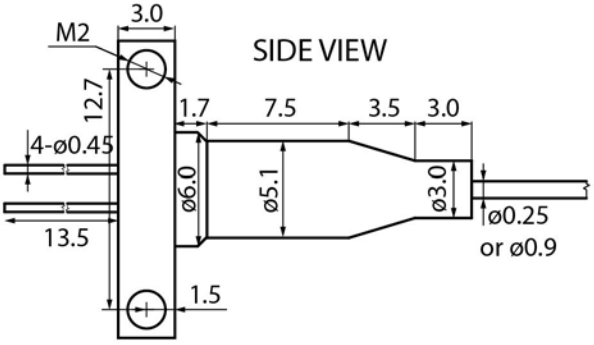
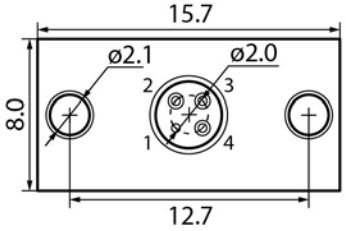
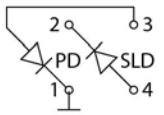
PACKAGE B



SIDE VIEW



BACK VIEW

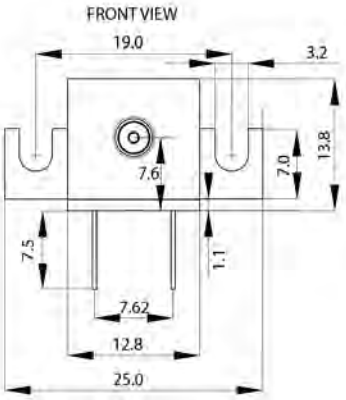


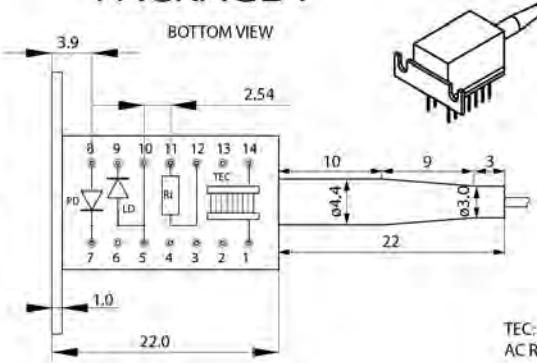
PINOUT
#9

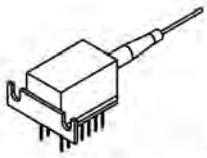
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T







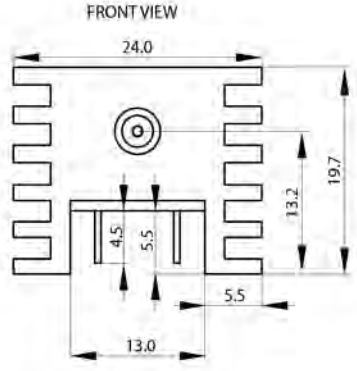
PINOUT #1, #9, #12, #14

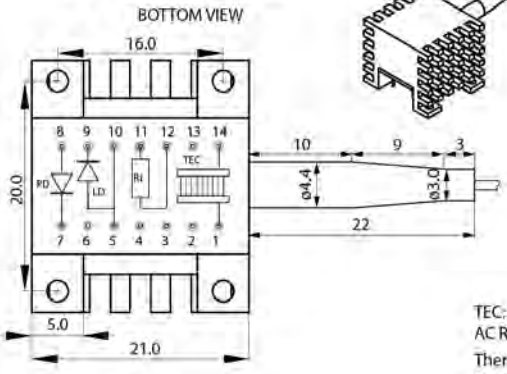
1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.PD Cathode
8.PD Anode
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

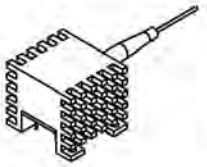
TEC: I_{max}=0.7A, U_{max}=3.9 V, Q_{max}=1.4 W,
AC R = 4.7 Ohm, ΔT_{max} = 72 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

PACKAGE E







PINOUT #1, #9, #12, #14

1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.PD Cathode
8.PD Anode
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

TEC: I_{max}=0.7A, U_{max}=3.9 V, Q_{max}=1.4 W,
AC R = 4.7 Ohm, ΔT_{max} = 72 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

ELED-1550-1

Characteristics, data, materials and structures specified in this datasheet are subject to change without notice. Please refer to the latest specification before use of the products.

Safety and handling cautions

1. Avoid smashing and burning of the module. Avoid storing and using the module in conditions where water, organic solvents or aggressive acids or bases may contact the module or where there is a possibility of exposure to corrosive gases, explosive gases, dust, salinity or other harsh conditions. The module should be disposed as special industrial waste.
2. Exceeding absolute maximum ratings even for a short time can cause permanent damage of the module.
3. The module is sensitive to and can be broken by ESD (static electricity).

Conflict Minerals Policy Statement

LasersCom LLC achieves business objectives and customer needs with social responsibility. We do not support or contribute to the violence and human rights violations associated with the mining of conflict minerals coming from Conflict Regions according to US "Dodd-Frank Act". When possible, our suppliers' conflict mineral statements are reviewed. We do not directly purchase Conflict Minerals from any source and do not knowingly procure any parts and products containing Conflict Minerals from Conflict Regions.

RoHS Compliance Statement

Restriction of Hazardous Substances (RoHS) directive (Directive 2011/65/EC amended with Directive (EU) 2015/863) is the directive aimed at reducing the harmful environmental impact of waste electrical equipment by restricting the use of known dangerous substances. Based on information received from our supply sources, LasersCom LLC hereby states that the banned substances listed in the RoHS directive are not found in the parts and materials used above the threshold level listed other than exceptions approved by the European Commission.

REACH Compliance Statement

Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) is a European Union regulation 1907/2006/EC that addresses the production and use of chemical substances, and their potential impacts on human health and the environment. Based on information received from our supply sources, LasersCom LLC hereby states compliance of the parts and materials used in manufacturing to REACH regulation. LasersCom LLC does not manufacture or import any substances or preparations as defined under REACH.

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LC-ASE-C-10

OVERVIEW

LC-ASE-C-10 is a broadband fiber optical source of incoherent radiation based on amplified spontaneous emission.

MAIN FEATURES

- Wavelength: 1560 nm
- Bandwidth 29 nm at -10 dB
- Optical power: up to 10 mW in CW mode
- Package: plastic case 100x80x10.5 and pump laser diode (package B, T or E)

APPLICATIONS

- Laser Systems
- Optical Fiber Gyroscopes

ORDERING INFORMATION

LC-ASE-C-10-X-X-X-X

Pump laser case type

B: compact coaxial with double-sided bracket and radiator
T: 14 pins DIL with thermal stabilization (TEC and thermistor)
E: 14 pins DIL with thermal stabilization (TEC and thermistor)
It is necessary to provide heat removal from the case

Fiber type

SM1: G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm
Standard fiber length 50 cm

Connector type

FA: FC/APC
N: no connector

Certification

CW: CW mode

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LC-ASE-C-10

ABSOLUTE MAXIMUM RATINGS

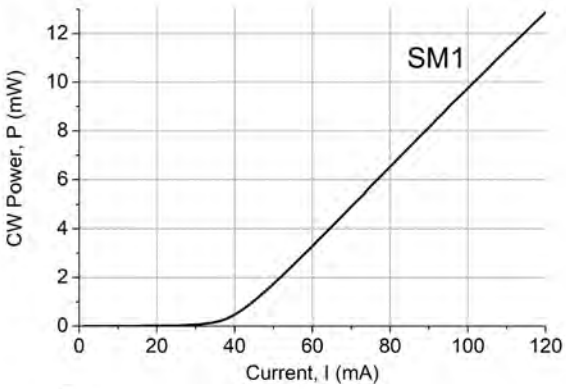
Parameter		Value	Unit	Conditions
Pump laser diode forward current	I_{FL}	140	mA	CW
Pump laser diode reverse voltage	V_{RL}	2	V	
Monitor photodiode reverse voltage	V_{RP}	30	V	
Operating temperature	T_{op}	-40 - +60	°C	Package U, B, power < 3 mW
		-40 - +50		Package T, E, BTF2
Storage temperature	T_{stg}	-50 - +80	°C	
Soldering temperature	T_{sold}	260	°C	Max. 10 seconds

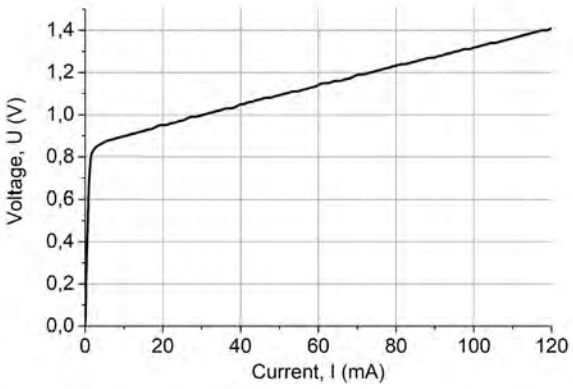
ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

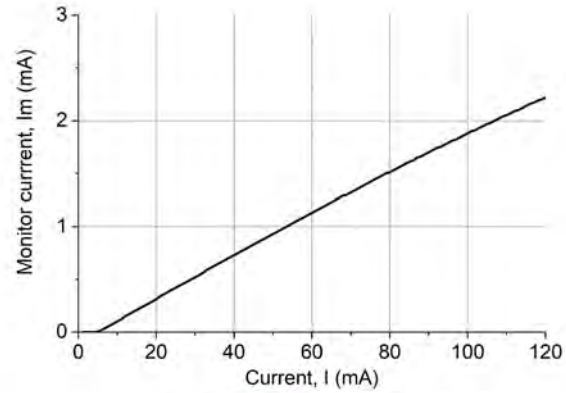
Parameter		Min	Typ	Max	Unit	Conditions
Wavelength	λ		1560		nm	CW, P = 10 mW
Spectral width	$\Delta\lambda$		29		nm	CW, P = 10 mW, -10 dB
Wavelength-temperature coeff.	$d\lambda/dT$		6		ppm/°C	
Spectral ripple			0.3		%	CW, P = 10 mW
Threshold current	I_{th}		40		mA	CW
Operating current	I_{op}		105	120	mA	CW, P = 10 mW
Operating voltage	V_{op}		1.4	1.6	V	CW, P = 10 mW
Slope efficiency	S_e	0.12	0.16		mW/mA	CW
Monitoring output current (PD)	I_m	0.5		3	mA	CW, P = 10 mW, V_{rd} = 5 V
Mass			75		g	Package E

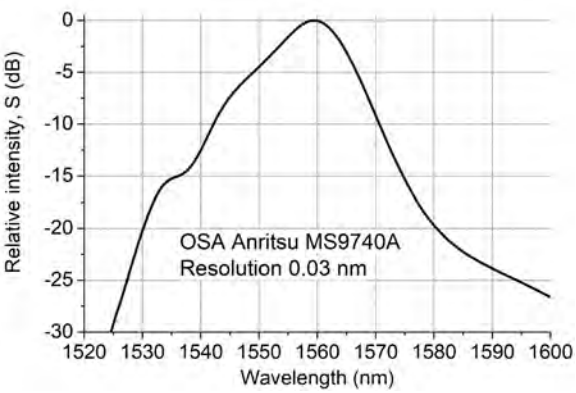
LC-ASE-C-10

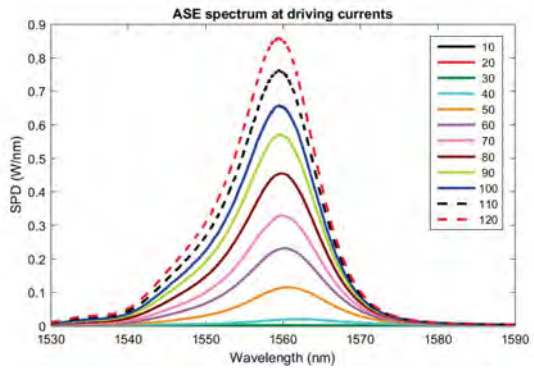
CHARACTERISTICS (T = 25 °C)

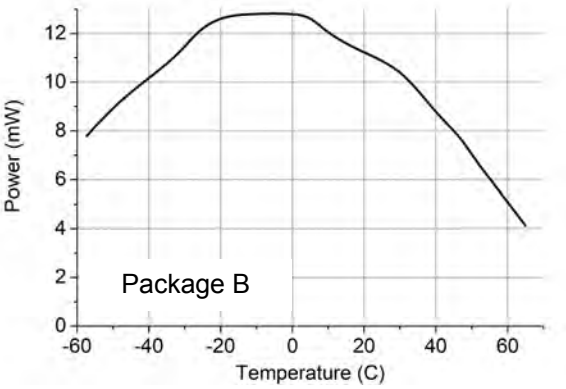


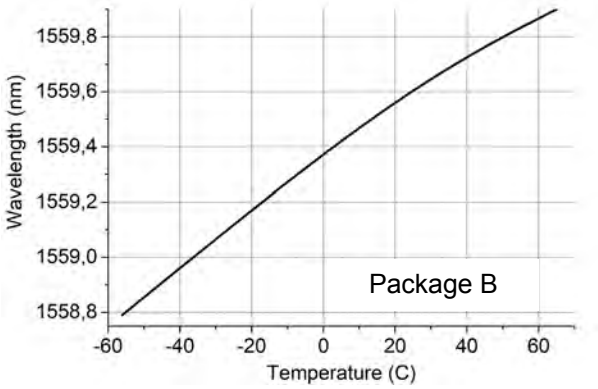












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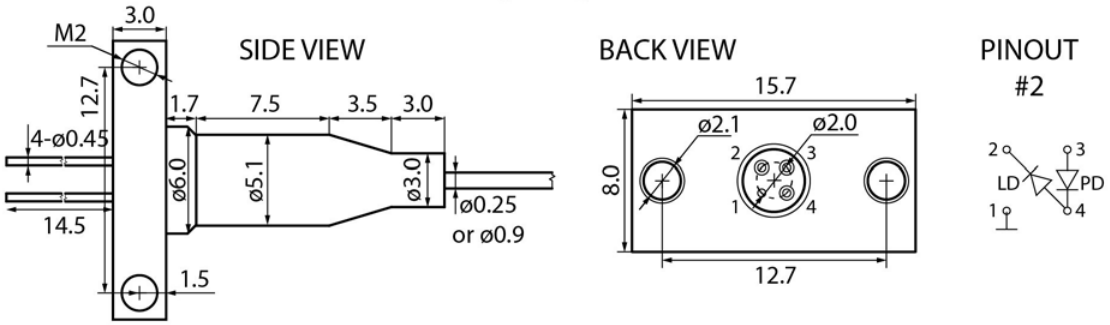
LC-ASE-C-10

PACKAGE TYPE AND ELECTRICAL CONNECTION

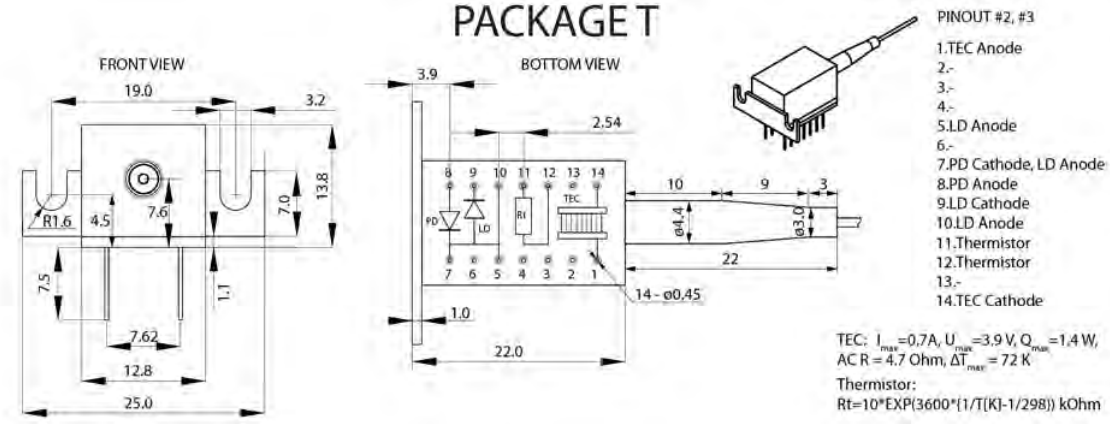
PACKAGE B



Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T



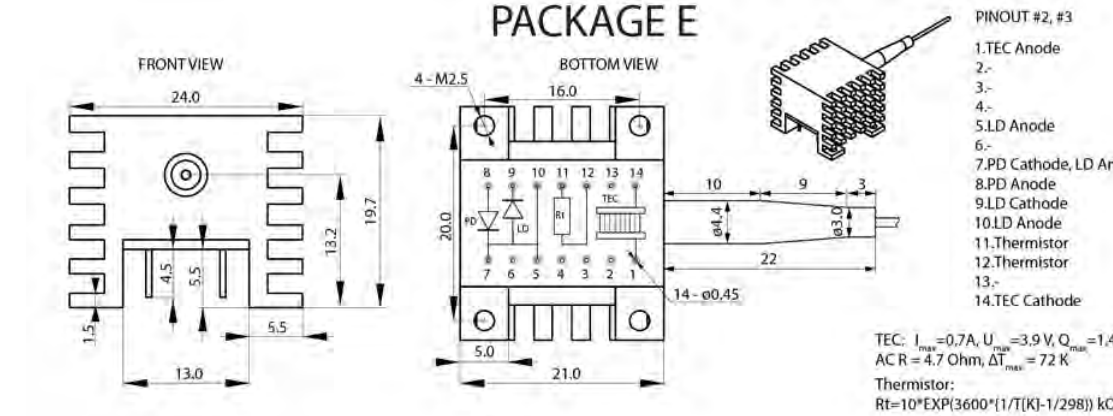
PINOUT #2, #3

1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.PD Cathode, LD Anode
8.PD Anode
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

TEC: I_{max}=0,7A, U_{max}=3.9 V, Q_{max}=1,4 W,
AC R = 4.7 Ohm, ΔT_{max} = 72 K

Thermistor:
Rt=10*EXP(3600*(1/T[K]-1/298)) kOhm

PACKAGE E



PINOUT #2, #3

1.TEC Anode
2.-
3.-
4.-
5.LD Anode
6.-
7.PD Cathode, LD Anode
8.PD Anode
9.LD Cathode
10.LD Anode
11.Thermistor
12.Thermistor
13.-
14.TEC Cathode

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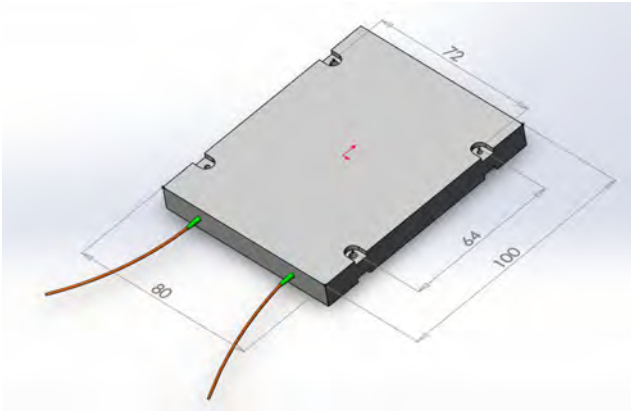
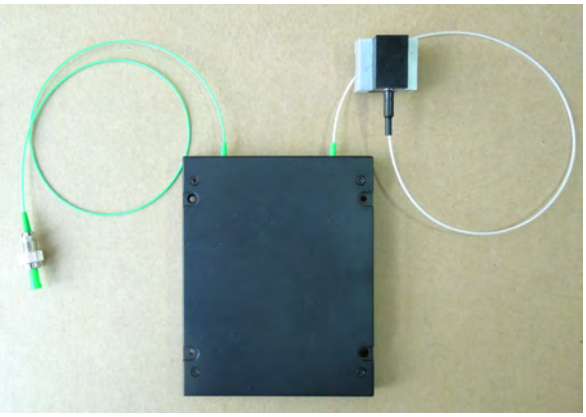
LC-ASE-C-10





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LC-ASE-C-10

Characteristics, data, materials and structures specified in this datasheet are subject to change without notice. Please refer to the latest specification before use of the products.

Safety and handling cautions

1. Laser light is very dangerous if shot directly into human eyes. Do not look directly into the output connector aperture or through optical components such as lenses, prisms, mirrors, microscope objectives etc. Wear protective goggles.

2. Avoid smashing and burning of the module. Avoid storing and using the module in conditions where water, organic solvents or aggressive acids or bases may contact the module or where there is a possibility of exposure to corrosive gases, explosive gases, dust, salinity or other harsh conditions. The module should be disposed as special industrial waste.

3. Exceeding absolute maximal ratings even for a short time can cause permanent damage of the module.

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APDI-55-3G-K

OVERVIEW

APDI-55-3G-K is the InGaAs avalanche photodiode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Bandwidth 3 GHz
- Spectral range: 800 - 1650 nm
- Typical responsivity: 1.0 A/W at 1310 nm and M = 1
- Package types: coaxial with or without bracket
- Low dark current typ. 3-5 nA @ 0.95 V_{BR}

APPLICATIONS

- Optical fiber communication systems
- OTDR

ORDERING INFORMATION

APDI-55-3G-K-X-X-7-X-X-X

Optical matching

RM: back reflection -30 dB, optical matching

Case type

U: compact coaxial
B: compact coaxial with double-sided bracket
T: 14 pins DIL with thermal stability
E: 14 pins DIL with thermal stability

Fiber type

SMT: SM, Corning Titania-Clad, furcation tubing ∅0.9 mm, ultrasmall bending radius 2.5 mm
SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm or **BSM1** ∅0.25mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm or **BSM3** ∅0.25mm
MM5: MM, 50/125, OM2, furcation tubing ∅0.9 mm
MM6: MM, 62.5/125, OM1, furcation tubing ∅0.9 mm
Other type: on request

Connector type

FA: FC/APC (SM1,SM3, SMT)
SA: SC/APC (SM1)
N: no connector
Other type: on request

FU: FC/UPC (SM1, SM3, SMT, MM5, MM6)
SU: SC/UPC (SM1)

Fiber length

0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length: on request

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APDI-55-3G-K

ABSOLUTE MAXIMUM RATINGS

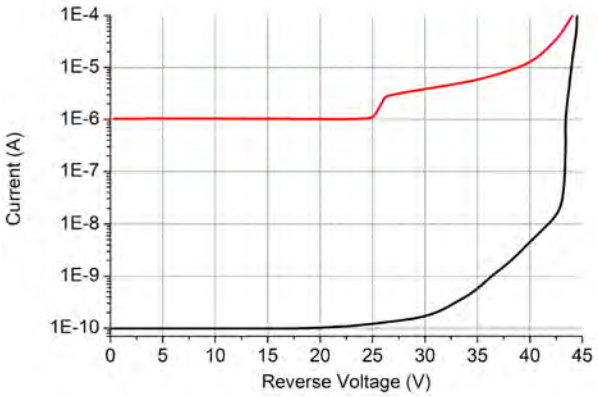
Parameter		Value	Unit	Conditions
Reverse current	I_R	2	mA	
Forward current	I_F	10	mA	
Operating temperature	T_{op}	-40 ÷ +85	°C	Package U, B
Operating temperature	T_{op}	-40 ÷ +50	°C	Package T, E
Storage temperature	T_{stg}	-40 ÷ +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 5 seconds

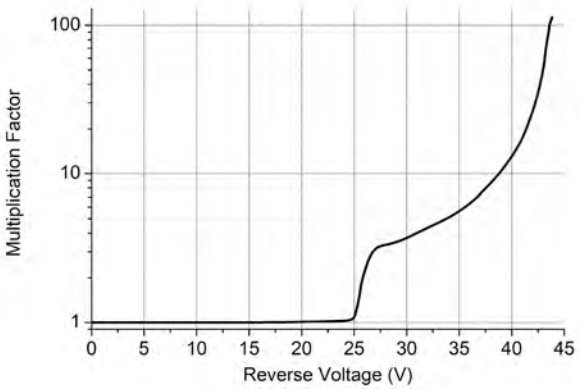
ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

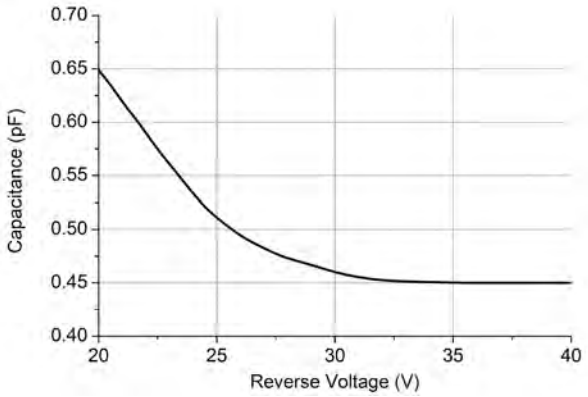
Parameter		Min	Typ	Max	Unit	Conditions
Operating wavelength		800		1650	nm	
Responsivity @ M=1	R	0.95	1.05		A/W	λ = 1310 nm
Responsivity @ 0.95 V_{BR}	R	10	25			λ = 1310 nm, V_R = 0.95 V_{BR}
Return loss	RL	25	30		dB	
Breakdown voltage	V_{BR}	40	45	50		I_d = 100 μA
Breakdown voltage temperature coefficient $\Delta V_{BR}/\Delta T$	δ	0.08	0.10	0.12	V/°C	T = 25 °C
Dark current	I_d		4	10	nA	V_R = 0.95 V_{BR}
Total capacitance	C_t		0.68	0.8	pF	f = 1 MHz
Chip capacitance	C_{chip}		0.38	0.5	pF	f = 1 MHz
Bandwidth	BW		3		GHz	M = 10

APDI-55-3G-K

CHARACTERISTICS (T = 25 °C)







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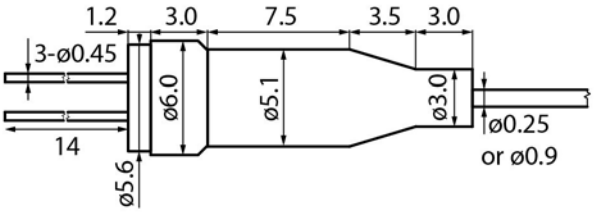
APDI-55-3G-K

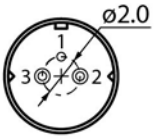
PACKAGE TYPE AND ELECTRICAL PINOUT

PACKAGE U

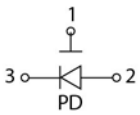
SIDE VIEW



BACK VIEW



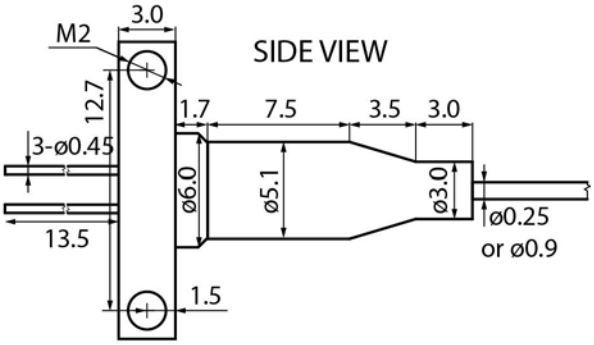
PINOUT
#7



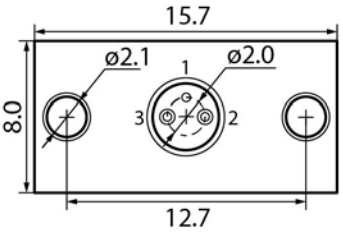
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

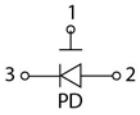
PACKAGE B



BACK VIEW



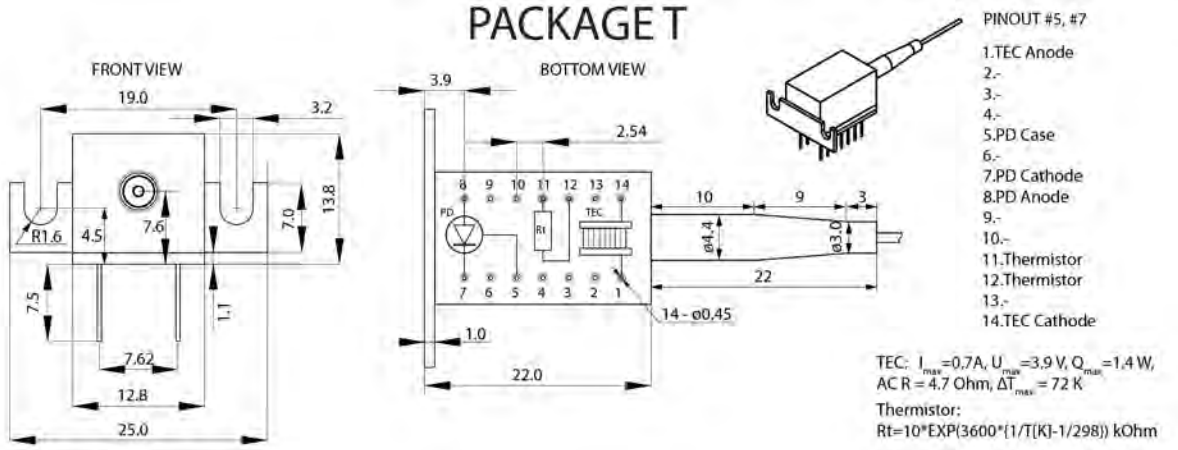
PINOUT
#7



Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE T



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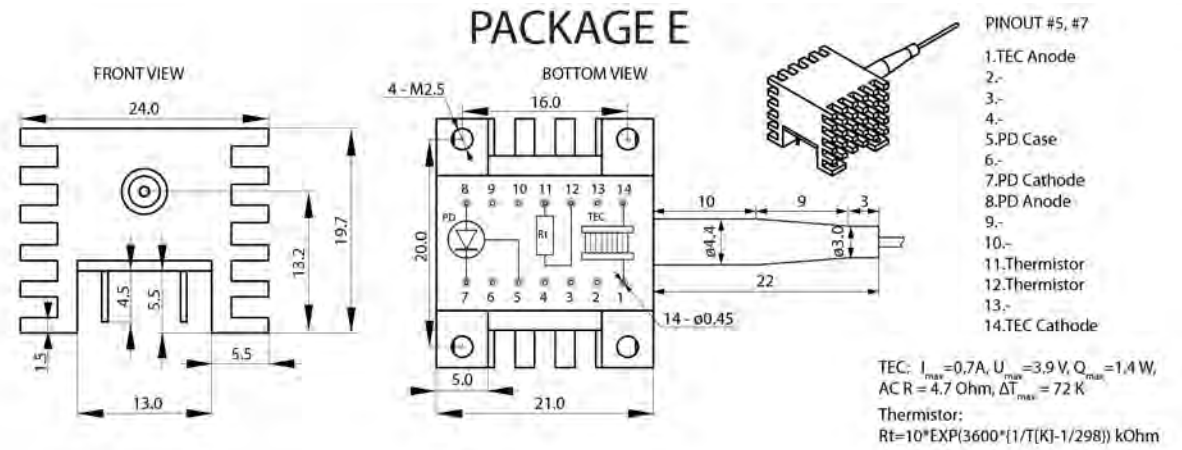
APDI-55-3G-K

PACKAGE TYPE AND ELECTRICAL PINOUT



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APDI-55-3G-K

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Safety and handling cautions

1. Avoid smashing and burning of the module. Avoid storing and using the module in conditions where water, organic solvents or aggressive acids or bases may contact the module or where there is a possibility of exposure to corrosive gases, explosive gases, dust, salinity or other harsh conditions. The module should be disposed as special industrial waste.

2. Exceeding absolute maximal ratings even for a short time can cause permanent damage of the module.

3. The module is sensitive to and can be broken by ESD (static electricity).

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RoHS Compliance Statement

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REACH Compliance Statement

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PDI-12-P5-40G-W

OVERVIEW

PDI-12-P5-40G-W is the InGaAs PIN photodiode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Maximum optical input power: 5 mW
- Bandwidth: 40 GHz
- Wavelength range: 1100-1650 nm
- Typical responsivity: 0.70 A/W at 1550 nm
- Package types: coaxial with or without bracket
- Low back reflection, return loss RL > 40 dB

APPLICATIONS

- Optical fiber communication systems
- Microwave photonics

ORDERING INFORMATION

PDI-12-P5-40G-W-X-X-19-X-X-X

Optical matching
R40: back reflection -40 dB (SM1 and SM3 fiber)

Case type
U: compact coaxial
B: compact coaxial with double-sided bracket

Fiber type
SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm or **BSM1** ∅0.25mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm or **BSM3** ∅0.25mm
Other type: on request

Connector type
FA: FC/APC (SM1,SM3)
SA: SC/APC (SM1)
N: no connector
Other type: on request
FU: FC/UPC (SM1, SM3, MM5)
SU: SC/UPC (SM1)

Fiber length
0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length: on request

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PDI-12-P5-40G-W

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Maximum optical input power	P_{max}	5	mW	
Reverse voltage	V_R	10	V	
Forward current	I_F	4	mA	
Operating temperature	T_{op}	-40 ÷ +85	°C	
Storage temperature	T_{stg}	-40 ÷ +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 5 seconds

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter			Min	Typ	Max	Unit	Conditions
Operation wavelength		λ	1100		1650	nm	
Responsivity	R40	R	0.60	0.70		A/W	λ = 1550 nm, V_R = 5 V
Return loss	R40	RL	35	40		dB	
Operating voltage		V_{op}		3	5		
Dark current		I_d		0.1	1	nA	V_R = 5 V
Total capacitance		C_t		0.06		pF	V_R = 2.5 V, f = 1 MHz
Bandwidth		BW		40		GHz	Pi = -10 dBm, V_R = 2.5 V, R_L = 50 Ω, Small signal modulation

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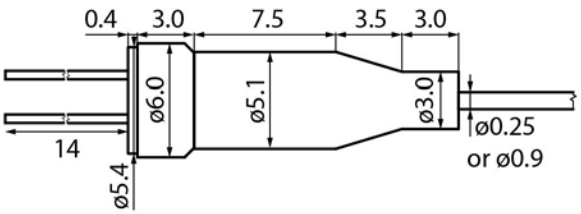
PDI-12-P5-40G-W

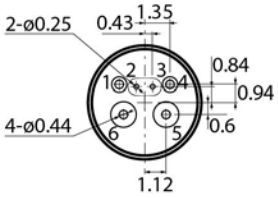
PACKAGE TYPE AND ELECTRICAL PINOUT

PACKAGE U

SIDE VIEW



BACK VIEW



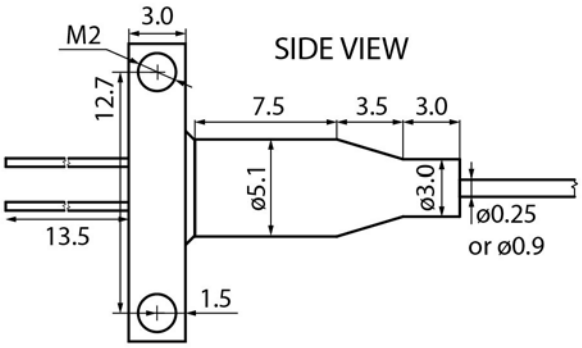
PINOUT
#19

1. PD Anode
2. PD Cathode
3. PD Cathode
4. PD Anode
5. No conn
6. No conn

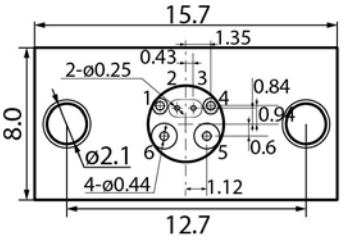
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE B



BACK VIEW



PINOUT
#19

1. PD Anode
2. PD Cathode
3. PD Cathode
4. PD Anode
5. No conn
6. No conn

Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PDI-12-P5-40G-W

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Safety and handling cautions

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PDI-20-P10-20G-W

OVERVIEW

PDI-20-P10-20G-W is the InGaAs PIN photodiode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Maximum optical input power: 10 mW
- Bandwidth: 20 GHz
- Typical responsivity: 0.75 A/W at 1550 nm
- Operating wavelength range: 1100-1650 nm
- Package types: coaxial with or without bracket
- Low back reflection, return loss RL > 40 dB

APPLICATIONS

- Optical fiber communication systems
- Microwave photonics

ORDERING INFORMATION

PDI-20-P10-20G-W-X-X-19-X-X-X

Optical matching
R40: back reflection -40 dB (SM1 and SM3 fiber)

Case type
U: compact coaxial
B: compact coaxial with double-sided bracket

Fiber type
SMT: SM, Corning Titania-Clad, furcation tubing ∅0.9 mm, ultrasmall bending radius 2.5 mm
SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm
Other type: on request

Connector type
FA: FC/APC (SM1,SM3, SMT)
SA: SC/APC (SM1)
N: no connector
Other type: on request
FU: FC/UPC (SM1, SM3, SMT)
SU: SC/UPC (SM1)

Fiber length
0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length: on request

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PDI-20-P10-20G-W

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Maximum optical input power	P_{max}	10	mW	
Reverse voltage	V_R	10	V	
Forward current	I_F	15	mA	
Operating temperature	T_{op}	-40 ÷ +85	°C	
Storage temperature	T_{stg}	-40 ÷ +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 5 seconds

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter			Min	Typ	Max	Unit	Conditions
Responsivity	R40	R	0.70	0.75		A/W	λ = 1550 nm, V_R = 5 V
Return loss	R40	RL	35	40		dB	
Operating wavelength		λ	1100		1650	nm	
Operating voltage		V_{op}		5			
Dark current		I_d		25	50	nA	V_R = 5 V
Total capacitance		C_t		0.11	0.15	pF	V_R = 2.5 V, f = 1 MHz
Bandwidth		BW	20	22		GHz	Pi = -10 dBm, -3 dB electrical

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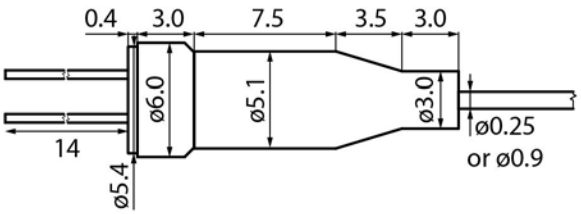
PDI-20-P10-20G-W

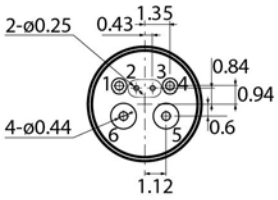
PACKAGE TYPE AND ELECTRICAL PINOUT

PACKAGE U

SIDE VIEW



BACK VIEW



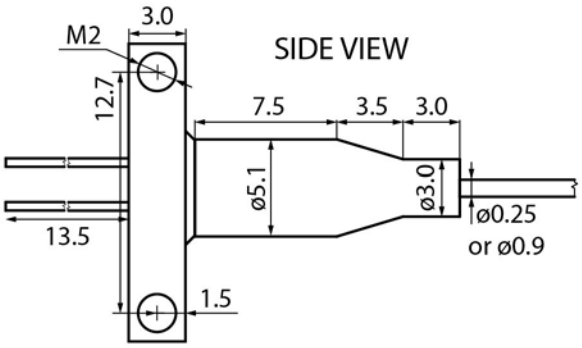
PINOUT
#19

1. PD Anode
2. PD Cathode
3. PD Cathode
4. PD Anode
5. No conn
6. No conn

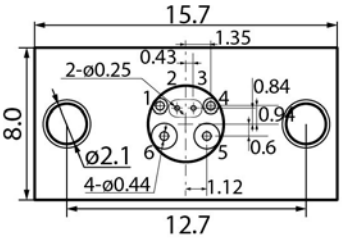
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE B



BACK VIEW



PINOUT
#19

1. PD Anode
2. PD Cathode
3. PD Cathode
4. PD Anode
5. No conn
6. No conn

Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PDI-20-P10-20G-W

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Safety and handling cautions

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PDI-20-P20-20G-W

OVERVIEW

PDI-20-P20-20G-W is the InGaAs PIN photodiode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Maximum optical input power: 20 mW
- Bandwidth: 20 GHz
- Typical responsivity: 0.55 A/W at 1550 nm
- Operating wavelength range: 1100-1650 nm
- Package types: coaxial with or without bracket
- Low back reflection, return loss RL > 40 dB

APPLICATIONS

- Optical fiber communication systems
- Microwave photonics

ORDERING INFORMATION

PDI-20-P20-20G-W-X-X-19-X-X-X

Optical matching
R40: back reflection -40 dB (SM1 and SM3 fiber)

Case type
U: compact coaxial
B: compact coaxial with double-sided bracket

Fiber type
SMT: SM, Corning Titania-Clad, furcation tubing ∅0.9 mm, ultrasmall bending radius 2.5 mm
SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm
Other type: on request

Connector type
FA: FC/APC (SM1,SM3, SMT)
SA: SC/APC (SM1)
N: no connector
Other type: on request
FU: FC/UPC (SM1, SM3, SMT)
SU: SC/UPC (SM1)

Fiber length
0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length: on request

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PDI-20-P20-20G-W

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Maximum optical input power	P_{max}	20	mW	
Reverse voltage	V_R	10	V	
Forward current	I_F	15	mA	
Operating temperature	T_{op}	-40 ÷ +85	°C	
Storage temperature	T_{stg}	-40 ÷ +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 5 seconds

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter			Min	Typ	Max	Unit	Conditions
Responsivity	R40	R	0.50	0.55		A/W	λ = 1550 nm, V_R = 5 V
Return loss	R40	RL	35	40		dB	
Operating wavelength		λ	1100		1650	nm	
Operating voltage		V_{op}		5			
Dark current		I_d		25	50	nA	V_R = 5 V
Total capacitance		C_t		0.11	0.15	pF	V_R = 2.5 V, f = 1 MHz
Bandwidth		BW	20	22		GHz	Pi = -10 dBm, -3 dB electrical

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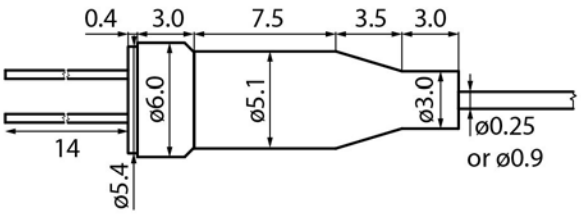
PDI-20-P20-20G-W

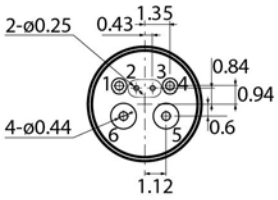
PACKAGE TYPE AND ELECTRICAL PINOUT

PACKAGE U

SIDE VIEW



BACK VIEW



PINOUT
#19

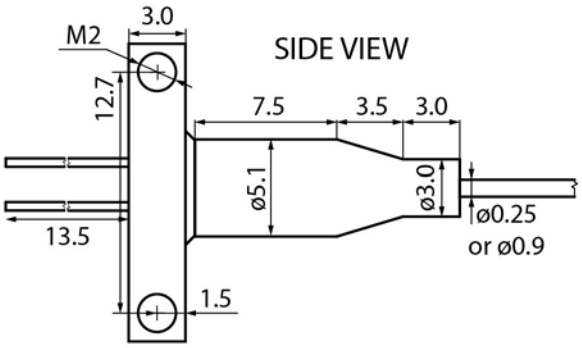
1. PD Anode
2. PD Cathode
3. PD Cathode
4. PD Anode
5. No conn
6. No conn

Connector FC/UPC, FC/APC, no connector, or by request

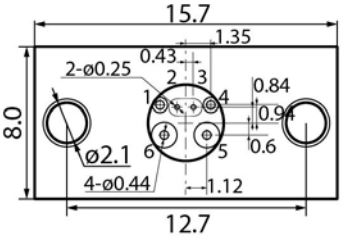
Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE B

SIDE VIEW



BACK VIEW



PINOUT
#19

1. PD Anode
2. PD Cathode
3. PD Cathode
4. PD Anode
5. No conn
6. No conn

Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PDI-20-P20-20G-W

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PDI-35-P10-10G-W

OVERVIEW

PDI-35-P10-10G-W is the InGaAs PIN photodiode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Maximum optical input power: 10 mW
- Bandwidth: 10 GHz
- Typical responsivity: 1.0 A/W at 1550 nm
- Package types: coaxial with or without bracket
- Low back reflection, return loss RL > 45 dB
- Low dark current 1 nA

APPLICATIONS

- Optical fiber communication systems
- Microwave photonics

ORDERING INFORMATION

PDI-35-P10-10G-W-X-X-5-X-X-X

Optical matching
R40: back reflection -40 dB (SM1 and SM3 fiber)
RM: back reflection -30 dB, optical matching, +5% higher responsivity

Case type
U: compact coaxial
B: compact coaxial with double-sided bracket

Fiber type
SMT: SM, Corning Titania-Clad, furcation tubing ∅0.9 mm, ultrasmall bending radius 2.5 mm
SM1: G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm
SM3: G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm
Other type: on request

Connector type
FA: FC/APC (SM1,SM3, SMT)
FU: FC/UPC (SM1, SM3, SMT)
SA: SC/APC (SM1)
SU: SC/UPC (SM1)
N: no connector
Other type: on request

Fiber length
0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length: on request

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LASERSCOM
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PDI-35-P10-10G-W

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Maximum optical input power	P_{max}	10	mW	
Reverse voltage	V_R	10	V	
Forward current	I_F	10	mA	
Operating temperature	T_{op}	-40 ÷ +85	°C	
Storage temperature	T_{stg}	-40 ÷ +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 5 seconds

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter			Min	Typ	Max	Unit	Conditions
Responsivity	RM	R	0.90	1.00		A/W	λ = 1550 nm, V_R = 5 V
	R40		0.85	0.95			λ = 1550 nm, V_R = 5 V
Return loss	RM	RL	25	30		dB	
	R40		35	40			
Operating voltage		V_{op}		3	5		
Dark current		I_d		0.7	2.0	nA	V_R = 5 V
Total capacitance		C_t		0.25	0.30	pF	V_R = 5 V, f = 1 MHz
Bandwidth		BW		10		GHz	Pi = -10 dBm, V_R = 3 V, R_L = 50 Ω, Small signal modulation

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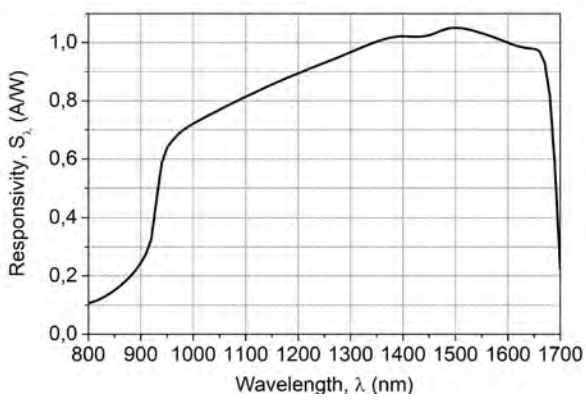
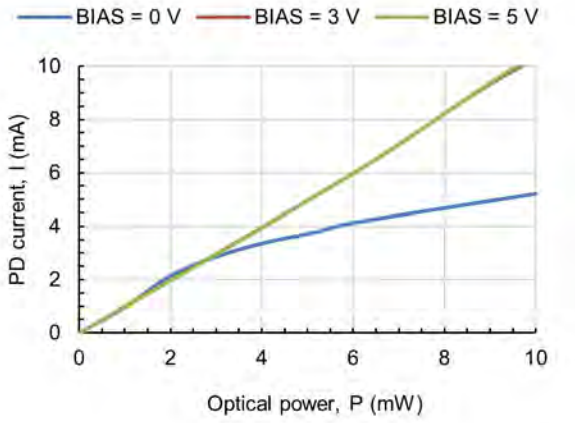
PDI-35-P10-10G-W

CHARACTERISTICS (T = 25 °C)





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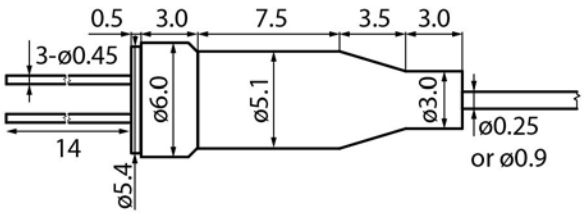
PDI-35-P10-10G-W

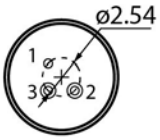
PACKAGE TYPE AND ELECTRICAL PINOUT

PACKAGE U

SIDE VIEW



BACK VIEW



PINOUT
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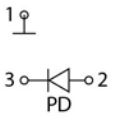
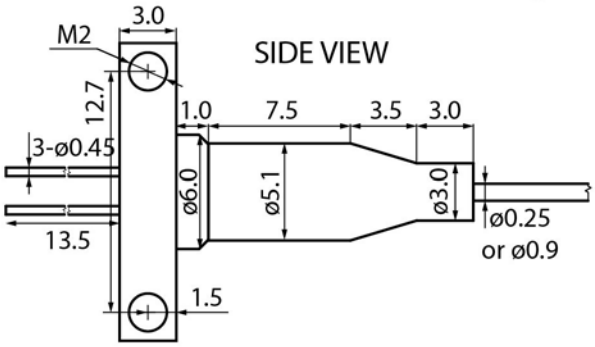


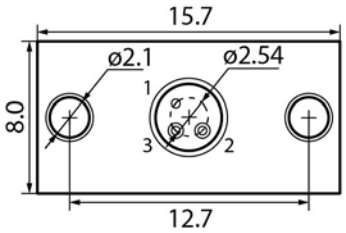
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE B



BACK VIEW



PINOUT
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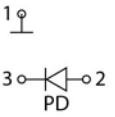

Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PDI-35-P10-10G-W

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Safety and handling cautions

1. Avoid smashing and burning of the module. Avoid storing and using the module in conditions where water, organic solvents or aggressive acids or bases may contact the module or where there is a possibility of exposure to corrosive gases, explosive gases, dust, salinity or other harsh conditions. The module should be disposed as special industrial waste.

2. Exceeding absolute maximal ratings even for a short time can cause permanent damage of the module.

3. The module is sensitive to and can be broken by ESD (static electricity).

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PDI-35-P30-10G-W

OVERVIEW

PDI-35-P30-10G-W is the InGaAs PIN photodiode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Maximum optical input power: 30 mW
- Bandwidth: 10 GHz
- Typical responsivity: 0.65 A/W at 1550 nm
- Package types: coaxial with or without bracket
- Low back reflection, return loss RL > 40 dB
- Low dark current 1 nA

APPLICATIONS

- Optical fiber communication systems
- Microwave photonics

ORDERING INFORMATION

PDI-35-P30-10G-W-X-X-5-X-X-X

Optical matching
R40: back reflection -40 dB (SM1 and SM3 fiber)

Case type
B: compact coaxial with double-sided bracket

Fiber type
SMT: SM, Corning Titania-Clad, furcation tubing ∅0.9 mm, ultrasmall bending radius 2.5 mm
SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm
Other type: on request

Connector type
FA: FC/APC (SM1,SM3, SMT)
SA: SC/APC (SM1)
N: no connector
Other type: on request

Fiber length
0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length: on request

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PDI-35-P30-10G-W

ABSOLUTE MAXIMUM RATINGS

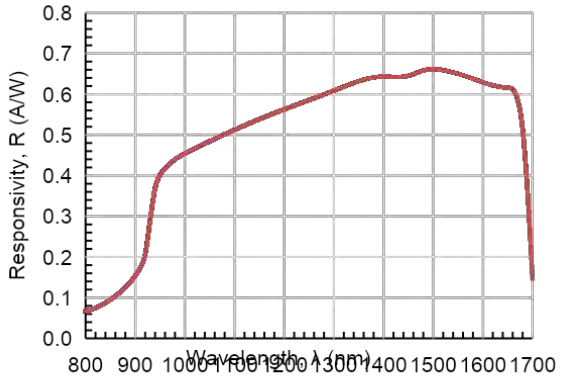
Parameter		Value	Unit	Conditions
Maximum optical input power	P_{max}	30	mW	
Reverse voltage	V_R	10	V	
Forward current	I_F	30	mA	
Operating temperature	T_{op}	-40 ÷ +85	°C	
Storage temperature	T_{stg}	-40 ÷ +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 5 seconds

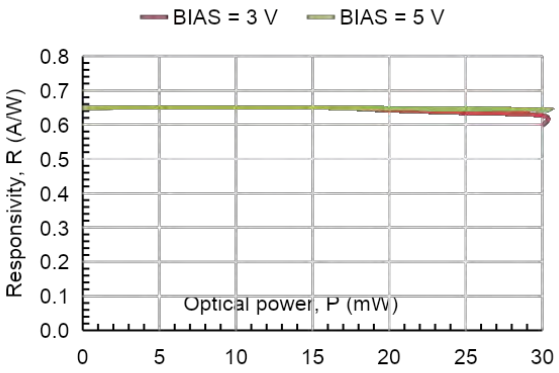
ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

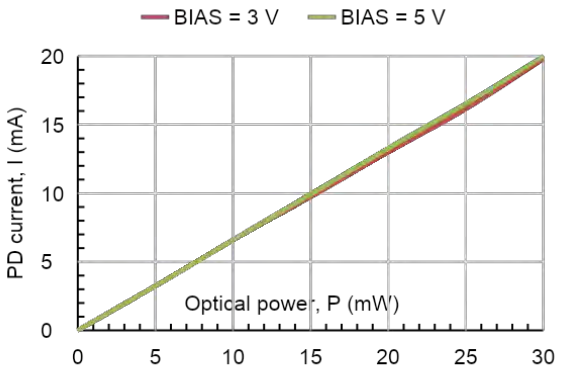
Parameter			Min	Typ	Max	Unit	Conditions
Responsivity	R40	R	0.60	0.65	0.70	A/W	λ = 1550 nm, V_R = 5 V
Return loss	R40	RL	35	40		dB	
Operating voltage		V_{op}		3	5		
Dark current		I_d		0.7	2.0	nA	V_R = 5 V
Total capacitance		C_t		0.25	0.30	pF	V_R = 5 V, f = 1 MHz
Bandwidth		BW		10		GHz	Pi = -10 dBm, V_R = 3 V, R_L = 50 Ω, Small signal modulation

PDI-35-P30-10G-W

CHARACTERISTICS (T = 25 °C)







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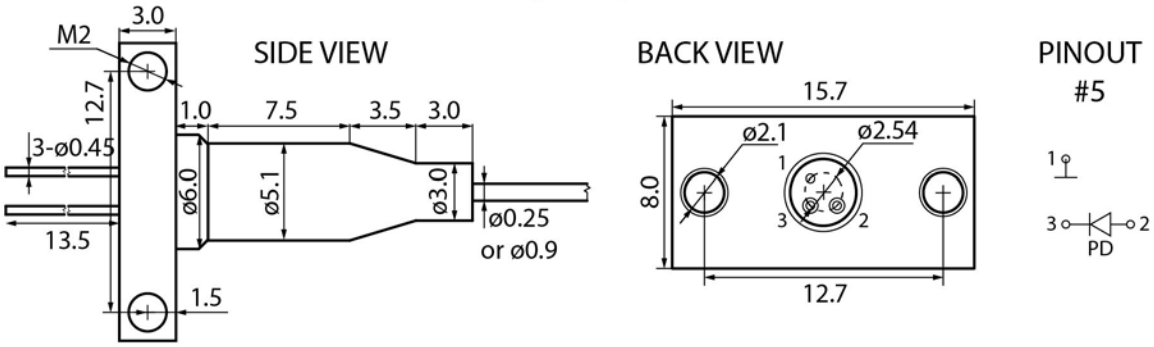
PDI-35-P30-10G-W

PACKAGE TYPE AND ELECTRICAL PINOUT

PACKAGE B



Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PDI-35-P30-10G-W

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Safety and handling cautions

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PDI-40-P10-4G-K

OVERVIEW

PDI-40-P10-4G-K is the InGaAs PIN photodiode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Maximum optical input power: 10 mW
- Bandwidth: 4 GHz
- Typical responsivity: 1.0 A/W at 1550 nm
- Package types: coaxial with or without bracket
- Low back reflection, return loss RL > 50 dB
- Low dark current 0.02 nA

APPLICATIONS

- Optical fiber communication systems

ORDERING INFORMATION

PDI-40-P10-4G-K-X-X-7-X-X-X

Optical matching
R50: back reflection -50 dB (SM1 or SM3 fiber, FA, SA or N connector)
RM: back reflection -30 dB, optical matching, +5% higher responsivity

Case type
U: compact coaxial
B: compact coaxial with double-sided bracket

Fiber type
SM06: SM, Corning Hi-1060, furcation tubing ∅0.9 mm
SMT: SM, Corning Titania-Clad, furcation tubing ∅0.9 mm, ultrasmall bending radius 2.5 mm
SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm or **BSM1** ∅0.25mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm or **BSM3** ∅0.25mm
Other type: on request

Connector type
FA: FC/APC (SM1,SM3, SMT)
FU: FC/UPC (SM1, SM3, SMT)
SA: SC/APC (SM1)
SU: SC/UPC (SM1)
N: no connector
Other type: on request

Fiber length
0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length: on request

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PDI-40-P10-4G-K

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Maximum optical input power	P_{max}	10	mW	
Reverse voltage	V_R	20	V	
Forward current	I_F	10	mA	
Operating temperature	T_{op}	-40 ÷ +85	°C	
Storage temperature	T_{stg}	-40 ÷ +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 5 seconds

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter			Min	Typ	Max	Unit	Conditions
Responsivity	RM	R	1.00	1.10		A/W	λ = 1550 nm
	R50		0.95	1.05			λ = 1550 nm
Return loss	R50	RL	45	50		dB	
	RM		25	30			
Operating voltage		V_{op}		3	5		
Dark current		I_d		0.02	0.08	nA	V_R = 3 V
Total capacitance		C_t		0.55	0.80	pF	V_R = 3 V, f = 1 MHz
Chip capacitance		C_{chip}		0.35	0.50	pF	V_R = 3 V, f = 1 MHz
Bandwidth		BW		4		GHz	Pi = -10 dBm, V_R = 3 V, R_L = 50 Ω, Small signal modulation

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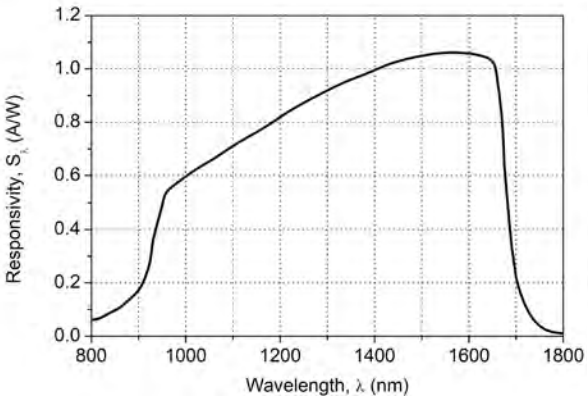
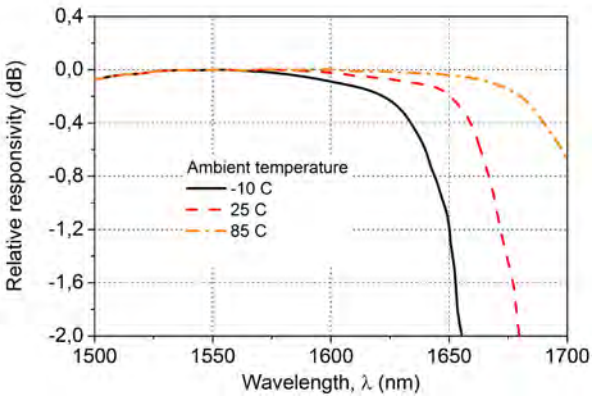
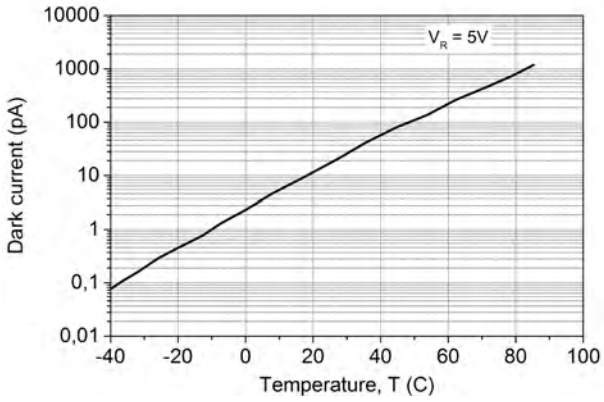
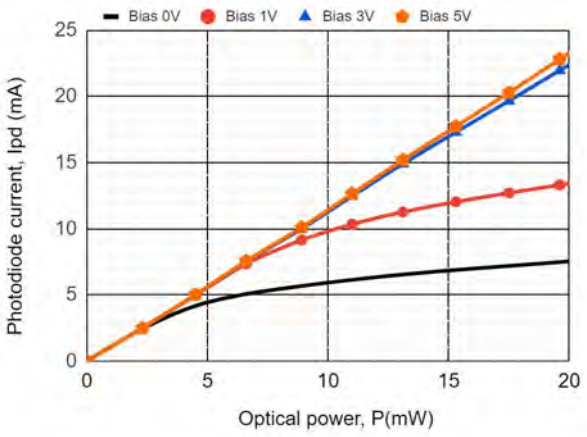
PDI-40-P10-4G-K

CHARACTERISTICS (T = 25 °C)









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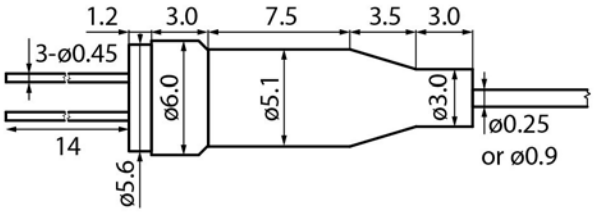
PDI-40-P10-4G-K

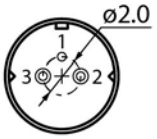
PACKAGE TYPE AND ELECTRICAL PINOUT

PACKAGE U

SIDE VIEW



BACK VIEW



PINOUT
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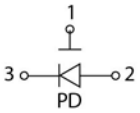
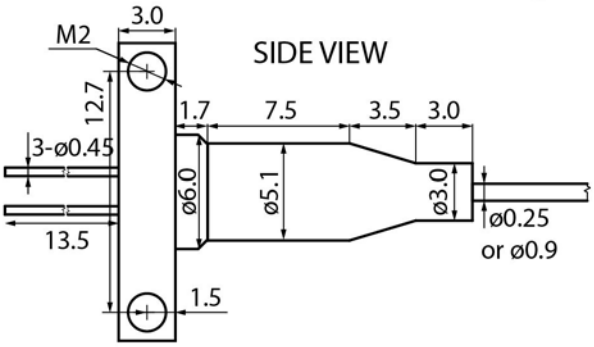


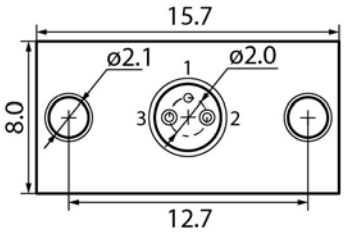
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE B



BACK VIEW



PINOUT
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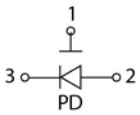

Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

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PDI-40-P10-4G-K

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PDI-40-P40-4G-K

OVERVIEW

PDI-40-P40-4G-K is the InGaAs PIN photodiode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Maximum optical input power: 40 mW
- Bandwidth: 4 GHz
- Typical responsivity: 1.0 A/W at 1550 nm
- Package types: coaxial with or without bracket
- Low back reflection, return loss RL > 40 dB
- Low dark current 0.02 nA

APPLICATIONS

- Optical fiber communication systems

ORDERING INFORMATION

PDI-40-P40-4G-K-X-X-7-X-X-X

Optical matching
R40: back reflection -40 dB (SM1 and SM3 fiber)

Case type
B: compact coaxial with double-sided bracket

Fiber type
SMT: SM, Corning Titania-Clad, furcation tubing ∅0.9 mm, ultrasmall bending radius 2.5 mm
SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm or **BSM1** ∅0.25mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm or **BSM3** ∅0.25mm
Other type: on request

Connector type
FA: FC/APC (SM1,SM3, SMT)
SA: SC/APC (SM1)
N: no connector
Other type: on request
FU: FC/UPC (SM1, SM3, SMT)
SU: SC/UPC (SM1)

Fiber length
0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length: on request

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PDI-40-P40-4G-K

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Maximum optical input power	P_{max}	40	mW	
Reverse voltage	V_R	20	V	
Forward current	I_F	40	mA	
Operating temperature	T_{op}	-40 ÷ +85	°C	
Storage temperature	T_{stg}	-40 ÷ +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 5 seconds

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter			Min	Typ	Max	Unit	Conditions
Responsivity	R40	R	0.80	0.85		A/W	λ = 1550 nm
Return loss	R40	RL	37	40		dB	
Operating voltage		V_{op}		3	5		
Dark current		I_d		0.02	0.08	nA	V_R = 3 V
Total capacitance		C_t		0.55	0.80	pF	V_R = 3 V, f = 1 MHz
Chip capacitance		C_{chip}		0.35	0.50	pF	V_R = 3 V, f = 1 MHz
Bandwidth		BW		4		GHz	Pi = -10 dBm, V_R = 3 V, R_L = 50 Ω, Small signal modulation

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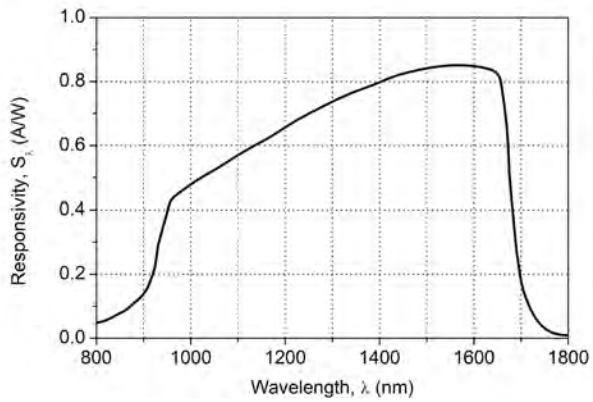
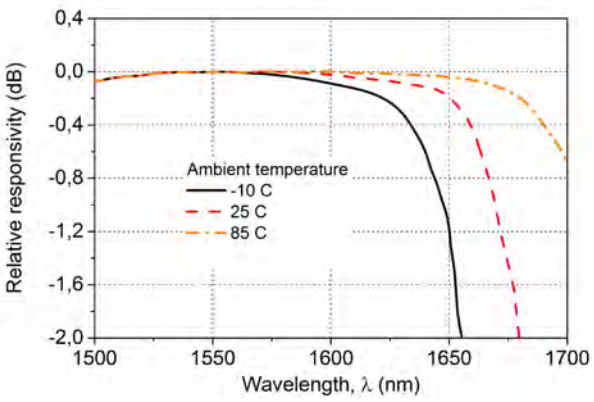
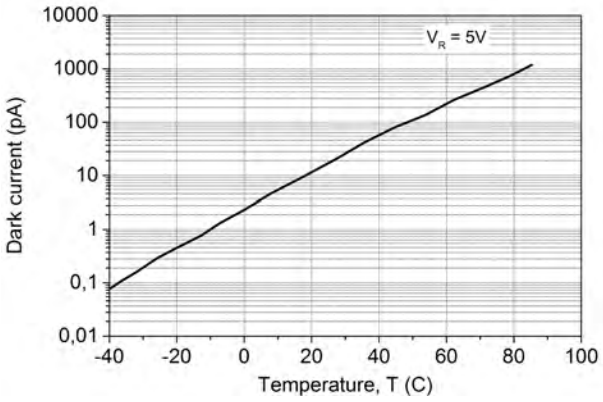
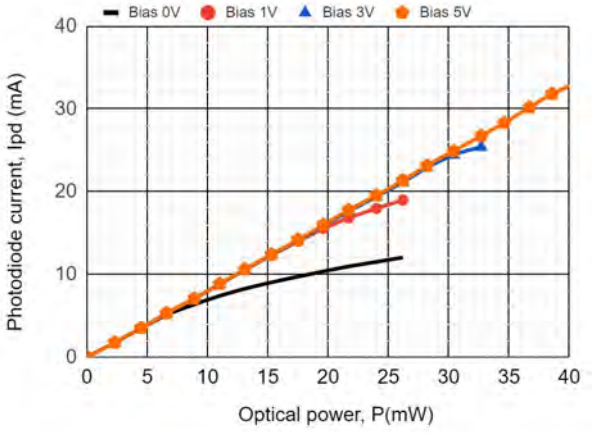
PDI-40-P40-4G-K

CHARACTERISTICS (T = 25 °C)









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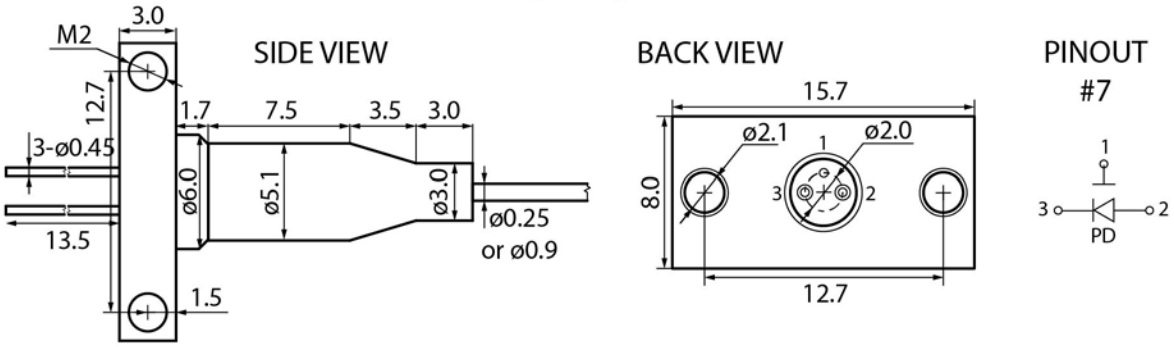
PDI-40-P40-4G-K

PACKAGE TYPE AND ELECTRICAL PINOUT

PACKAGE B



Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

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PDI-40-P40-4G-K

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PDI-80-P10-2G-K

OVERVIEW

PDI-80-P10-2G-K is the InGaAs PIN photodiode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Maximum optical input power: 10 mW
- Bandwidth: 2 GHz
- Typical responsivity: 1.0 A/W at 1550 nm
- Package types: coaxial with or without bracket
- Low back reflection, return loss RL > 50 dB
- Low dark current 0.03 nA

APPLICATIONS

- Optical fiber communication systems

ORDERING INFORMATION

PDI-80-P10-2G-K-X-X-7-X-X-X

Optical matching
R50: back reflection -50 dB (SM1 or SM3 fiber, FA, SA or N connector)
R30: back reflection -30 dB (MM5 and MM6 fiber)
RM: back reflection -30 dB, optical matching, +5% higher responsivity

Case type
U: compact coaxial
B: compact coaxial with double-sided bracket

Fiber type
SM06: SM, Corning Hi-1060, furcation tubing ∅0.9 mm
SMT: SM, Corning Titania-Clad, furcation tubing ∅0.9 mm, ultrasmall bending radius 2.5 mm
SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm or **BSM1** ∅0.25mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm or **BSM3** ∅0.25mm
MM5: SM, 50/125, OM2, furcation tubing ∅0.9 mm
MM6: SM, 62.5/125, OM1, furcation tubing ∅0.9 mm
Other type: on request

Connector type
FA: FC/APC (SM1,SM3, SMT)
SA: SC/APC (SM1)
N: no connector
Other type: on request
FU: FC/UPC (SM1, SM3, SMT, MM5, MM6)
SU: SC/UPC (SM1)

Fiber length
0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length: on request

Version 20.2

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PDI-80-P10-2G-K

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Maximum optical input power	P_{max}	10	mW	
Reverse voltage	V_R	20	V	
Forward current	I_F	10	mA	
Operating temperature	T_{op}	-40 ÷ +85	°C	
Storage temperature	T_{stg}	-40 ÷ +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 5 seconds

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter			Min	Typ	Max	Unit	Conditions
Responsivity	RM	R	0.95	1.05		A/W	λ = 1550 nm
	R50, R30		0.90	1.00			λ = 1550 nm
Return loss	R50	RL	45	50		dB	SM1, SM3
	R30		25	30			MM5, MM6
	RM		25	30			
Operating voltage		V_{op}		3	5		
Dark current		I_d		0.03	0.16	nA	V_R = 3 V
Total capacitance		C_t		0.95	1.1	pF	V_R = 3 V, f = 1 MHz
Chip capacitance		C_{chip}		0.65	0.8	pF	V_R = 3 V, f = 1 MHz
Bandwidth		BW		2		GHz	Pi = -10 dBm, V_R = 3 V, R_L = 50 Ω, Small signal modulation

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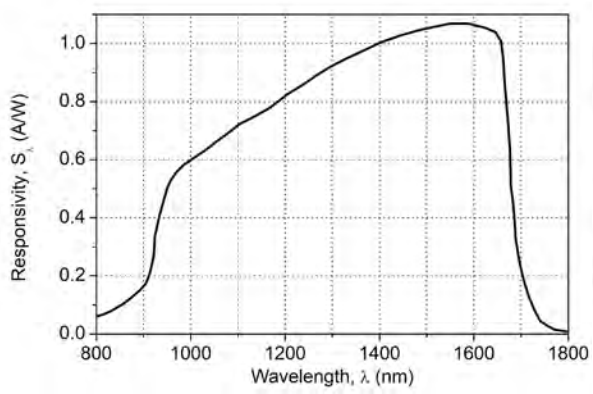
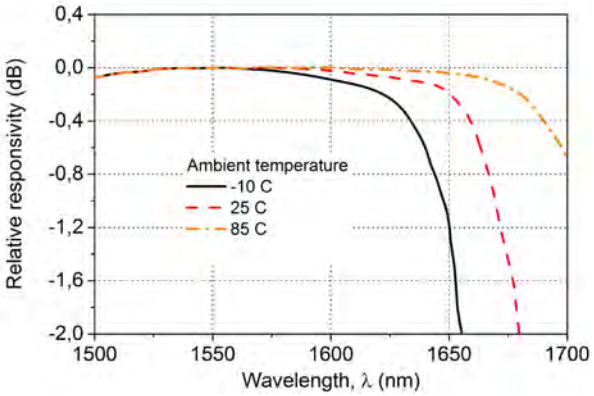
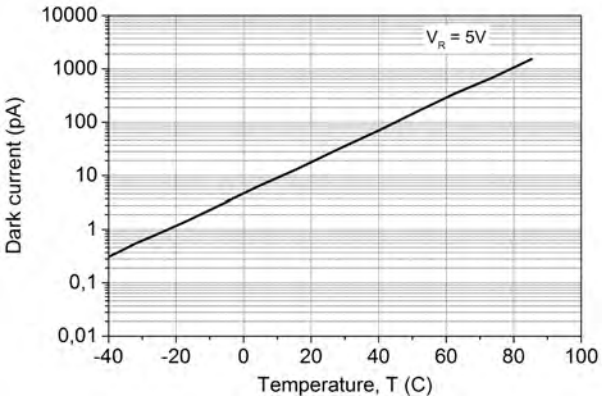
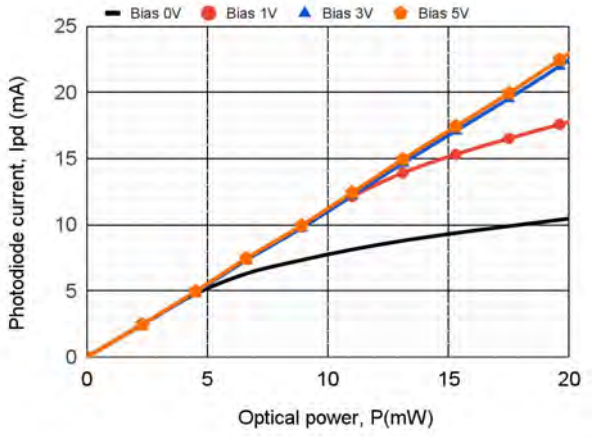
PDI-80-P10-2G-K

CHARACTERISTICS (T = 25 °C)









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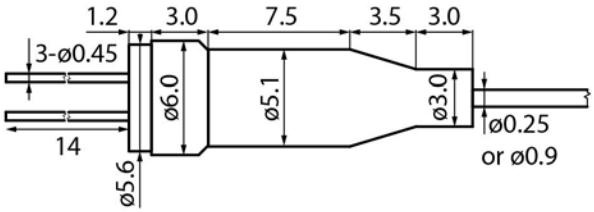
PDI-80-P10-2G-K

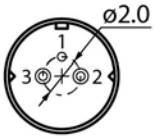
PACKAGE TYPE AND ELECTRICAL PINOUT

PACKAGE U

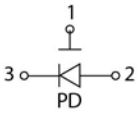
SIDE VIEW



BACK VIEW



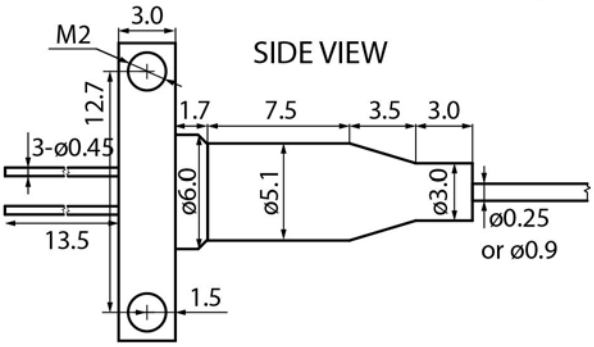
PINOUT
#7



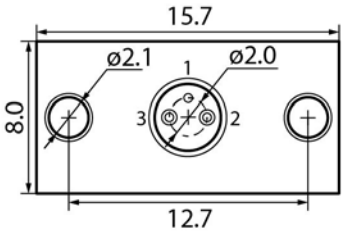
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE B



BACK VIEW



PINOUT
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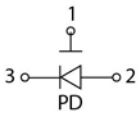

Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

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PDI-80-P10-2G-K

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PDI-80-P50-2G-K

OVERVIEW

PDI-80-P50-2G-K is the InGaAs PIN photodiode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Maximum optical input power: 50 mW
- Bandwidth: 2 GHz
- Typical responsivity: 0.85 A/W at 1550 nm
- Package types: coaxial with or without bracket
- Low back reflection, return loss RL > 50 dB
- Low dark current 0.03 nA

APPLICATIONS

- Optical fiber communication systems
- Microwave photonics

ORDERING INFORMATION

PDI-80-P50-2G-K-X-X-7-X-X-X

Optical matching
R50: back reflection -50 dB

Case type
B: compact coaxial with double-sided bracket

Fiber type
SMT: SM, Corning Titania-Clad, furcation tubing ∅0.9 mm, ultrasmall bending radius 2.5 mm
SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm
Other type: on request

Connector type
FA: FC/APC (SM1,SM3, SMT)
SA: SC/APC (SM1)
N: no connector
Other type: on request

Fiber length
0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length: on request

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PDI-80-P50-2G-K

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Maximum optical input power	P_{max}	50	mW	
Reverse voltage	V_R	20	V	
Forward current	I_F	50	mA	
Operating temperature	T_{op}	-40 ÷ +85	°C	
Storage temperature	T_{stg}	-40 ÷ +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 5 seconds

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter			Min	Typ	Max	Unit	Conditions
Responsivity	R50	R	0.80	0.85		A/W	λ = 1550 nm
Return loss	R50	RL	45	50		dB	SM1, SM3
Operating voltage		V_{op}		3	5		
Dark current		I_d		0.03	0.16	nA	V_R = 3 V
Total capacitance		C_t		0.95	1.1	pF	V_R = 3 V, f = 1 MHz
Chip capacitance		C_{chip}		0.65	0.8	pF	V_R = 3 V, f = 1 MHz
Bandwidth		BW		2		GHz	Pi = -10 dBm, V_R = 3 V, R_L = 50 Ω, Small signal modulation

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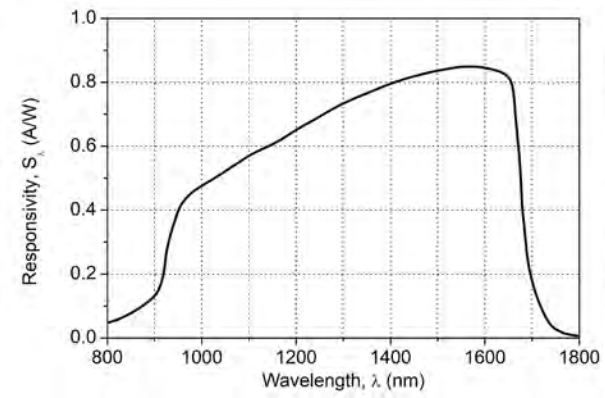
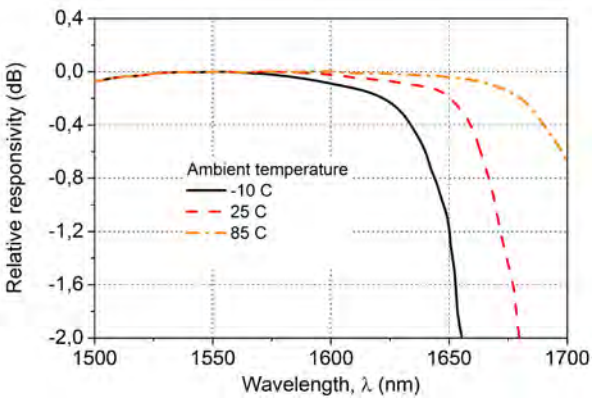
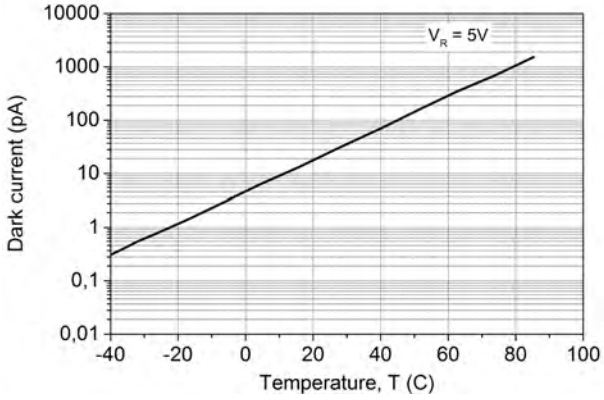
Coupling Light to Your Success

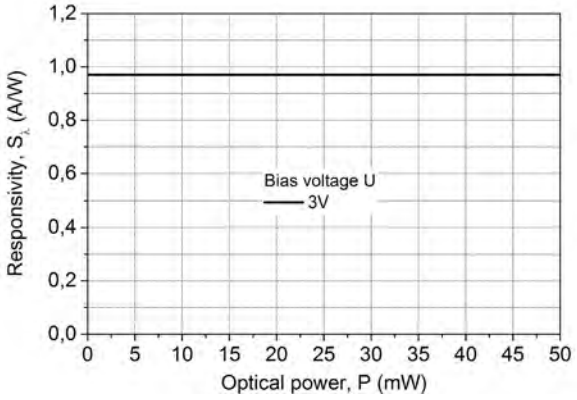
PDI-80-P50-2G-K

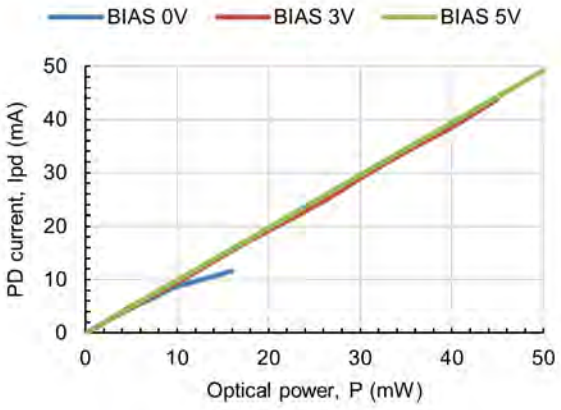
CHARACTERISTICS (T = 25 °C)











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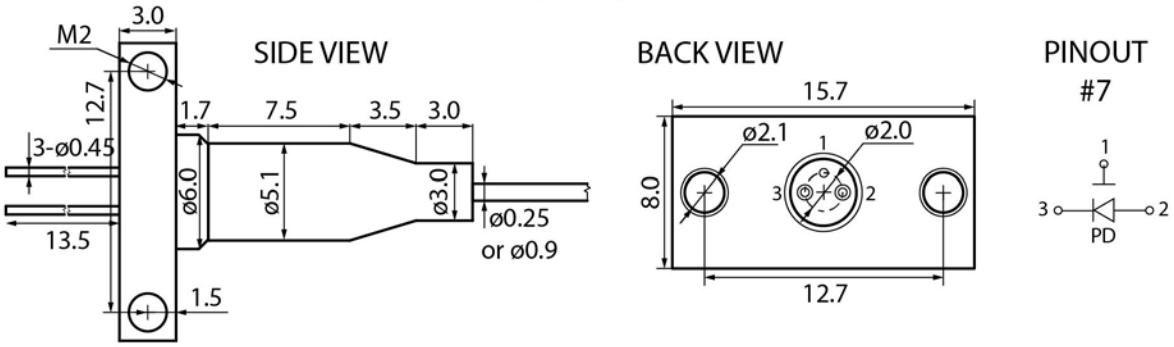
PDI-80-P50-2G-K

PACKAGE TYPE AND ELECTRICAL PINOUT

PACKAGE B



Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

LASERS COM
Coupling Light to Your Success

PDI-80-P50-2G-K

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PDI-200-Si-P20-2G-K

OVERVIEW

PDI-200-Si-P20-2G-K is the Si PIN photodiode coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Spectral range: 400-1000 nm
- Maximum optical input power: 20 mW
- Typical peak responsivity: 0.35-0.40 A/W at wavelength 850 nm
- Package type: coaxial, coaxial with bracket
- Low back reflection

APPLICATIONS

- Optical fiber communication systems
- Spectroscopy

ORDERING INFORMATION

PI-200-Si-P20-2G-K-X-X-7-X-X-X

Optical matching
R40: back reflection < -40 dB (SM03, SM04, SM05, SM06, SM1 and SM3 fiber)
R30: back reflection < -30 dB (MM5 and MM6 fiber)
RM: back reflection -30 dB, optical matching, +5% higher responsivity

Case type
U: compact coaxial
B: compact coaxial with double-sided bracket

Fiber type
SM03: SM, Nufern S405-XP, furcation tubing ∅0.9 mm
SM04: SM, Nufern 630-HP, furcation tubing ∅0.9 mm
SM05: SM, Nufern 780-HP, furcation tubing ∅0.9 mm
SM06: SM, Corning HI-1060, furcation tubing ∅0.9 mm
SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm
MM5: MM, 50/125, OM2, furcation tubing ∅0.9 mm
MM6: MM, 62.5/125, OM1, furcation tubing ∅0.9 mm
Other type: on request

Connector type
FA: FC/APC (SM1,SM3, SM03, SM04, SM05, SM06)
FU: FC/UPC (SM1, SM3, SM03, SM04, SM05, SM06, MM5, MM6)
SA: SC/APC (SM1) **SU**: SC/UPC (SM1)
N: no connector
Other type: on request

Fiber length
0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length: on request

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PDI-200-Si-P20-2G-K

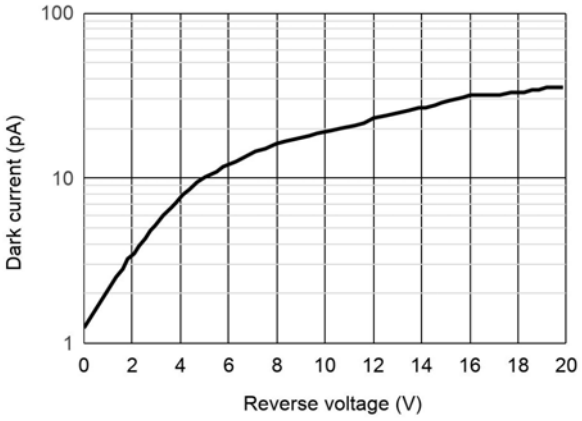
ABSOLUTE MAXIMUM RATINGS

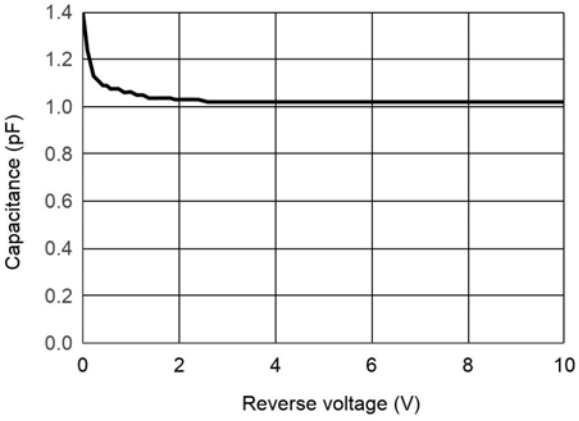
Parameter		Value	Unit	Conditions
Maximum optical input power	P_{max}	20	mW	
Reverse voltage	V_R	50	V	
Reverse current	I_R	10	mA	
Forward current	I_F	1	mA	
Operating temperature	T_{op}	-40 ÷ +85	°C	
Storage temperature	T_{stg}	-40 ÷ +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 5 seconds

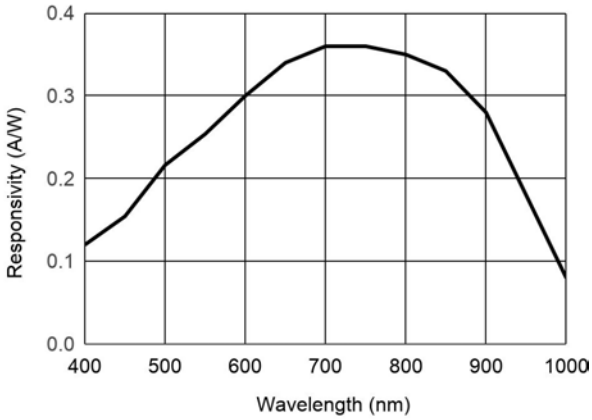
ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter		Min	Typ	Max	Unit	Conditions
Operating wavelength	λ	400		1000	nm	
Responsivity	R		0.35		A/W	V_R = 3 V, λ = 850 nm
Dark current	I_d		10	40	pA	V_R = 3 V
Total capacitance	C_t		1.2	1.6	pF	V_R = 2.5 V, f = 1 MHz
Cutoff frequency	f_c		2.0		GHz	V_R = 2.5 V, R_L = 50 Ω

PDI-200-Si-P20-2G-K







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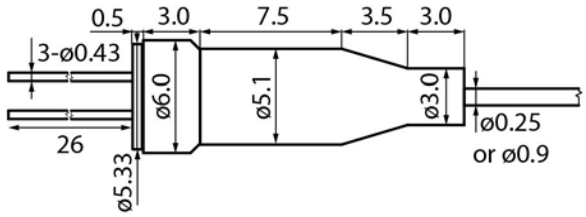
PDI-200-Si-P20-2G-K

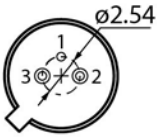
PACKAGE TYPE AND ELECTRICAL PINOUT

PACKAGE U

SIDE VIEW



BACK VIEW



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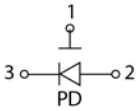
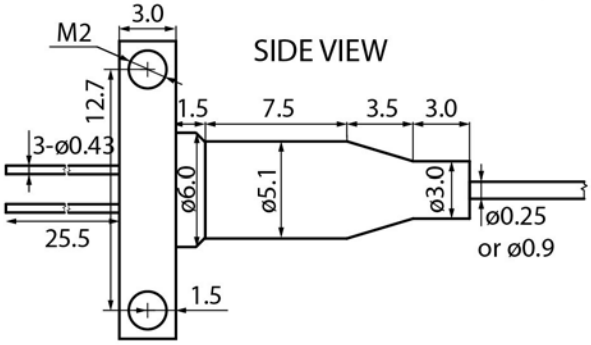


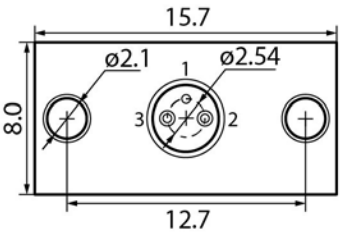
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE B



BACK VIEW



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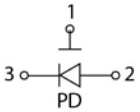

Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PDI-200-Si-P20-2G-K

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PDI-250-P5-LC

OVERVIEW

PDI-250-P5-LC is the InGaAs PIN photodiode with the extended spectral range coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Maximum optical input power: 5 mW
- Cut-off wavelength: >2150 nm
- Typical peak responsivity: 1.3 A/W
- Package types: coaxial with or without bracket
- Low back reflection, return loss RL > 50 dB

APPLICATIONS

- Optical fiber communication systems
- Spectroscopy

ORDERING INFORMATION

PDI-250-P5-LC-X-X-7-X-X-X

Optical matching
R50: back reflection -50 dB (SM06, SM1 or SM3 fiber, FA, SA or N connector)
R30: back reflection -30 dB (MM5 and MM6 fiber)

Case type
U: compact coaxial
B: compact coaxial with double-sided bracket

Fiber type
SM06: SM, Corning Hi-1060, furcation tubing ∅0.9 mm
SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm or **BSM1** ∅0.25mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm or **BSM3** ∅0.25mm
SMT: SM, Corning Titania-Clad, furcation tubing ∅0.9 mm, ultrasmall bending radius 2.5 mm
MM5: MM, 50/125, OM2, furcation tubing ∅0.9 mm
MM6: MM, 62.5/125, OM1, furcation tubing ∅0.9 mm
Other type: on request

Connector type
FA: FC/APC (SM06, SM1,SM3, SMT)
SA: SC/APC (SM1)
N: no connector
Other type: on request
FU: FC/UPC (SM06, SM1, SM3, SMT, MM5, MM6)
SU: SC/UPC (SM1)

Fiber length
0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length: on request

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PDI-250-P5-LC

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Maximum optical input power	P_{max}	5	mW	
Reverse voltage	V_R	1	V	
Forward current	I_F	1	mA	
Operating temperature	T_{op}	-40 ÷ +85	°C	
Storage temperature	T_{stg}	-40 ÷ +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 5 seconds

ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)

Parameter			Min	Typ	Max	Unit	Conditions
Responsivity		R	0.33	0.41		A/W	λ = 900 нм, V_R = 0 В
			0.74	0.92			λ = 1300 нм, V_R = 0 В
			0.87	1.05			λ = 1550 нм, V_R = 0 В
				1.20			λ = 1900 нм, V_R = 0 В
Wavelength of peak responsivity		λ	1850	1950	2050	nm	
Wavelength cut-off		$λ_c$	2150			nm	-3 dB
Return loss	R50	RL	45	50		dB	SM1, SM3
	R30		25	30			MM5, MM6
Operating voltage		V_{op}		0.25			
Dark current		I_d		0.2	1	μA	V_R = 0.25 V
Shunt impedance			400	800		kOhm	V_R = 10 mV
Capacitance		C		40		pF	V_R = 0 V
Peak specific detectivity		D*		2.9e11		cm √Hz / W	
Peak NEP		NEP		7.8e-14		W / √Hz	

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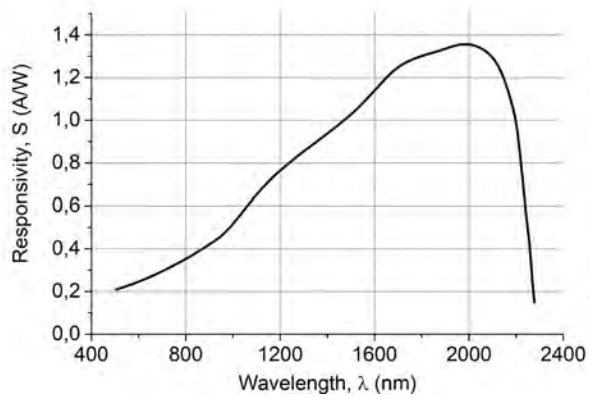
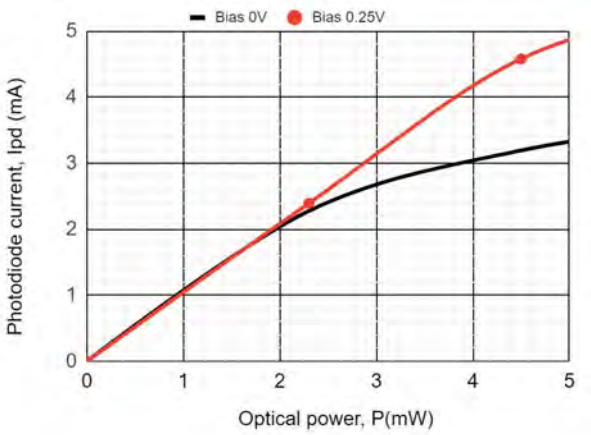
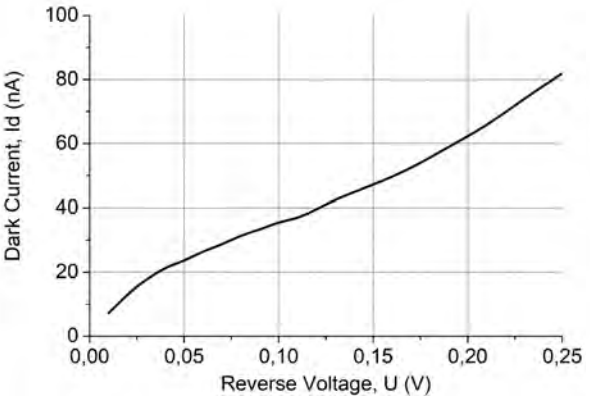
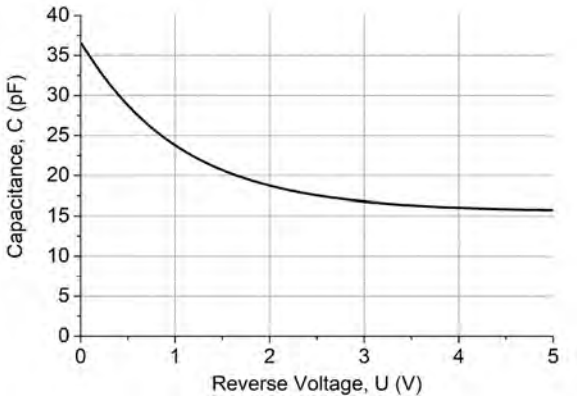
PDI-250-P5-LC

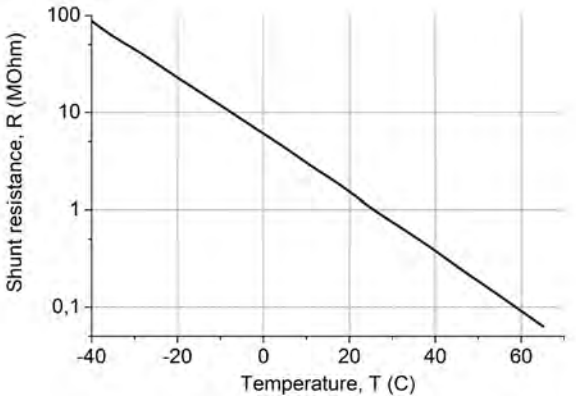
CHARACTERISTICS (T = 25 °C)











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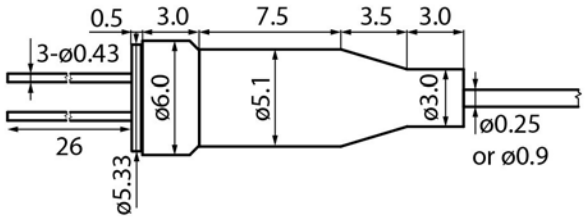
PDI-250-P5-LC

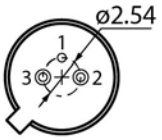
PACKAGE TYPE AND ELECTRICAL PINOUT

PACKAGE U

SIDE VIEW



BACK VIEW



PINOUT
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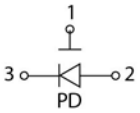
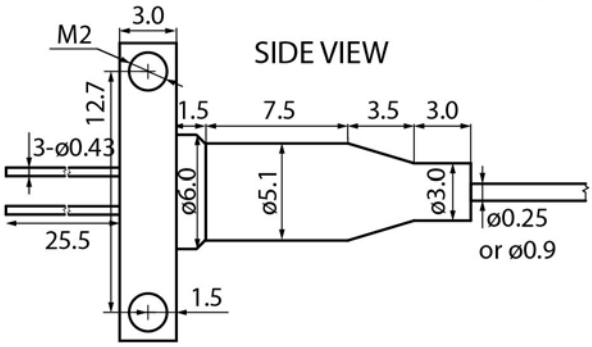


Connector FC/UPC, FC/APC, no connector, or by request

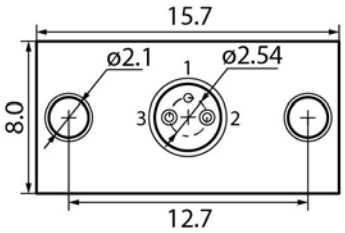
Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE B



SIDE VIEW

BACK VIEW



PINOUT
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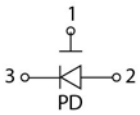

Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

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PDI-250-P5-LC

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PMI-155M-L

OVERVIEW

PMI-155M-L is the InGaAs PIN photodiode with a low-noise transimpedance amplifier with auto gain control coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Maximum optical input power: 1 mW
- Operation wavelength 1260 – 1620 nm
- Data rate: 155 Mbps
- Sensitivity: -36 dBm
- Package types: coaxial with or without bracket
- Low back reflection, return loss RL = 50 dB

APPLICATIONS

- Optical fiber communication systems

ORDERING INFORMATION

PMI-155M-L-X-X-13-X-X-X

Optical matching
R50: back reflection -50 dB (SM1 and SM3 fiber)
R30: back reflection -30 dB (MM5 fiber)
RM: optical matching, +5% larger responsivity

Case type
U: compact coaxial
B: compact coaxial with double-sided bracket

Fiber type
SMT: SM, Corning Titania-Clad, furcation tubing ∅0.9 mm, ultrasmall bending radius 2.5 mm
SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm or **BSM1** ∅0.25mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm or **BSM3** ∅0.25mm
MM5: MM, 50/125, OM2, furcation tubing ∅0.9 mm
Other type: on request

Connector type
FA: FC/APC (SM1,SM3, SMT)
FU: FC/UPC (SM1, SM3, SMT, MM5)
SA: SC/APC (SM1)
SU: SC/UPC (SM1)
N: no connector
Other type: on request

Fiber length
0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length: on request

Version 20.2

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PMI-155M-L

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Operating temperature	T_{op}	-40 ÷ +85	°C	
Storage temperature	T_{stg}	-40 ÷ +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 5 seconds

ELECTRICAL-OPTICAL CHARACTERISTICS (SM FIBER, λ = 1310 nm, T = 25 °C)

Parameter		Min	Typ	Max	Unit	Test conditions
Supply voltage	V_{cc}	3.0		5.5	V	
Supply current	I_{cc}			35	mA	no load
Differential responsivity	R_d	0.10		120	mV/μW	R_{load} = 100 Ω, λ = 1310 nm
Single-ended responsivity	R_S	0.05		60	mV/μW	R_{load} = 50 Ω, λ = 1310 nm
Bandwidth	BW	115			MHz	P = -20 dBm, λ = 1310 nm
Rise/fall time	t_R, t_F			4.5	ns	P = -20 dBm, 10% - 90%, λ = 1310 nm
Saturation power	P_{sat}	0			dBm	
Single-ended output impedance	R_0		50		Ω	
Sensitivity				-36	dBm	λ = 1310 nm, 155.52 Mbps, BER = 10^{-10}, PRBS23

TIA type: CS6710

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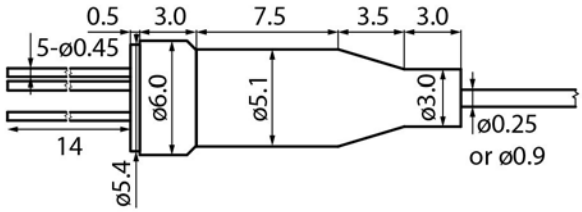
PMI-155M-L

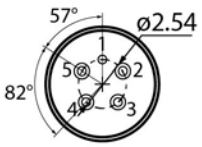
PACKAGE TYPE AND ELECTRICAL PINOUT

PACKAGE U

SIDE VIEW



BACK VIEW



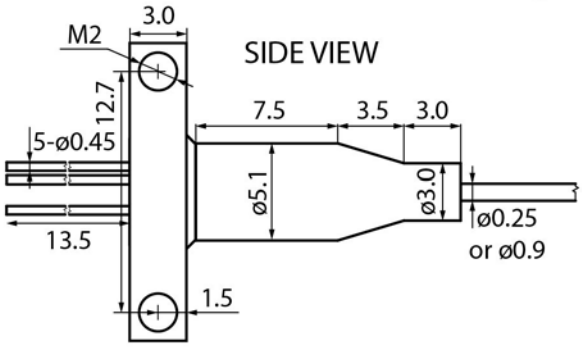
PINOUT
#13

1. Gnd
2. Dout
3. Vcc
4. Isink
5. Dout

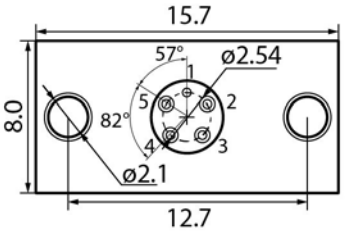
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE B



BACK VIEW



PINOUT
#13

1. Gnd
2. Dout
3. Vcc
4. Isink
5. Dout

Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

LASERS COM
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PMI-155M-L

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PMI-2.5G-L

OVERVIEW

PMI-2.5G-L is the InGaAs PIN photodiode with a low-noise transimpedance amplifier with auto gain control coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Maximum optical input power: 1 mW
- Operation wavelength 1260 – 1620 nm
- Data rate: 2.5 Gbps
- Sensitivity: -25 dBm
- Package types: coaxial with or without bracket
- Low back reflection, return loss RL = 50 dB

APPLICATIONS

- Optical fiber communication systems

ORDERING INFORMATION

PMI-2.5G-L-X-X-13-X-X-X

Optical matching
R50: back reflection -50 dB (SM1 and SM3 fiber)
R30: back reflection -30 dB (MM5 fiber)
RM: optical matching, +5% larger responsivity

Case type
U: compact coaxial
B: compact coaxial with double-sided bracket

Fiber type
SMT: SM, Corning Titania-Clad, furcation tubing ∅0.9 mm, ultrasmall bending radius 2.5 mm
SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm
MM5: MM, 50/125, OM2, furcation tubing ∅0.9 mm
Other type: on request

Connector type
FA: FC/APC (SM1,SM3, SMT)
SA: SC/APC (SM1)
N: no connector
Other type: on request
FU: FC/UPC (SM1, SM3, SMT, MM5)
SU: SC/UPC (SM1)

Fiber length
0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length: on request

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PMI-2.5G-L

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Operating temperature	T_{op}	-40 ÷ +85	°C	
Storage temperature	T_{stg}	-40 ÷ +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 5 seconds

ELECTRICAL-OPTICAL CHARACTERISTICS (SM FIBER, λ = 1310 nm, T = 25 °C)

Parameter		Min	Typ	Max	Unit	Test conditions
Supply voltage	V_{cc}	3.0	3.3	3.6	V	
Supply current	I_{cc}		48	60	mA	no load
Differential responsivity	R_d	14		30	mV/μW	R_{load} = 100 Ω, P = - 23 dBm, λ = 1310 nm
Single-ended responsivity	R_S	7		15	mV/μW	R_{load} = 50 Ω, P = - 23 dBm, λ = 1310 nm
Bandwidth	BW	1.4			GHz	
Low frequency cut-off	LF		80		kHz	
Rise/fall time	t_R, t_F		170	200	ps	P = -23 dBm, 20% - 80%
Saturation power	P_{sat}	0			dBm	
Impedance	R_0		50		Ω	
Sensitivity				-25	dBm	λ = 1310 nm, 2488.32 Mbps, BER = 10^{-10}, PRBS23, ER = 10dB

TIA type: PHY1097

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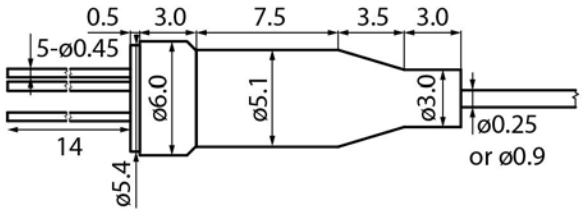
PMI-2.5G-L

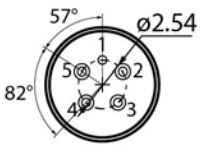
PACKAGE TYPE AND ELECTRICAL PINOUT

PACKAGE U

SIDE VIEW



BACK VIEW



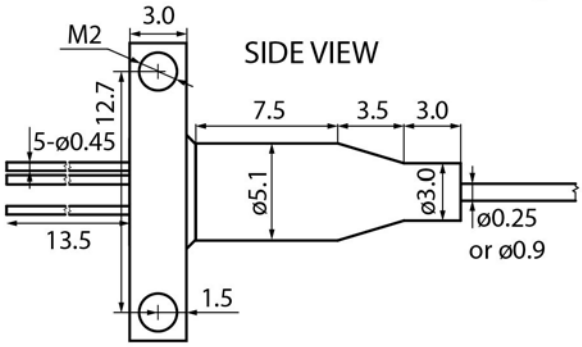
PINOUT
#13

1. Gnd
2. Dout
3. Vcc
4. Isink
5. Dout

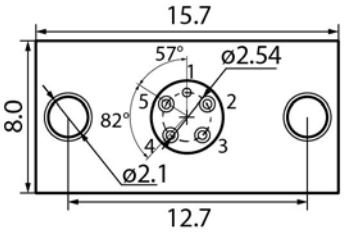
Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

PACKAGE B



BACK VIEW



PINOUT
#13

1. Gnd
2. Dout
3. Vcc
4. Isink
5. Dout

Connector FC/UPC, FC/APC, no connector, or by request

Fiber length 500+/-50, 1000+/-100, or by request

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PMI-2.5G-L

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Safety and handling cautions

1. Avoid smashing and burning of the module. Avoid storing and using the module in conditions where water, organic solvents or aggressive acids or bases may contact the module or where there is a possibility of exposure to corrosive gases, explosive gases, dust, salinity or other harsh conditions. The module should be disposed as special industrial waste.

2. Exceeding absolute maximal ratings even for a short time can cause permanent damage of the module.

3. The module is sensitive to and can be broken by ESD (static electricity).

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RoHS Compliance Statement

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REACH Compliance Statement

Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) is a European Union regulation 1907/2006/EC that addresses the production and use of chemical substances, and their potential impacts on human health and the environment. Based on information received from our supply sources, LasersCom LLC hereby states compliance of the parts and materials used in manufacturing to REACH regulation. LasersCom LLC does not manufacture or import any substances or preparations as defined under REACH.

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PMI-10G-L

OVERVIEW

PMI-10G-L is the InGaAs PIN photodiode with a low-noise transimpedance amplifier with auto gain control coupled to an optical fiber and packaged into a hermetic case

MAIN FEATURES

- Maximum optical input power: 1 mW
- Operation wavelength 1260 – 1620 nm
- Data rate: 2.5 Gbps
- Sensitivity: -15.5 dBm
- Package types: coaxial with or without bracket
- Low back reflection, return loss RL = 50 dB

APPLICATIONS

- Optical fiber communication systems

ORDERING INFORMATION

PMI-10G-L-X-X-13-X-X-X

Optical matching
R50: back reflection -50 dB (SM1 and SM3 fiber)
R30: back reflection -30 dB (MM5 fiber)
RM: optical matching, +5% larger responsivity

Case type
U: compact coaxial
B: compact coaxial with double-sided bracket

Fiber type
SMT: SM, Corning Titania-Clad, furcation tubing ∅0.9 mm, ultrasmall bending radius 2.5 mm
SM1: SM, G.657.A1, Corning SMF-28 Ultra, furcation tubing ∅0.9 mm or **BSM1** ∅0.25mm
SM3: SM, G.657.B3, Corning ClearCurve ZBL, furcation tubing ∅0.9 mm or **BSM3** ∅0.25mm
MM5: MM, 50/125, OM2, furcation tubing ∅0.9 mm
Other type: on request

Connector type
FA: FC/APC (SM1,SM3, SMT)
FU: FC/UPC (SM1, SM3, SMT, MM5)
SA: SC/APC (SM1)
SU: SC/UPC (SM1)
N: no connector
Other type: on request

Fiber length
0.5: 500+/-50 mm
1.0: 1000+/-100 mm
Other length: on request

Version 21.1

LASERS COM
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PMI-10G-L

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Operating temperature	T_{op}	-40 ÷ +85	°C	
Storage temperature	T_{stg}	-40 ÷ +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 5 seconds

ELECTRICAL-OPTICAL CHARACTERISTICS (SM FIBER, λ = 1310 nm, T = 25 °C)

Parameter			Min	Typ	Max	Unit	Test conditions
Operating voltage		V_{cc}	3.0		3.6	V	
Operating current		I_{cc}			62	mA	no load
Differential responsivity		R_d	2.8		6.8	mV/μW	R_{load} = 100 Ω, P = - 18 dBm, λ = 1310 nm
Single-ended responsivity		R_S	1.4		3.4	mV/μW	R_{load} = 50 Ω, P = - 18 dBm, λ = 1310 nm
Bandwidth		BW	7.0			GHz	P = - 18 dB
Low frequency cut-off		LF			70	kHz	
Rise/fall time		t_R, t_F			50	ps	P = -18 dBm, 20% - 80%, λ = 1310 nm
Saturation power		P_{sat}	0			dBm	
Impedance		R_0		50		Ω	
Sensitivity					-15.5	dBm	λ = 1310 nm, 10.31 Gbps, BER = 10^{-12}, PRBS31, ER = 7 dB
TIA RSSI	Slope		0.9	1.0	1.1	mA/mA	
	Offset		0	40	100	nA	
	Linearity Limit				1.6	mA	

TIA type: GN1554

LASERSCOM
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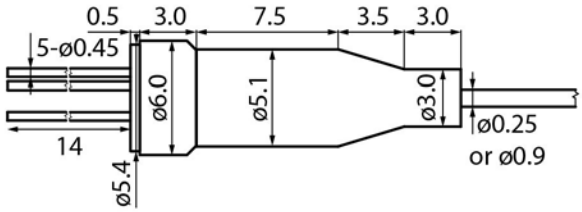
PMI-10G-L

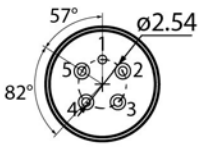
PACKAGE TYPE AND ELECTRICAL PINOUT

PACKAGE U

SIDE VIEW



BACK VIEW



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#13

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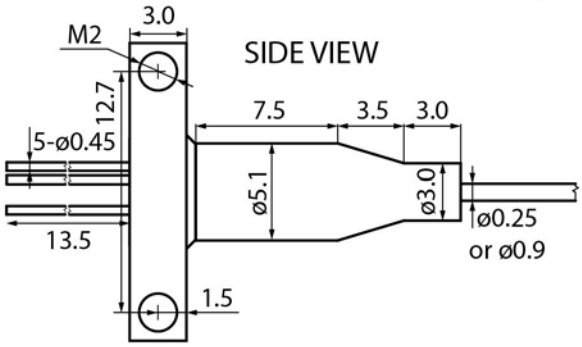
PACKAGE B



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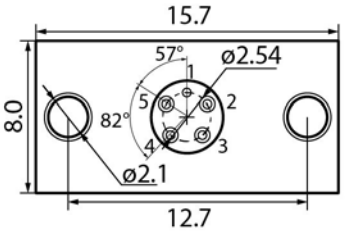

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