LD4B
Laser Diodes for Business

LD4B-1550-FP-2.5G-10-TEC

OVERVIEW

Laser diode with an integrated TEC and thermistor coupled to an optical fiber and packaged into a hermetic case.

MAIN FEATURES

- Wavelength: 1550 nm
- Cavity type: FP
- Bandwidth: 2.5 GHz
- Optical power in CW mode in single-mode fiber: 10 mW
- Package type: coaxial with bracket
- Built-in monitor photodiode
- Built-in TEC and thermistor

ORDERING INFORMATION

LD4B-1550-FP-2.5G-10-TEC-X-X-X-X-X-X

Case type
COAXB: compact coaxial with a bracket (TEC and thermistor)

Pinout code
27: see more details on page 5

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, Corning PM1300, PANDA type, furcation tubing ⌀0.9 mm
Other type on request

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

Test measurements
CW: CW mode (electro-optical parameters at T=40 C and spectrum)

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

Version 2611

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ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode CW forward current	I_{max}	100	mA	CW, T = 40°C
Laser diode reverse voltage	V_{RL}	2	V	
Photodiode reverse voltage	V_{RP}	15	V	
Photodiode forward current	I_{RP}	5	mA	
Operating temperature*	T_{op}	-15 - +60	°C	Ambient (heat sink)
Storage temperature	T_{stg}	-40 - +85	°C	
Soldering temperature	T_{sold}	260	°C	Max. 5 seconds

*Operating temperature is defined for internal temperature stabilization at Tst = 40°C.
It is necessary to ensure sufficient heat dissipation so that the module's maximum operating temperature is not exceeded.

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ELECTRICAL-OPTICAL CHARACTERISTICS (T = 40 °C)

Parameter		MIN	TYP	MAX	Unit	Conditions
Optical power (CW)	P_{cw}	10	12		mW	CW, I_{op} = 100 mA, T = 40°C
Mean wavelength	λ	1520	1550	1580	nm	CW, I_{op} = 100 mA, T = 40°C
Spectral width	Δλ		6	12	nm	CW, I_{op} = 100 mA, RMS
Wavelength-temperature coefficient	dλ/dT		0.7		nm/°C	
Threshold current	I_{th}		10	15	mA	CW
Slope efficiency	S_e	0.11	0.15		mW/mA	CW, SM1
Operating voltage	V_{op}		1.9	2.5	V	CW, I_{op} = 100 mA, T = 40°C
Monitor current	I_m	0.1	0.6	3	mA	CW, I_{op} = 100 mA, V_r = 5 V, T = 40°C
TEC voltage	V_{TEC}			2.5	V	I_{op} = 100 mA
TEC current	I_{TEC}			1.2	A	I_{op} = 100 mA
Thermistor resistance	R_{th}		10		kΩ	T = 25°C
Thermistor B constant	B		3900		K	
TEC set point temperature	T_{sp}		40		°C	
Polarization extinction ratio	PER	17			dB	CW, SMP13
Bandwidth	BW		2.5		GHz	

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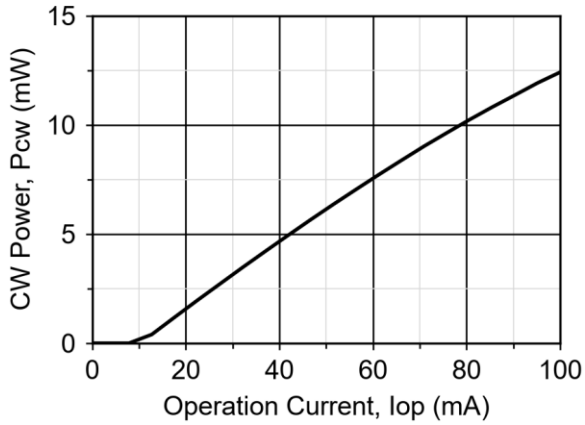

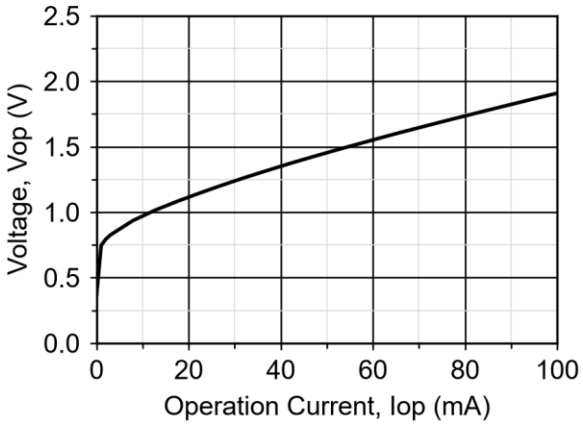

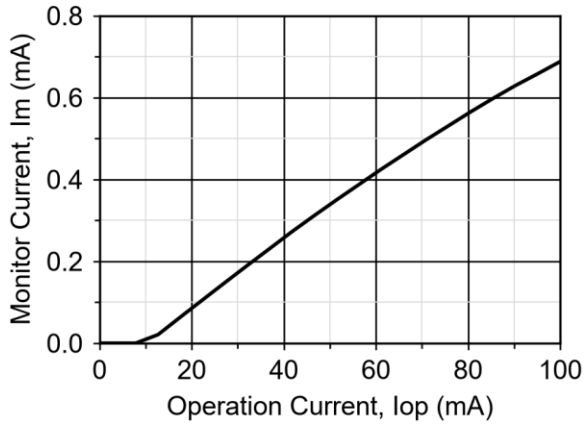

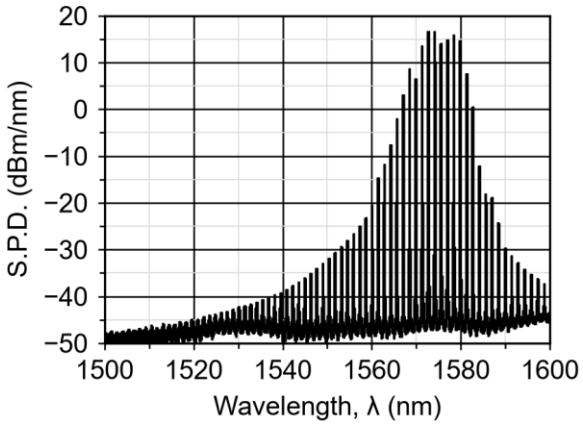

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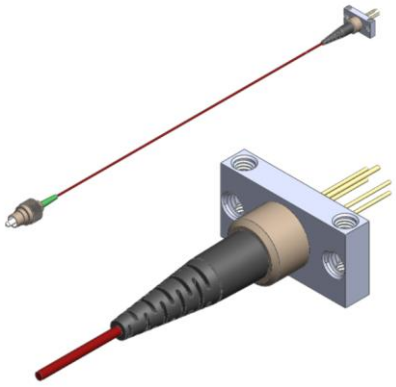
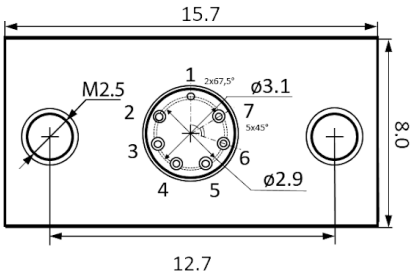


COAXB

BACK VIEW



PINOUT
#27

1. LD Cathode (-)/ Gnd/Thermistor
2. LD Anode (+)
3. PD Cathode (+)
4. TEC (-)
5. TEC (+)
6. PD Anode (-)
7. Thermistor

TEC: Imax = 1.2 A
Thermistor: R(25C) = 10 kOhm, B = 3900 K

Download more information

Drawing | 3D model | Application Notes

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

LD4B 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, LD4B 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, LD4B hereby states compliance of the parts and materials used in manufacturing to REACH regulation. LD4B does not manufacture or import any substances or preparations as defined under REACH.