

PD-LD Inc. offers its' PL13 FP Series of coaxial style laser diodes with integral single stage optical isolators. The addition of these isolators ensures a minimum optical isolation of 20 dB at 1310nm over the entire operating temperature range. These lasers may be operated from -40 to 85°C while maintaining all of their spectral characteristics. These units are available in ready-to-use, fiber-pigtailed packages and may be terminated with all standard optical connector varieties .

The InGaAsP FP laser diodes offered by PD-LD are of proven design and manufacture. The semiconductor lasers have been qualified as per Telcordia GR-468. The highly stable YAG Laser welded packaging ensures a low tracking error of +/- 1.0 dB maximum over OTR -40 to 85°C .

Optional board- or panel -mount flanges are available for pigtailed devices; contact PD-LD Sales.



Features

- Internal Monitor Photodiode
- Compact, reliable, coax fiber-coupled package
- 2 mW singlemode (9/125)
- 0.15nsec typical rise/fall time
- 30dB optical isolation

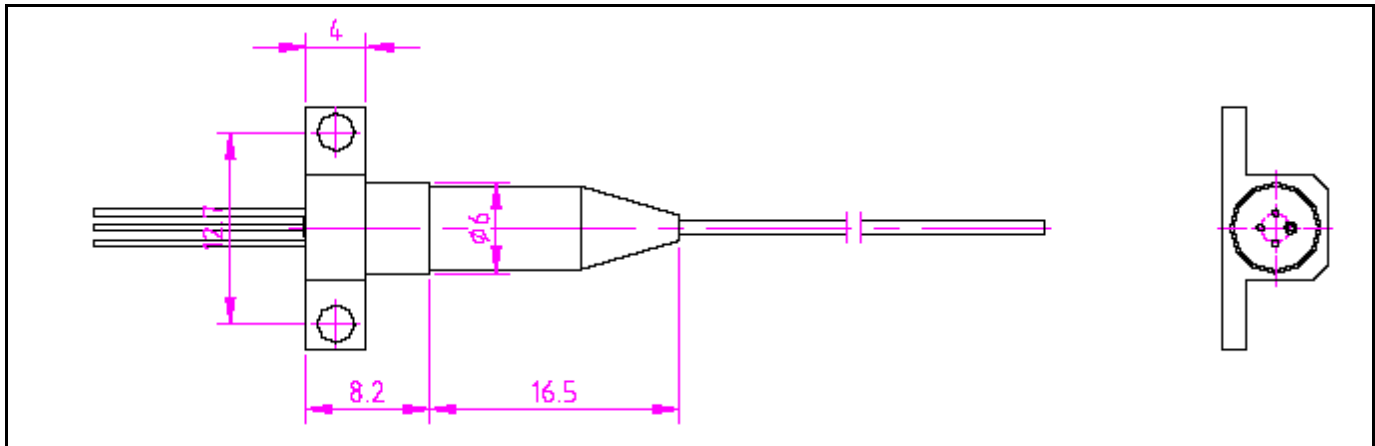
Applications

- Fiberoptic communications
- Fiberoptic test instrumentation
- Analog Signal transmission
- 2.7 GBs Optical Networks

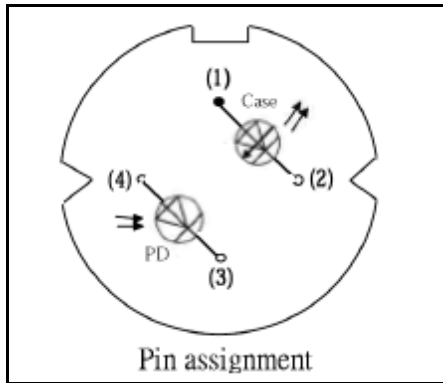
PD-LD Part No. ¹	Wavelength (nm)			Min. Fiber Coupled Power (mW)	Threshold Current (mA)		Operating Current (mA)		Pin-Out Style
	Min.	Typ.	Max.		Typ.	Max.	Typ.	Max.	
Continuous Wavelength InGaAsP Lasers @ 25C									
PL13BN0021SAG-A-I-01	1300	1310	1320	2 mW	8.5	14	15	30	"H" style

Parameter	Condition	Min	Typ	Max	Unit
Optical Isolation	Temp.=-40~+85°C	20	--	—	dB
	Temp.= +25°C	30	--	—	dB

Physical Dimensions (mm) & Pin Connection



“H” Style Pin-out
PL13BN Series



Ordering Information

Lasers - Pigtailed

PLWWPPPFCCB-0-I-LL

L = Laser

WWW=Wavelength and Pin-out
1310nm=13BN with “H” pin-out

PPP = Fiber-Coupled Power
002 = 2.0 mW min

F = Fiber Type
1 = 9/125/900 SMF

B = Bracket Type
A = None
E = Panel Mount
G = Board Mount

O=Orientation
0=None
A=Bracket Shipped Loose (pigtailed units only)

I=Single Stage Optical Isolator

LL = Fiber Pigtail Length in meters : 01= 1 meter, .5= 0.5 meter, ect.

CC = Connector Type: ST = ST/PC SC = SCPC SA=SC/APC FC = FC/PC FA = FC/APC FU = FC/UPC
OO = None Connector TA = ST/APC SA = SC/APC FA = FC/APC D4 = D4
BC = Biconic

Absolute Maximum Ratings (Tc=25°C)

Parameter	Symbol	Value	Unit
Optical Output Power	P _o	4	mW
LD Reverse Voltage	V _{RLD}	2	V
LD Forward Current	I _{fl}	150	mA
PD Reverse Voltage	V _{RPD}	20	V
PD Forward Current	I _{FDP}	2	mA
Operating Temperature	T _{OPR}	-40 to 85	°C
Storage Temperature	T _{STG}	-40 to 85	°C

Electro-Optical Characteristics (Tc= 25°C except as noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Lasing Threshold Current	I _{th}	CW		8.5	14	mA
Lasing Threshold Current	I _{th}	85 C			48	mA
Slope Efficiency	n	2 mW	0.15	0.20		W/A
Slope Efficiency	n	2 mW at 85 C	0.10	0.15		W/A
LD Forward Voltage	V _f	I _f =30 mA		1.14	1.40	V
Series Resistance	R	I _f =15 mA		4	7	Ohms
Optical Output Power	P _o	I _{th} + 20 mA	2		4	mW
Optical Output Power	P _o	I _{th} + 20 mA 85 C	-	-	1.7	mW
Wavelength	λ	2 mW	1290	1310	1330	nm
Wavelength Temperature Coefficient	λ _{ct}	I _f =30mA		0.4		nm/ deg C
Second Order IM Distortion*	IMD2	Modulation Index 20%	—	-30	—	dBc
Third Order IM Distortion*	IMD3	Modulation Index 20%	—	-30	—	dBc
Relative Intensity Noise	RIN	2 mW	—	-150	—	dB / root Hz
Monitor Output Current	I _m	I _f =I _{th} + 20 mA	0.1		1.0	mA
Monitor Dark Current	I _d	5V reverse bias			10	nA
Monitor Capacitance	C	5V reverse bias		5	7	pF
Rise Time	t _r	20% to 80%	—	0.20	0.40	nsec
Fall Time	t _f	80% to 20%	—	0.20	0.40	nsec
Tracking error		2 mW CW from -40 to 85 C	-1.0		1.0	dB

*: Intermodulation Distortion measurements made using a 2 tone test at frequencies of 13 MHz and 19 MHz