

1310nm & 1550nm MQW-DFB Laser Diode with pigtail For 1.25G and 2.5G

Application

HEDLP-XXXXXXXX



Features:

- ◆ Coaxial Package
- ◆ InGaAsP/InP MQW-DFB Laser Diode
- ◆ Low threshold, high slope efficiency and high output power LD
- ◆ Operating Case Temperature: -40°C to +85°C
- ◆ Single-mode fiber pigtailed with SC, FC, ST or LC connector
- ◆ Optional with Isolator

Applications:

- ◆ High Speed Optical Transmission System
- ◆ Test Equipments

General:

HEDLP-XXXXXXXX Series are 1310nm & 1550nm InGaAsP/InP MQW-DFB laser diode modules designed for fiber optic communication systems. These modules have low threshold current and high performance at high temperature.

A laser diode is mounted into a coaxial package integrated with an InGaAs monitor PD and a single-mode pigtail.

Absolute Maximum Ratings: ^{*Note1}

Parameter	Symbol	Ratings	Unit
Storage Temperature	Tstg	-40~+100	°C
Operating Case Temperature	Top	-40~+85	°C
Forward Current (LD)	IfL	150	mA
Reverse Voltage (LD)	VrL	2	V
Reverse Voltage (PD)	VrP	15	V
Reverse Current (PD)	IrP	2	mA
Soldering Temperature (<10s)	Stemp	260	°C

*Note1: Exceeding any one of these values may destroy the device immediately.

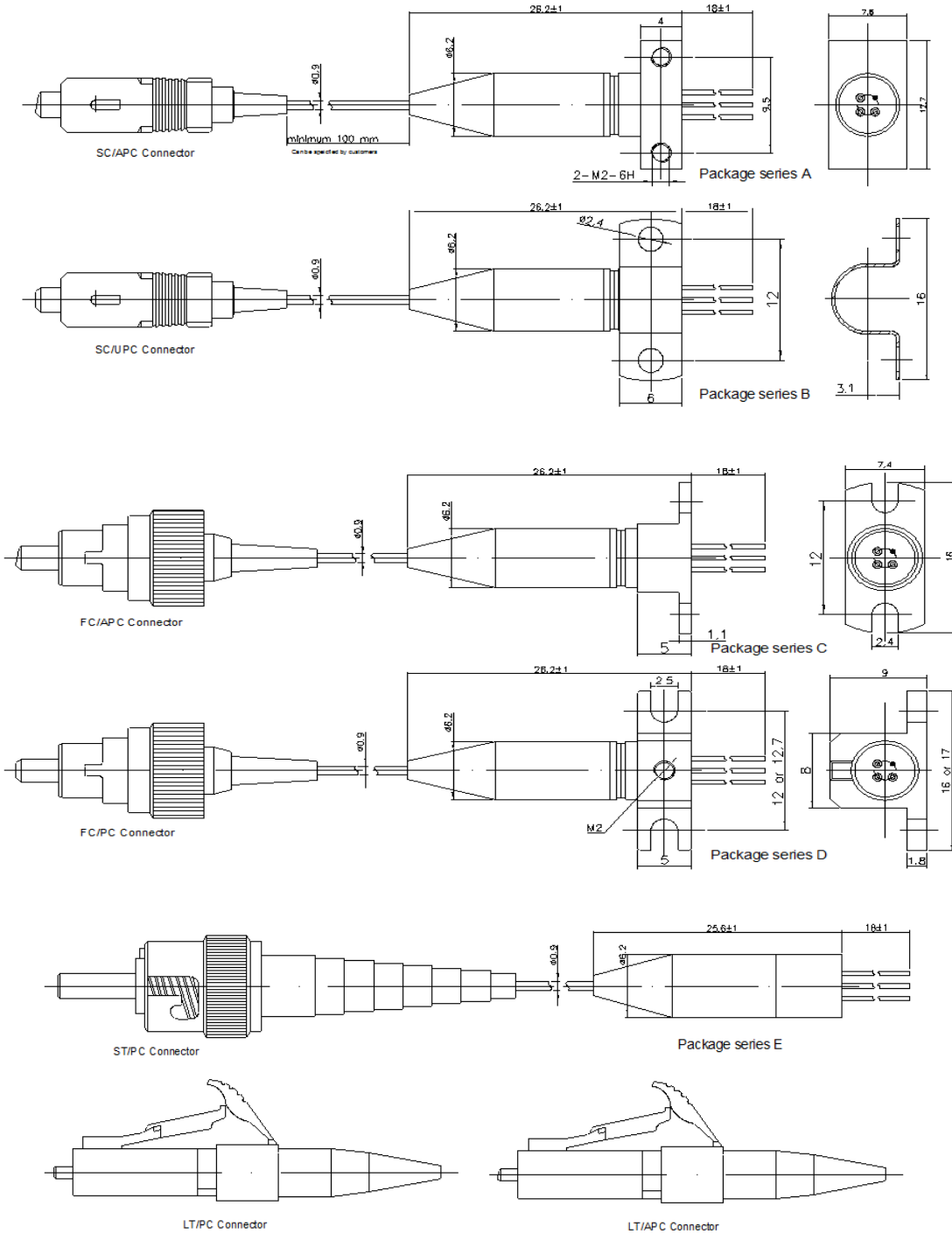
Electrical and Optical Characteristics:

(Po=2.5mW, SMF, Tc=+25°C, unless otherwise noted.)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Threshold Current	Ith	CW	—	10	15	mA
		CW, Tc=-40~+85	—	—	40	
Output Power (After coupled)	Po	CW, If=Ith+20mA	1	2	2.5	mW
Operating Current	If	CW	—	30	40	mA
		CW, Tc=-40~+85	—	40	70	
Operating Voltage	Vf	CW, Tc=-40~+85	—	—	1.6	V
Slope Efficiency	Se	CW	0.05	—	0.15	mW/mA
Wavelength	λ_c	HEDLP-3XXXXXX, CW	1290	1310	1330	nm
		HEDLP-5XXXXXX, CW	1530	1550	1570	
Spectral Width	$\Delta\lambda$	CW, -20dB, Tc=-40~+85	—	—	1	nm
Side-mode suppression Ratio	SMSR	CW, Tc=-40~+85	30	—	—	dB
Tracking Error	ΔPf	Im hold(@Pf=3mW(25°C)), CW, TC=-40~+85	-1	—	1	dB
Relative Intensity Noise ^{*Note2}	RIN	CW	—	—	-145	dB/Hz
Monitor Current	Im	CW, Vrp=5V, Tc=-40~+85	80	300	—	uA
Monitor Dark Current	Id	CW, Vrp=5V	—	1	10	nA
Monitor Capacitance	C	Vrp=5V, f=1MHz	—	—	10	pF
Connector Repeatability	—		-1	—	1	dB
Optical Isolation	—	Single Stage	30	—	—	dB
		Dual Stage	40	—	—	

*Note2: Zero link loss, f=1780MHz

Pigtail Package Dimension: *Note3, 4, 5



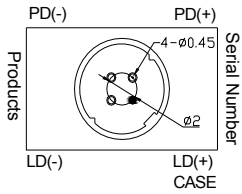
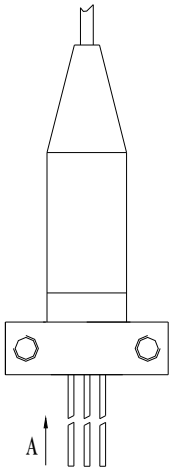
*Note3: PIN direction and laser mark can be customized. Pigtail is standard SM fiber; the length also can be customized.

*Note4: For the package series D, the clamping rings dimensions (A) and drill size (B) are can be selected. The following types can be available. Please designate the detailed type while ordering the package series D.

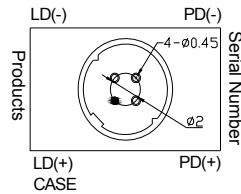
Fixed card type	A(mm)	B(mm)
D	16	12
D-S	17	12.7

*Note5: For the package series B, the fix card is fixed by customer self. For the detailed information of fix card of A, C, D package series, please refers the following graphs.

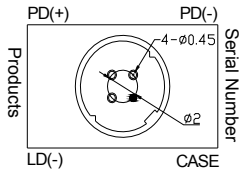
The Direction of Fix Card:



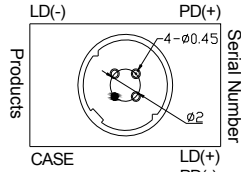
Direction A view
PLD1A-1(DEFAULT)



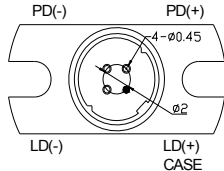
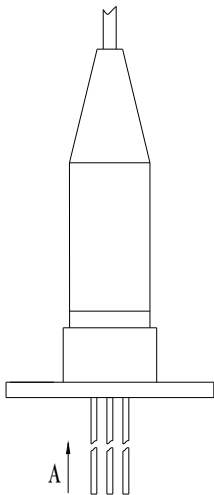
Direction A view
PLD1A-2



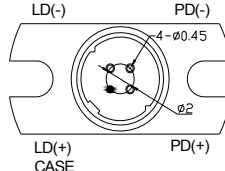
Direction A view
PLD2A-1(DEFAULT)



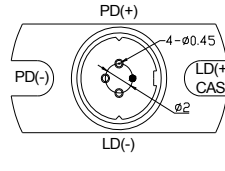
Direction A view
PLD2A-2



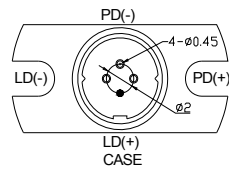
Direction A view
PLD1C-1(DEFAULT)



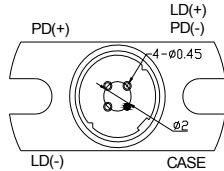
Direction A view
PLD1C-2



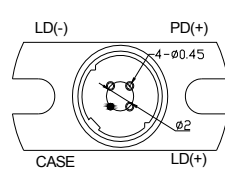
Direction A view
PLD1C-3



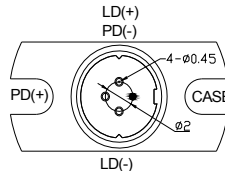
Direction A view
PLD1C-4



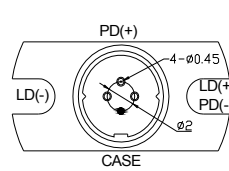
Direction A view
PLD2C-1(DEFAULT)



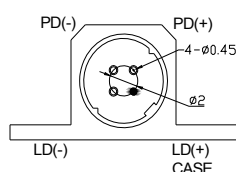
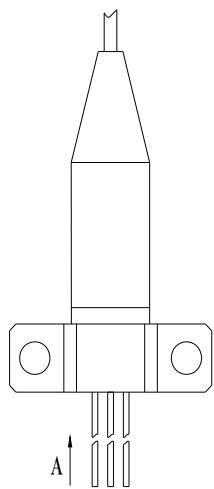
Direction A view
PLD2C-2



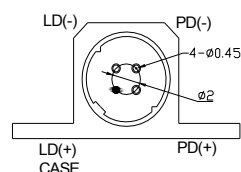
Direction A view
PLD2C-3



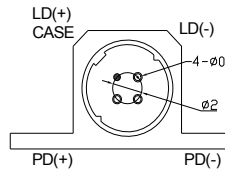
Direction A view
PLD2C-4



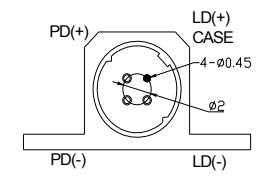
Direction A view
PLD1D-1(DEFAULT)



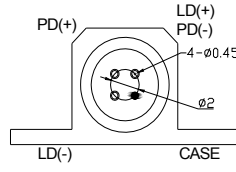
Direction A view
PLD1D-2



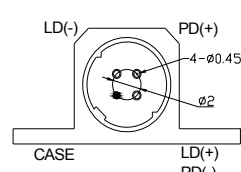
Direction A view
PLD1D-3



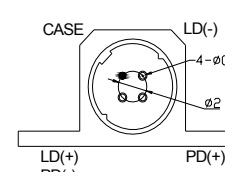
Direction A view
PLD1D-4



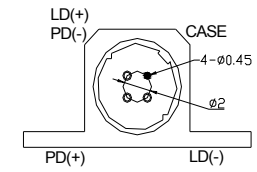
Direction A view
PLD2D-1(DEFAULT)



Direction A view
PLD2D-2

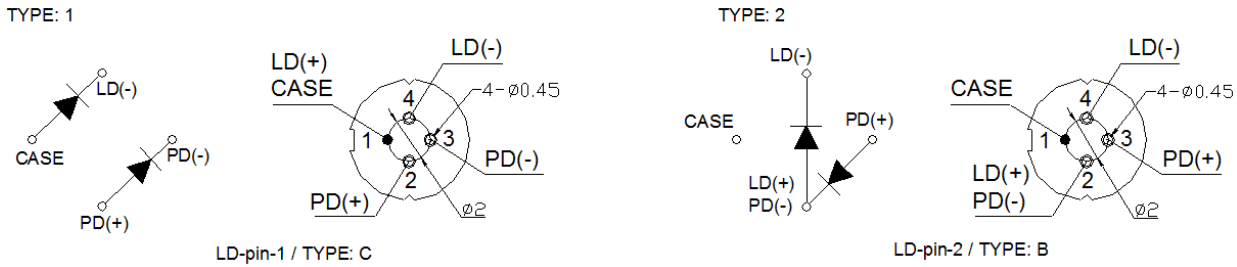


Direction A view
PLD2D-3



Direction A view
PLD2D-4

Pin Assignment:



Nomenclature:

HEDLP —
A B C D E F G H

NO	Parameter	Detailed Description			
A	Wavelength	3=1310		5=1550	
B	Data Rate	1=1.25G		2=2.5G	
C	Power	05=0.3-0.8mw	10=0.81-1.8mw	20=1.81-2.5mw	
D	Package Series	A	B	C	E
E	Connector	F=FC/PC	S=SC/PC	T=ST/PC	L=LC/PC
		FA=FC/APC	SA=SC/APC	Blank=None	
F	Pin Type	Blank =LD-pin-2		1=LD-pin-1	
G	Isolator	Blank=None	G= Single Stage	G2=Dual Stage	
H	Fiber Type	Blank=SM			

Precaution:

- (1) The modules should be handled in the same manner as ordinary semiconductor devices to prevent the electro-static damages. For safe keeping and carrying, the modules should be packaged with ESD proof material. To assemble the modules on PCB, the workbench, the soldering iron and the human body should be grounded.
- (2) Please pay special attention to the atmosphere condition because the dew on the module may cause some electrical damages.
- (3) Under such a strong vibration environment as in automobile, the performance and reliability are not guaranteed.

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