

1310nm MQW-DFB Laser Diode with pigtail (2-5mW)

Features:

- ◆ Coaxial package
- ◆ High stability MQW-DFB laser chip
- ◆ Built-in InGaAs monitor photodiode
- ◆ Data Rate up to 3Gbit/s
- ◆ Operating Case Temperature: -40°C to +85°C
- ◆ Single-mode fiber pigtailed with SC/LC/FC or ST connector
- ◆ Optional with Isolator



Applications:

- ◆ CATV Analog Return Path Optical Transmitter
- ◆ GSM/CDMA Optical Repeater
- ◆ W-CDMA/CDMA2000/TD-SCDMA Optical Repeater
- ◆ Microwave Transmission System
- ◆ Test Equipments

General:

HEDAP-3XXXXXX Series are 1310nm InGaAsP/InP MQW-DFB laser diode modules designed for fiber optic communication systems. These modules are transmitter optical sub-assembly integrated with a single-stage optical isolator, and are ideally suitable for 1GHz or 2.5GHz transmission applications.

Absolute Maximum Ratings: ^{*Note1}

Parameter	Symbol	Ratings	Unit
Storage Temperature	Tstg	-40~+85	°C
Operating Case Temperature	Top	-40~+85	°C
Soldering Temperature (<10s)	Stemp	260	°C

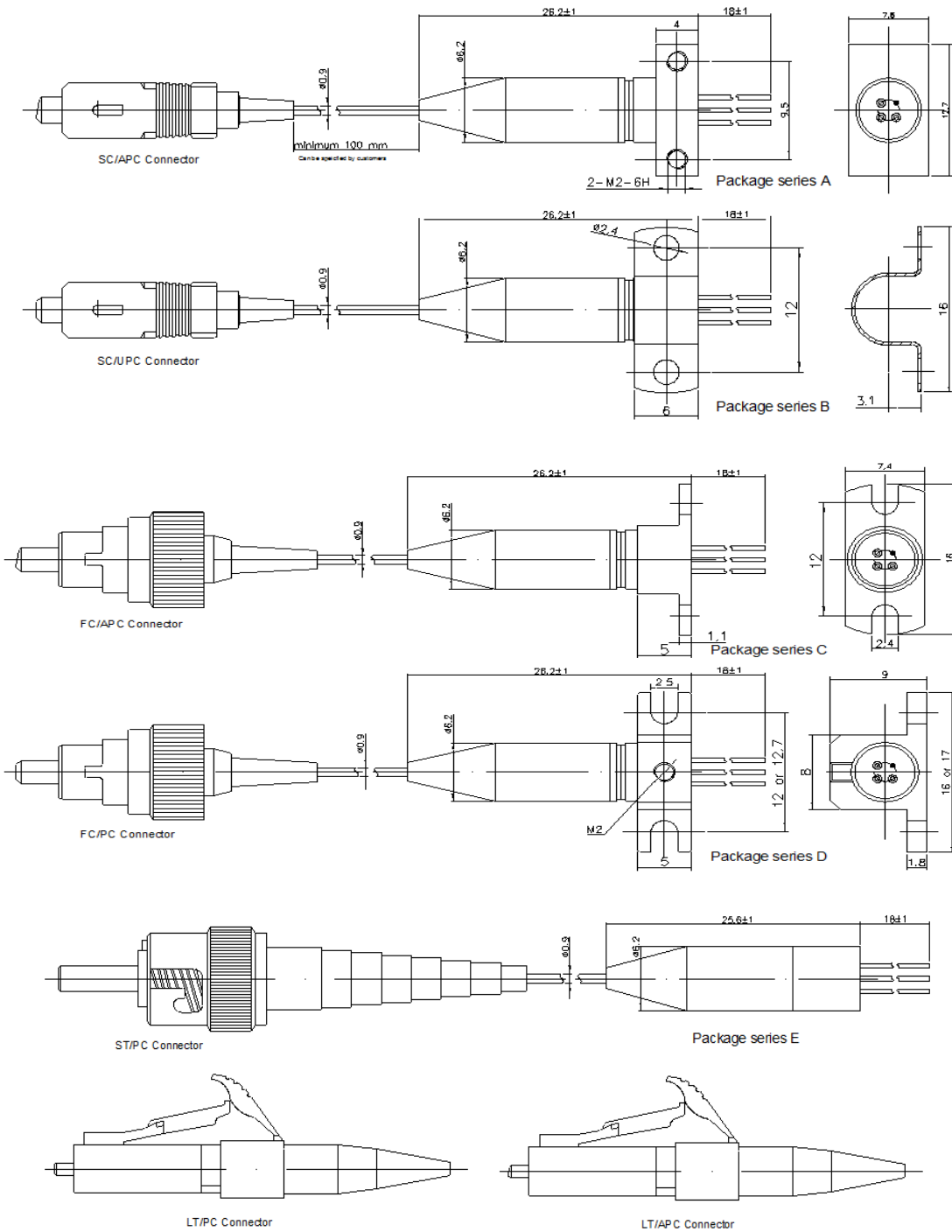
*Note1: Exceeding any one of these values may destroy the device immediately.

Electrical and Optical Characteristics:

(Tc=+25°C, unless otherwise noted.)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Threshold Current	I _{th}	CW	—	10	—	mA
Output Power	P _o	CW, I _{op} =45mA	2	4	5	mW
Operating Voltage	V _f	CW, T=25 °C	—	1.1	1.6	V
Operating Current	I _{op}	CW, T=25 °C	—	30	40	mA
Center Wavelength	λ _c	CW, T=25 °C	1300	1310	1320	nm
Side-mode suppression ratio	SMSR	CW, I _{op} =30mA	35	—	—	dB
Tracking Error	ΔP _f	APC, -40~85°C	-1	—	1	dB
Carrier Noise Ratio	CNR		51	—	—	dB
IMD2	CSO	f1=13MHZ,f2=19MHZ, OMI=10%,P=2mW	—	—	-55	dBc
IMD3	CTO	f1=13MHZ,f2=19MHZ, OMI=10%,P=2mW	—	—	-65	dBc
Spectral Width (-20 dB)	—	CW, T=25 °C	—	—	1	nm
Monitor Current	I _m	V _R =5V	100	—	1000	uA
Monitor Dark Current	I _D	CW, V _{rp} =5V	—	—	0.1	uA
PD Capacitance	C _T	VRD=5V, f=1 MHz	—	—	10	PF
Relative Intensity Noise	RIN	f=5~300 MHz	—	—	-145	dB/Hz
Bandpass Flatness	BF	Peak to Valley,5~300 MHz	—	—	1	dB
Optical Isolation	—	Single Stage	35	—	—	dB

Pigtail Package Dimension: *Note2, 3, 4



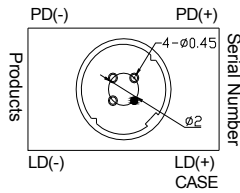
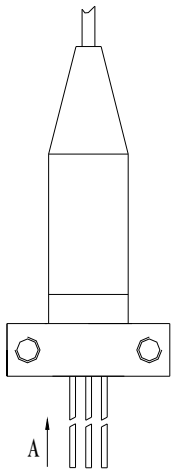
*Note2: PIN direction and laser mark can be customized. Pigtail is standard SM fiber; the length also can be customized.

*Note3: 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.

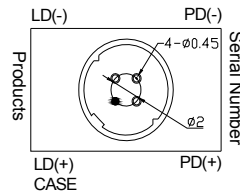
Fixed card type	A(mm)	B(mm)
D	16	12
D-S	17	12.7

*Note4: 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.

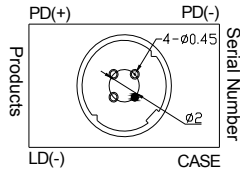
The Direction of Fix Card:



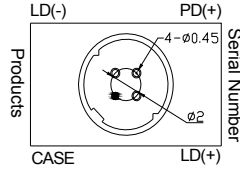
Direction A view
PLD1A-1(DEFAULT)



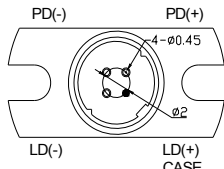
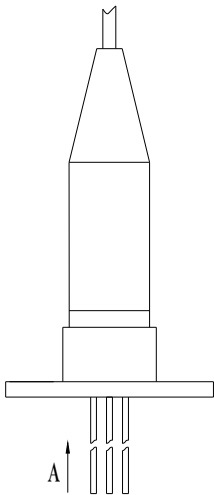
Direction A view
PLD1A-2



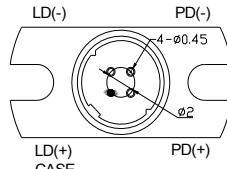
Direction A view
PLD2A-1(DEFAULT)



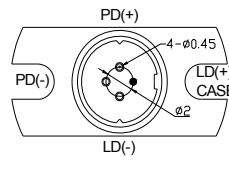
Direction A view
PLD2A-2



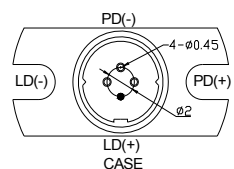
Direction A view
PLD1C-1(DEFAULT)



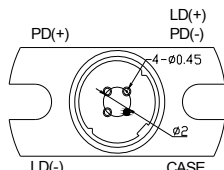
Direction A view
PLD1C-2



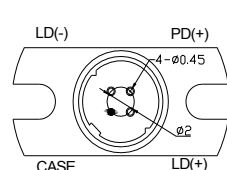
Direction A view
PLD1C-3



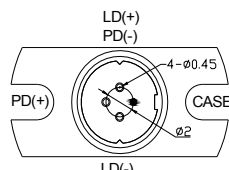
Direction A view
PLD1C-4



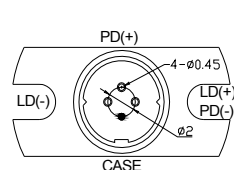
Direction A view
PLD2C-1(DEFAULT)



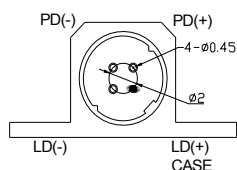
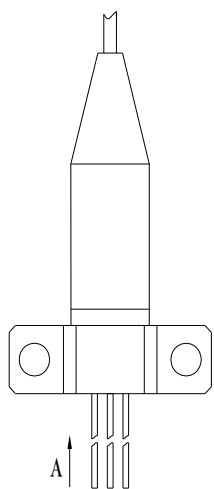
Direction A view
PLD2C-2



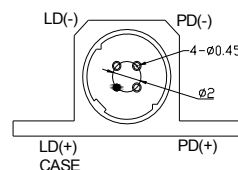
Direction A view
PLD2C-3



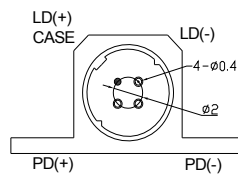
Direction A view
PLD2C-4



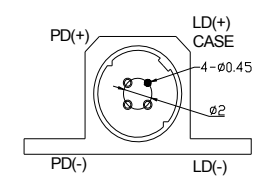
Direction A view
PLD1D-1(DEFAULT)



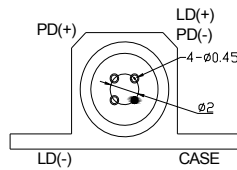
Direction A view
PLD1D-2



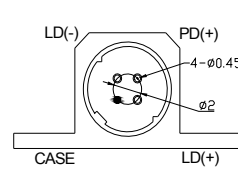
Direction A view
PLD1D-3



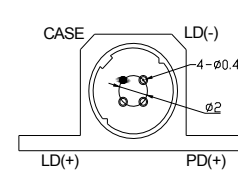
Direction A view
PLD1D-4



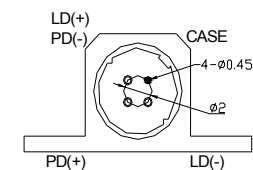
Direction A view
PLD2D-1(DEFAULT)



Direction A view
PLD2D-2



Direction A view
PLD2D-3



Direction A view
PLD2D-4

Nomenclature:

HEDAP — □ □ □ □ □ □ □
 A B C D E F G

NO	Parameter	Detailed Description			
A	Wavelength	3=1310			
B	Data Rate	2=<2.5GHz			
C	Power	2=2-3mW	3=3.1-4mW	4=4.1-5mW	
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	1=LD-pin-1			
G	Isolator	Blank=None	G= Single Stage	G2=Dual Stage	

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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