



# PL13/15 Isolated DFB Series Laser Diodes

PD-LD Inc. offers its' DFB Series of coaxial style laser diodes with integral single stage optical isolators. The addition of these isolators ensures a minimum optical isolation of 33dB at either 1310 or 1550nm at 25°C. Optical isolation is temperature dependent and is specified as 20dB minimum over the temperature range of -40 to +85°C. The lasers may be operated from -40 to 85°C, but the DFB spectral characteristics are guaranteed from 0 to 70°C. These units are available in ready-to-use, fiber-pigtailed packages and are available with FC, SC and LC style optical connectors.

The InGaAsP DFB laser diodes offered by PD-LD are of proven design and manufacture; the standard wavelengths are centered at 1310 and 1550nm. Fiber-coupled CW (continuous-wavelength) output powers range from 0.1 - 2 mW, depending on the desired performance level. The highly stable YAG Laser welded packaging ensures a low tracking error of +/- 1.0 dB maximum over OTR 0 to 70°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
- 0.1 - 2.0 mW singlemode (9/125)
- 30dB minimum side mode suppression
- 0.15nsec typical rise/fall time

### Applications

- Fiberoptic communications
- Fiberoptic test instrumentation
- Analog Signal transmission
- 2.5GBs Optical Networks

PD-LD Part No. <sup>1</sup>	Wavelength (nm)			Min. Fiber Coupled Power (mW)	Threshold Current (mA)		Operating Current (mA)		Monitor PD Current (mA)	
	Min.	Typ.	Max.		Typ.	Max.	Typ.	Max.	Min.	Typ.
Continuous Wavelength InGaAsP Lasers @ 25C										
PL13U001100B-R-I-01	1290	<b>1310</b>	1330	1 mW	6	20	18	40	InGaAs	0.1 0.8
PL13U0.51FAA-0-I-01	1290	<b>1310</b>	1330	0.5mW FC/APC	6	20	18	40	InGaAs	0.1 0.8
PL13AG0021FAG-A-1-01	1295	<b>1310</b>	1325	2 mW FC/APC	10	20	18	40	InGaAs	0.1 -
PL15AA0021FAA-0-I-01	1530	<b>1550</b>	1570	2 mW FC/APC	10	30	30	60	InGaAs	0.1 -
PL15M0.51FAC-R-I-01	1530	<b>1550</b>	1570	0.5 mW FC/APC	10	30	30	60	InGaAs	0.1 0.8
PL15M001FAG-R-I-01	1530	<b>1550</b>	1570	1 mW FC/APC	10	30	30	60	InGaAs	0.1 0.8
Parameter	Condition			Min	Typ	Max	Unit			
Optical Isolation	Temp.= +25°C			30	45	—	dB			
	Temp.=-40~+85°C			20	—	—				

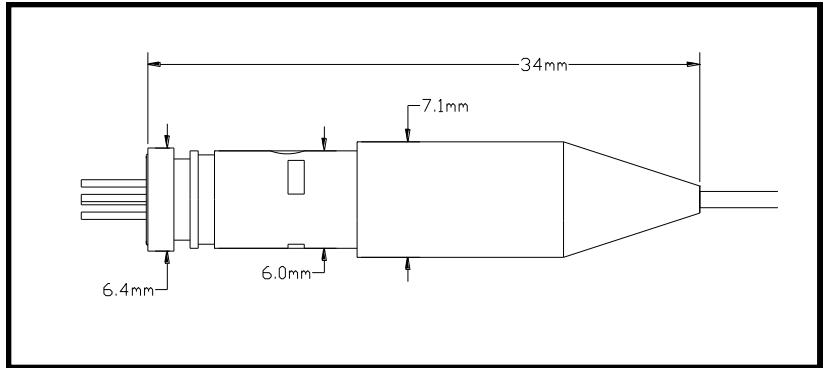
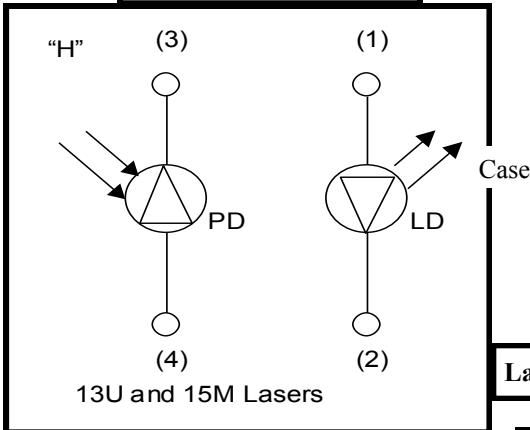
<sup>1</sup>Examples only; most device/packaging combinations available. Changes to specifications may be made without notice. 6-04 Isolated DFB. Rev.2

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## Laser Diodes for Fiber Optics

### Physical Dimensions (mm) & Pin Connection

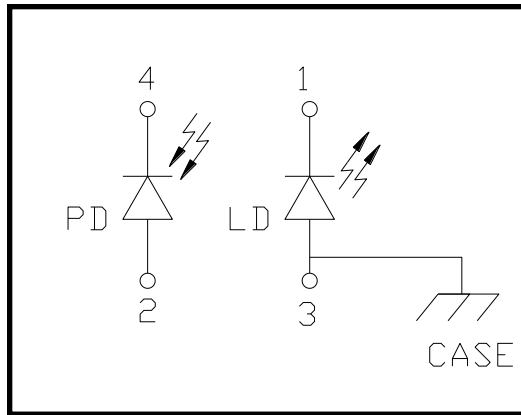
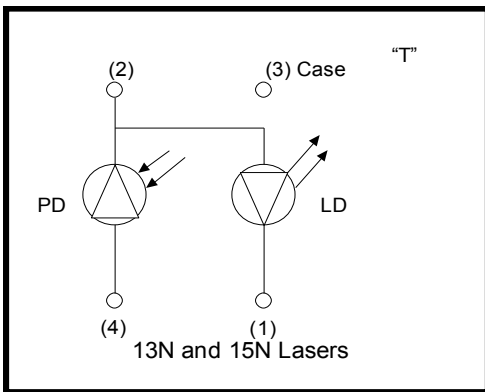
#### Laser Diode Schematic



#### Laser Diode Lead Orientation for 15AA & 13AG

#### Coaxial-Pigtailed Laser Diode Package

Consult PD-LD for Available Board Mount (10181 or 10198) or Panel Mount Brackets (10219)



### Ordering Information

#### Lasers - Pigtailed

## PLWWPPPFCCB-0-I-LL

**L = Laser**

**WWW=Wavelength and Pin-out**

1310nm=13M  
 1310nm= 13AG  
 1550nm=15M  
 1550nm=15AA

**PPP = Fiber-Coupled Power**

0.1 = 0.10 mW (100  $\mu$ W)    0.8 = 0.8 mW (800  $\mu$ W)  
 0.2 = 0.20 mW (200  $\mu$ W)    001 = 1.0 mW  
 0.5 = 0.5 mW (500  $\mu$ W)    002 = 2.0 mW

**F = Fiber Type**

1 = 9/125 SMF  
 2 = 50/125 MMF  
 3 = 62.5/125 MMF  
 4 = 100/140 MMF  
 9 = Customer Supplied

**B = Bracket Type**

A = None  
 B = Panel Mount  
 G = Board Mount

**O=Orientation**

0=None  
 A=Bracket Shipped Loose (pigtailed units only)  
 Specify orientation as required

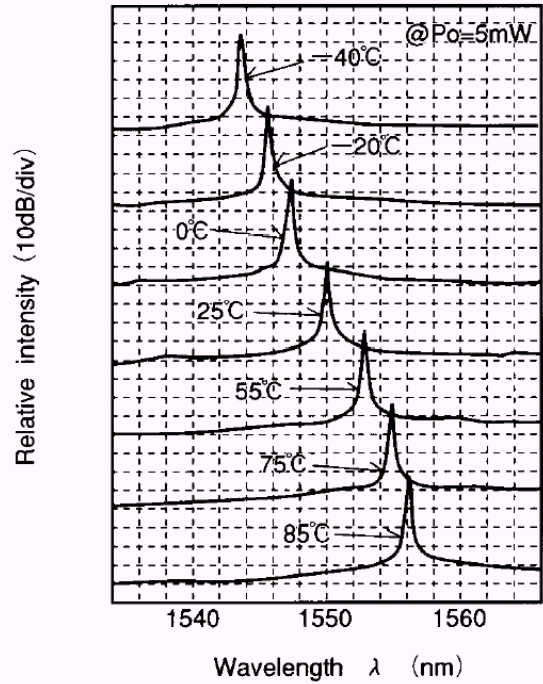
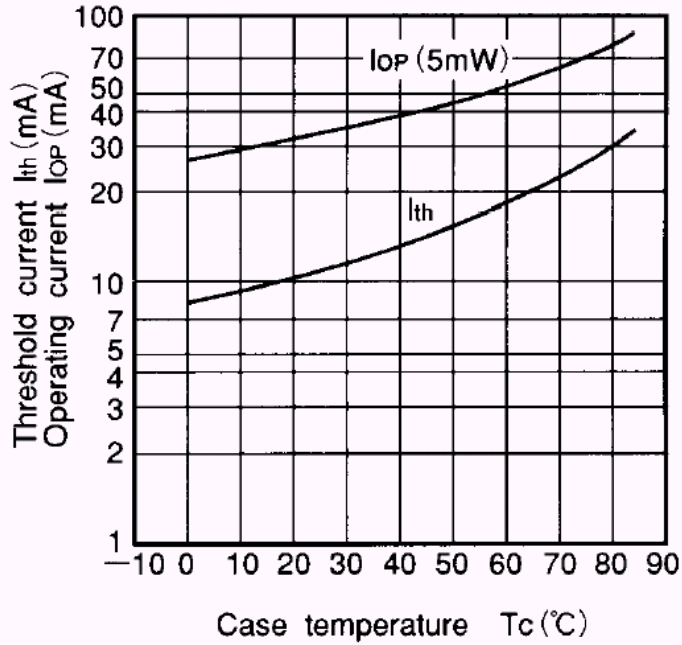
**I=Single Stage Optical Isolator**

**LL = Length in meters** (01,02,0.5 ect.) (pigtailed devices only)

**CC = Connector Type** (pigtailed devices only)

ST = ST/PC    SC = SCPC    SA=SC/APC    FC = FC/PC    FA = FC/APC    FU = FC/UPC    OO = None

Optical Characteristics for 1550nm DFB Lasers



**Absolute Maximum Ratings ( $T_c=25^\circ C$ )**

Parameter	Symbol	Value	Unit
Optical Output Power	$P_o$	3.5	mW
LD Reverse Voltage	$V_{RLD}$	2	V
PD Reverse Voltage	$V_{RPD}$	10	V
PD Forward Current	$I_{FPD}$	2	mA
Operating Temperature	$T_{OPR}$	0 to 70	°C
Storage Temperature	$T_{STG}$	-40 to 100	°C