

PD-LD Inc. offers its' 520nm Series of visible laser diodes in convenient pcb mountable receptacle housings, or fiber pigtailed with the choice of MMF core diameters. These hermetically sealed laser diodes do not include an internal monitor photodiode and so are operated in the constant current mode.

The highly reliable semiconductor laser is actively aligned with an optimal focusing lens resulting in high coupling efficiency into multimode optical fiber. These assemblies are rated for up to 100mW into 50um core MMF. A mechanically stable packaging design allows for operation from -10 to 50C .

Other packaging options are available such as FC, ST or SC style receptacles or other size MMF optical fiber pigtailed such as 50um core, 105um core or larger size cores.



Features

- Compact, reliable, fiber-coupled package
- 100mW min fiber coupled power into 50um core 0.22NA Graded Index fiber
- Available with ST, FC or SC fiber optic connectors

Applications

- Fiberoptic communications
- Fiberoptic test instrumentation
- Laser Markers
- Medical Applications
- Sensors

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 Lasers @ 25C into 50/125um MMF									
PL40B1002STA-0-0-01	398	404	410	100	60	120	200	250	3 Lead

PLWWWPPPFCCB-0-V-LL

P = PD-LD Product

L = Laser

WWW= Wavelength and Pin-out

PPP = Fiber-Coupled Power

F = Fiber Type

CC = Connector Type

B = Bracket Type

O=Orientation

V=Version

40B= 404nm FP Laser with internal PD

100 = 100mW

2= 50/125/900um

3 = 62.5/125/900um

D = 105/125/900um

FC= FC/PC

ST= ST/PC

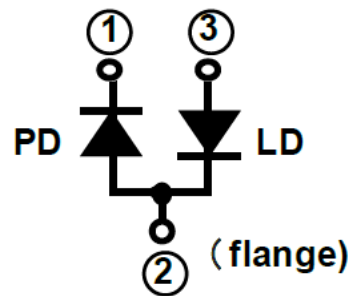
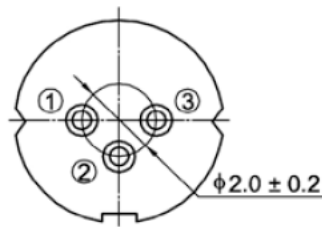
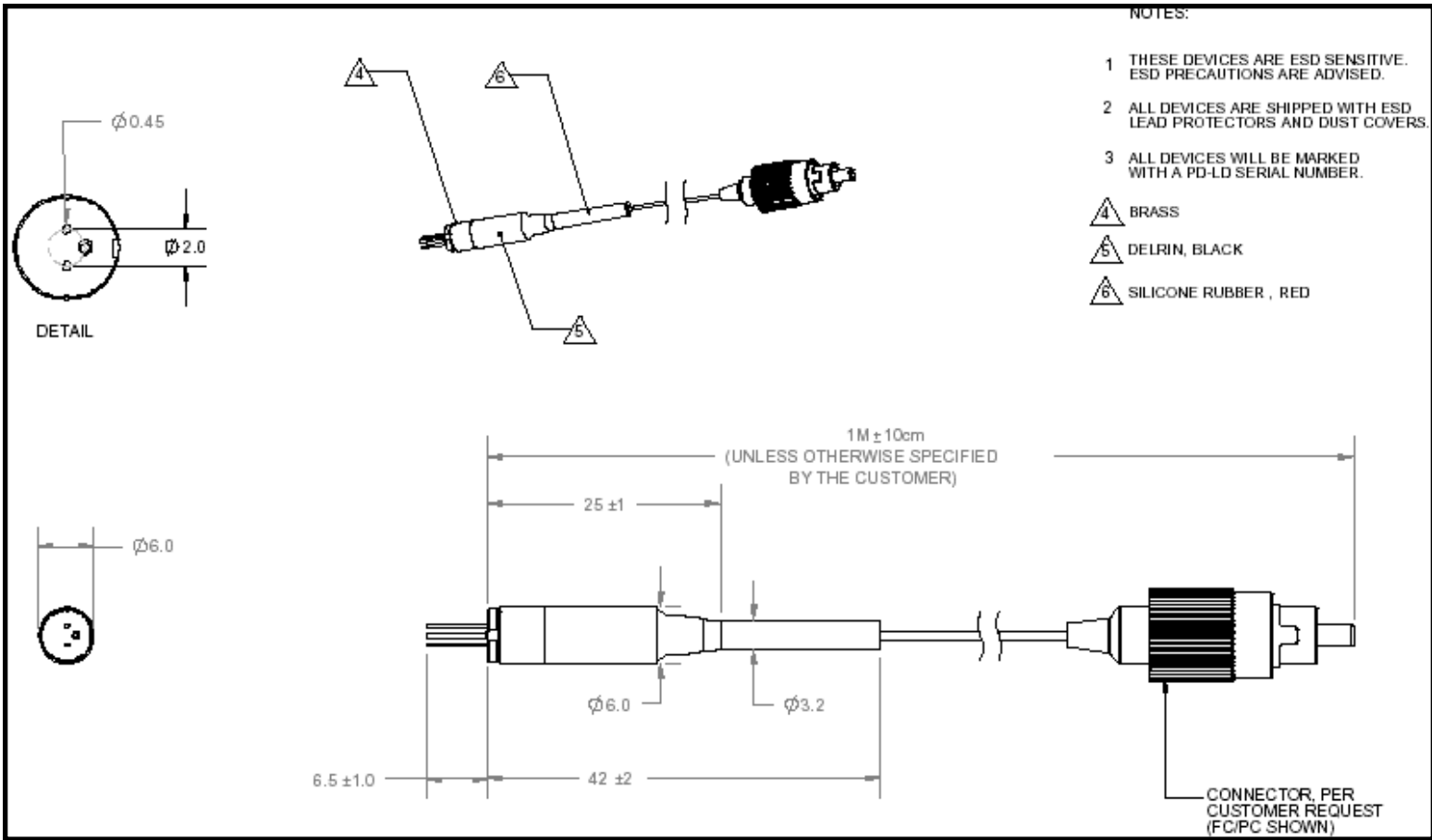
A = None E = Panel Mount G = Board Mount

0 = no bracket A= bracket shipped loose with unit

R = Standard Orientation (may be customer specified)

0=Standard Unique Codes for specific requirements may be applied

Physical Dimensions (mm) & Pin Connection



Mounting Instructions: In order to maintain the lifetime of the laser diode proper heat management is essential. Due to the design of the laser diode, heat is dissipated only through the base plate of the diodes body. A proper heat conducting interconnection between the diodes base plate and the heat sink is maintained. If long term continuous operation is required, active cooling may be required to maintain stable laser performance and ensure reliability. These lasers are also available from PD-LD mounted in the PLM series stabilized laser driver modules that include proper thermal management.

Absolute Maximum Ratings (Tc=25°C)

Parameter	Symbol	Value	Unit
Optical Output Power	P _o	150	mW
LD Reverse Voltage	V _{RLD}	2	V
LD Forward Current	I _{fl}	250	mA
Soldering Temperature 10 sec max.	T _{solder}	260	°C
Junction Temperature	T _J	150	°C
Operating Temperature	T _{OPR}	-10 to 50	°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		60	120	mA
Operating Current	I _{op}	CW		100	250	mA
Slope Efficiency 50um core fiber	n	100mW	0.5			mW/mA
LD Forward Voltage	V _f	I _f =240 mA		5.0		V
Optical Output Power	P _o	I _{th} + 180mA	100			mW
Wavelength	λ	100 mW	398	404	410	nm
Rise Time	t _r	20% to 80%	—	1.0	5.0	nsec
Fall Time	t _f	80% to 20%	—	1.0	5.0	nsec
Thermal Resistance	R _{TH}		—	20	—	K/W