

**AFONICS****LD-0005****1550nm Fabry Perot Laser Diode****Performance Highlights**

- Over 1.5mW into 9/125µm fibre available
- Designed for 1.2 Gbit/s data rates
- Multi-Quantum Well (MQW) active layer
- Laser diode electrically isolated from the monitor photodiode

LIMITING VALUES	SYMBOL	VALUE	UNITS
Laser diode continuous forward current ⁽¹⁾	$I_{F(LD)}$	$I_{TH} + 40$, DC	mA
Laser diode reverse voltage	$V_{R(LD)}$	2	V
Photodiode continuous forward current	$I_{F(PD)}$	2	mA
Photodiode reverse voltage	$V_{R(PD)}$	20	V
Operating temperature	T_{OPR}	-40 to +85	°C
Storage temperature	T_{STG}	-40 to +100	°C
Soldering temperature 2mm from case for 10s	T_{SLD}	260	°C

OPTICAL/ELECTRICAL CHARACTERISTICS	SYMBOL	MIN	TYP	MAX	UNITS	TEST CONDITION
Low power option (9/125µm) (50/125µm)	P_F	250 1000			µW	$I_F = I_{OP}$
Medium power option (9/125µm) (50/125µm)	P_F	600 1500			µW	$I_F = I_{OP}$
High power option (9/125µm) ⁽²⁾	P_F	1500			µW	$I_F = I_{OP}$
Threshold current	I_{TH}		10	20	mA	CW
Operating current	I_{OP}		30	60	mA	$I_F = I_{OP}$
Operating voltage	V_{OP}		1.1	1.5	V	$I_F = I_{OP}$
Lasing wavelength	I_P	1520	1550	1580	nm	$I_F = I_{OP}$
Spectral width (rms)	$\Delta\lambda$		1.5	3	nm	$I_F = I_{OP}$
Rise and fall times (10% to 90%)	t_{LR} / t_{LF}		0.3	0.7	ns	$I_{BIAS} = I_{TH}, I_F = I_{OP}$
Monitor current	I_M	0.1	0.5		mA	$I_F = I_{OP}, V_{R(PD)} = 1V$
Photodiode dark current	$I_{D(PD)}$		0.01	0.1	µA	$V_{R(PD)} = 10V$
Photodiode capacitance	$C_{(PD)}$		10	20	pF	$V_{R(PD)} = 10V, f=1MHz$

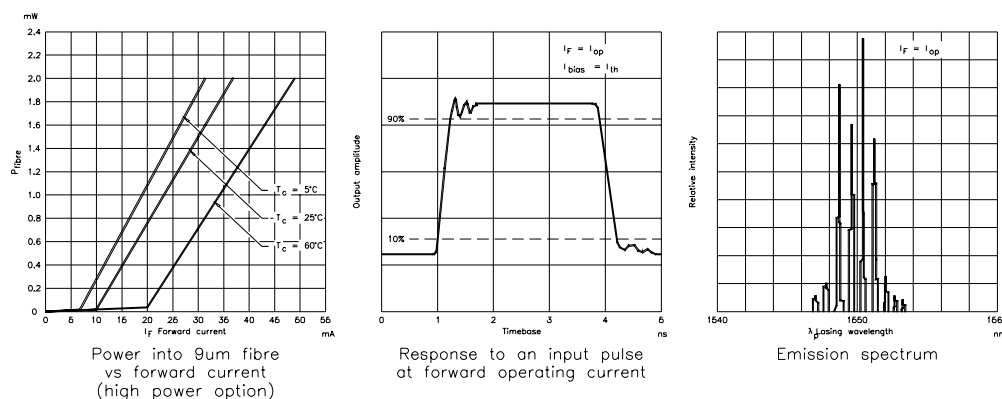
All values apply at a temperature of 25°C

NOTES:

- 1) Must not be exceeded when operated under pulsed conditions.
- 2) Only available in high power pigtail or minipigtail receptacle option.

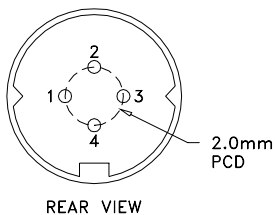
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GRAPHS SHOWING TYPICAL CHARACTERISTICS

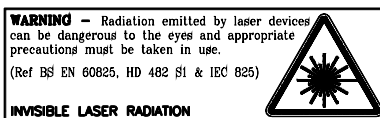
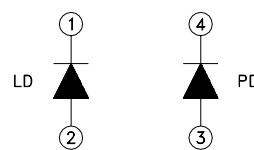


PINOUT DETAILS

- 1 = Laser diode cathode
 - 2 = Laser diode anode (case)
 - 3 = Photodiode anode
 - 4 = Photodiode cathode
- Pin length = 20mm $\pm$ 1mm



INTERNAL CIRCUIT



NOTE: The device is very susceptible to damage by electrostatic discharge.

NOTES:

- 1) Standard pin orientation aligns pin 2 with the receptacle keyway unless a custom orientation is requested.
- 2) Usable pin length will vary dependant on choice of receptacle. If pin length is important please contact Afonics before placing an order.