LD-0006

1550nm Fabry Perot Laser Diode

AFONICS

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

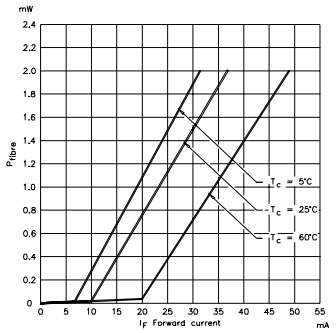
All values apply at a temperature of 25°C

NOTES:

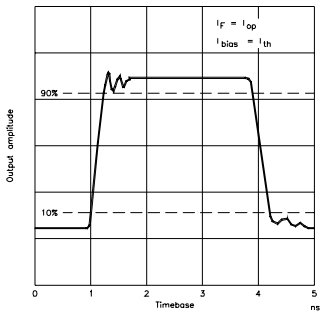
1) Must not be exceeded when operated under pulsed conditions.

2) Only available in high power pigtail or minipigtail receptacle option.

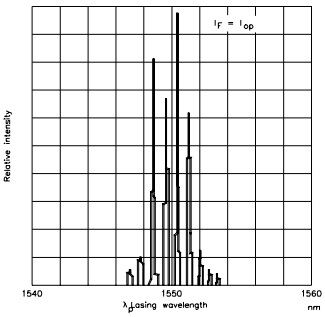
GRAPHS SHOWING TYPICAL CHARACTERISTICS



Power into 9um fibre vs forward current (high power option)



Response to an input pulse at forward operating current



Emission spectrum

PINOUT DETAILS

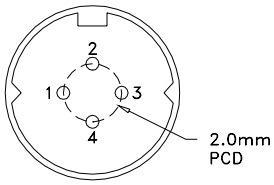
1 = Laser diode cathode

2 = Photodiode cathode

3 = Photodiode anode

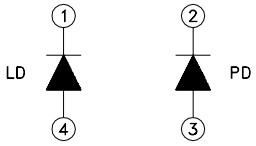
4 = Laser diode anode (case)

Pin length = 18mm ±1mm



REAR VIEW

INTERNAL CIRCUIT



WARNING – Radiation emitted by laser devices can be dangerous to the eyes and appropriate precautions must be taken in use.

(Ref BS EN 60825, HD 482 S1 & IEC 825)

INVISIBLE LASER RADIATION

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.

