

LD4B formerly **LASERS.COM**
www.LD4B.com Coupling Light to Your Success

This product is sold and serviced in North America by:



LASER LAB SOURCE

a division of Research Lab Source Inc.

LaserDiodeSource.com | LaserLabSource.com | LaserDiodeControl.com

800.887.5065
contact@LaserLabSource.com

LD4B-660-FP-50

OVERVIEW

Laser diode coupled to an optical fiber and packaged into a hermetic case.

MAIN FEATURES

- Wavelength: 660 nm
- Cavity type: Fabry-Perot
- Optical power in CW mode in single-mode fiber: 50 mW
- Package types: coaxial, coaxial with bracket, 14 pins DIL
- Built-in monitor photodiode

ORDERING INFORMATION

LD4B-660-FP-50-X-X-X-X-X-X

Case type

COAX: compact coaxial (low duty cycle pulse mode only)

COAXB: compact coaxial with a bracket

TH: compact coaxial with a bracket compatible to Thorlabs mount

DIL: common 14-pins DIL for active thermal stabilization (TEC and thermistor)

DILRAD: 14-pins DIL for active thermal stabilization (TEC and thermistor) with wall radiator

Pinout code

18: see more details on page 5

Fiber type

SM04: SM, [Coherent 630-HP](#), furcation tubing $\varnothing 0.9$ mm

SMP04: PM, [Coherent PM630-HP](#), furcation tubing $\varnothing 0.9$ mm

Other type on request

Connector type

FU: FC/UPC (SM04, SMP04)

FA: FC/APC (SM04, SMP04)

N: no connector (scissors cut)

Other type: on request

Test measurements

CW: CW mode (electro-optical parameters at $T=25\pm 5$ C and spectrum)

Fiber length

0.5: 500 \pm 50 mm

1.0: 1000 \pm 100 mm

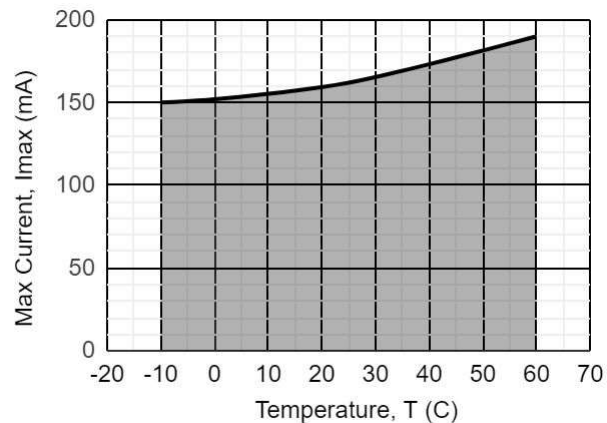
Other length on request

LD4B-660-FP-50

ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Laser diode forward current*	I_{max}	162	mA	CW, T = 25°C
Laser diode reverse voltage	V_{RL}	2	V	
Operating temperature**	T_{OP}	-10 - +60	°C	Coaxial package
Operating temperature**	T_{OP}	-40 - +60	°C	DIL package (Tst = 25°C)
Storage temperature	T_{stg}	-20 - +60	°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.



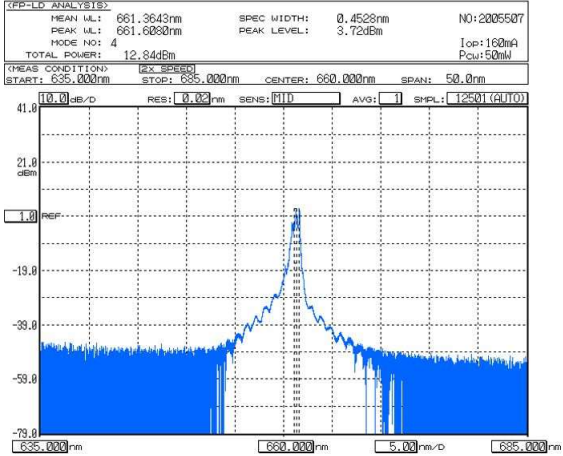
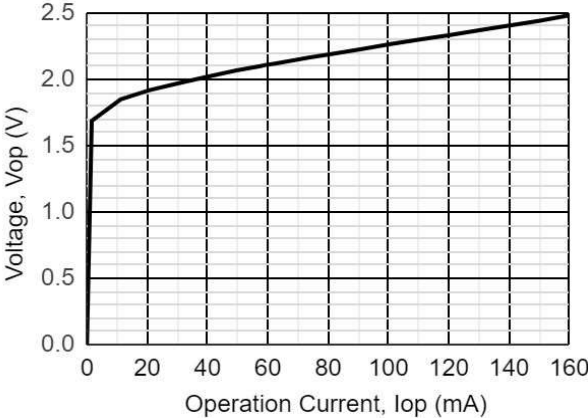
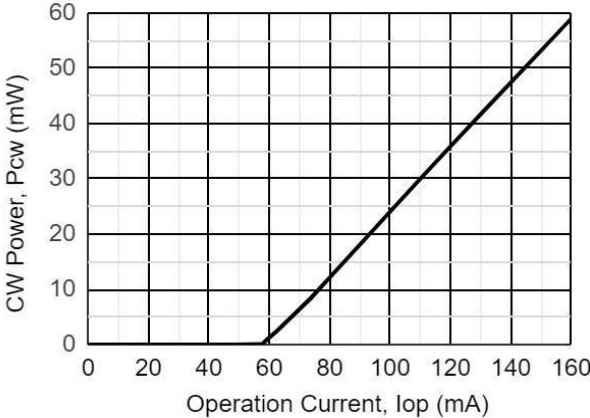
**Operating temperature is defined by the case temperature. It is recommended to ensure sufficient heat dissipation so that the module's maximum operating temperature is not exceeded.

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

LD4B-660-FP-50**ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)**

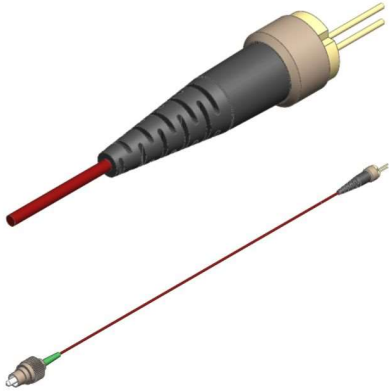
Parameter		MIN	TYP	MAX	Unit	Conditions
Optical power (CW)	P _{cw}	50	55		mW	CW, I _{op} = 160 mA, SM04
Mean wavelength	λ	655	660	665	nm	CW, I _{op} = 160 mA
Spectral width	Δλ		1	3	nm	CW, I _{op} = 160 mA
Wavelength-temperature coefficient	dλ/dT		0.18		nm/°C	CW, I _{op} = 160 mA
Threshold current	I _{th}		60	75	mA	
Slope efficiency	S _e	0.55	0.60		mW/mA	CW, SM04
Operating voltage	V _{op}		2.5	3.3	V	CW, I _{op} = 160 mA
Polarization extinction ratio	PER	17				CW, I _{op} = 160 mA, SMP04

LD4B-660-FP-50

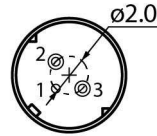


LD4B-660-FP-50

COAX



BACK VIEW

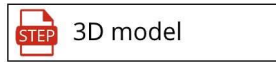


PINOUT
#18

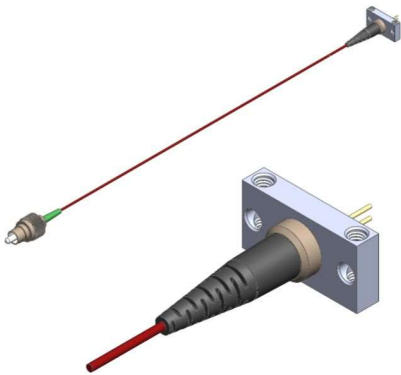
2_o



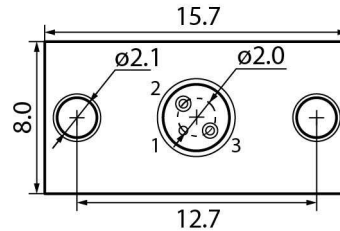
Download more information



COAXB



BACK VIEW

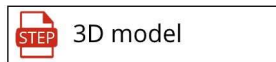
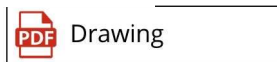


PINOUT
#18

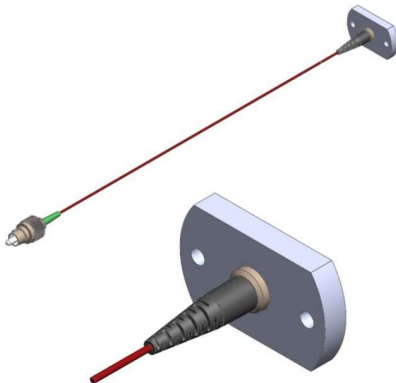
2_o



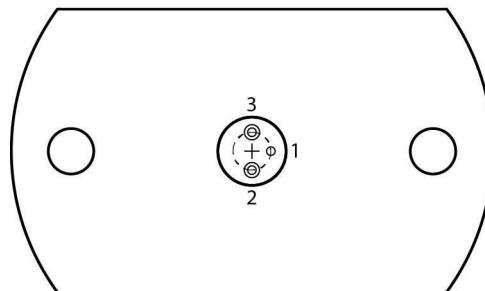
Download more information



PACKAGE TH



BACK VIEW



PINOUT
#18

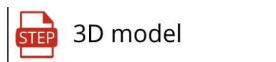
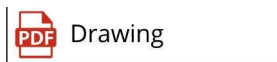
Thorlabs Pin Code H



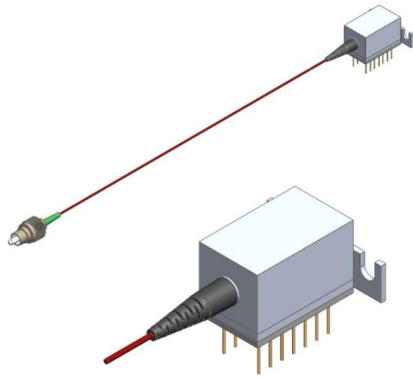
2_o

Compatible to Thorlabs LDM9LP mount

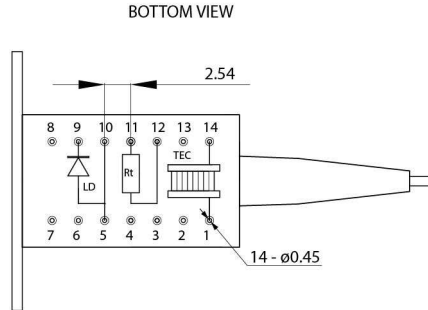
Download more information



LD4B-660-FP-50



DIL



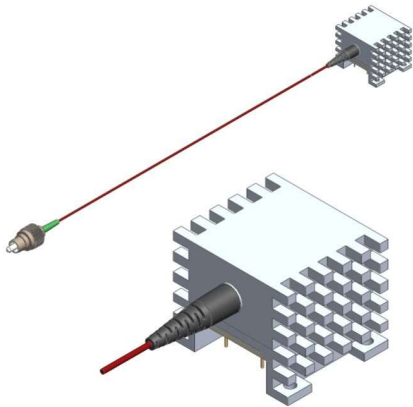
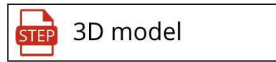
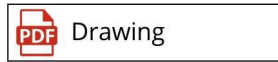
PINOUT #4, #18, #21, #31

- 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

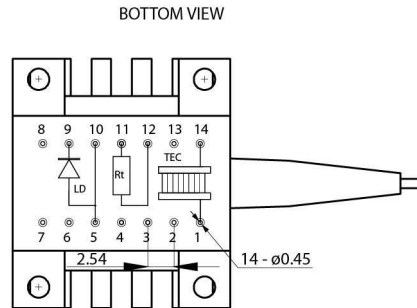
TEC HP: $I_{max} = 1.4A$, $U_{max} = 3.9V$, $Q_{max} = 3.3W$,
 AC R = 2.0 Ohm, $\Delta T_{max} = 69 K$

Thermistor:
 $R_t = 10 * EXP(3600 * \{1/T[K] - 1/298\})$ kOhm

Download more information



DILRAD



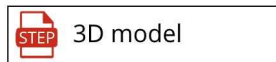
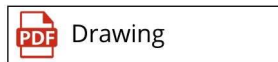
PINOUT #4, #18, #21, #31

- 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 HP: $I_{max} = 1.4A$, $U_{max} = 3.9V$, $Q_{max} = 3.3W$,
 AC R = 2.0 Ohm, $\Delta T_{max} = 69 K$

Thermistor:
 $R_t = 10 * EXP(3600 * \{1/T[K] - 1/298\})$ kOhm

Download more information



LD4B-660-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.
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, UAB 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, UAB 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, UAB hereby states compliance of the parts and materials used in manufacturing to REACH regulation. LD4B, UAB does not manufacture or import any substances or preparations as defined under REACH.