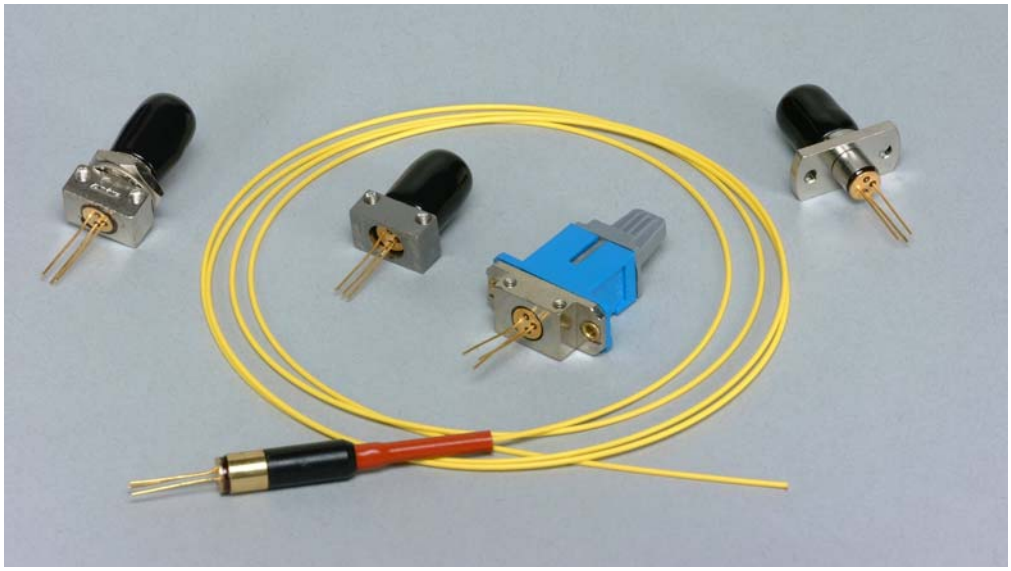
PD LD Inc

PV Series 850 nm VCSELs

PD-LD Inc. offers a variety of standard Vertical Cavity Surface Emitting Lasers (VCSELs) in ready to use fiber coupled packages. Packaging options include Receptacle style housings such as ST, FC and SC as well as fiber pigtailed co-axial assemblies. VCSELs are typically used with multi-mode optical fiber and may be specified for coupling to 50 um , 62.5 um or 100 um core optical fibers. VCSELs may also be fiber coupled to single mode fibers with 5, 7 or 9 um core diameters. Units built with fiber pigtails are available terminated with optical connectors. Specialty fiber sizes may be available upon request.

VCSEL devices operating at 850 nm may be specified with or without internal monitor detectors for stabilizing the optical power output using feedback. VCSELs have inherently narrow optical spectrums of 0.5 nm FWHM. Maximum rise and fall times of 0.3 nsec make them ideal for high speed modulation , but the devices may also be operated in CW mode .



Features 850 nm VCSELs

- **Low Operating Current, 6 to 12 mA typ.**
- **High Speed ≥ 1GHz**
- **Hermetically Sealed optical subassembly**
- **Three Different Laser/Photodiode Polarities available**
- **Power monitor diode available**
- **Available in TOSA housings for transceiver packaging**

PD-LD Part Number	Wavelength Typ. (nm)	Operating Current (mA) Typ.	Max	Fiber Type Core/Cladding (um)	Fiber Coupled Power (uW) Min	Typ	Pin-Out	Spectral Width FWHM (nm)	Rise/ Fall Time Max. (nsec)
850nm GaAlAs VCSEL (Iop=12mA @25C, 1.8V, *indicates internal monitor photodiode)									
PV85L0.9ST74-Z-0	850	Ith=3.5, Iop=12		62.5/125	900	1000	3 lead	0.85	100 psec
PV85L0.5FC12-Z-0	850	Ith=3.5, Iop=12		50/125	500	600	3 lead	0.85	100 psec
PV85L0.62STD-Z-0-01	850	Ith=3.5, Iop=12		50/125/900	600	—	3 lead	0.85	100 psec
PV85L.53FUG-A-0-01	850	Ith= 3.5, Iop= 12		62.5/125/900	500	—	3 lead	0.85	100 psec
PV85W0.53STA-0-0-01	850	Ith=3.5, Iop=12		62.5/125	500	600	3 lead	0.85	100 psec
PV85T0.53SMA-0-0-01	850	Ith=2.0, Iop=8		62.5/125	500	1000	4 lead	0.85	150 psec

[1]Examples only; most device/packaging combinations available. Changes to specifications may be made without notice. 10-09 PV Series .Rev A

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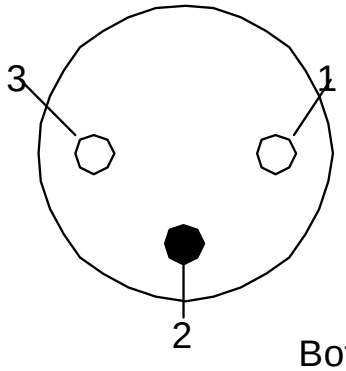
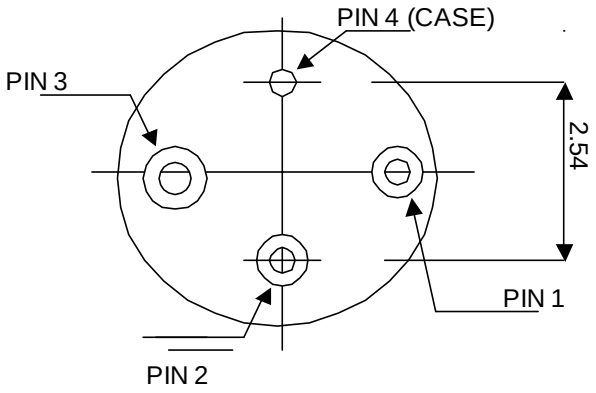
3 Lead VCSEL PIN-OUT



Bottom

3 Lead VCSEL		
Pin-Out	"85L"	"85W"
Pin #1	$LD_{cathode}$	LD_{Anode}
Pin #2	$PD_{cathode}$ LD_{Anode}	$LD_{cathode}$ PD_{Anode}
Pin #3	PD_{Anode}	$PD_{cathode}$

4 Lead VCSEL PIN-OUT



4 Lead VCSEL Device Code "85T"	
Pin #1	VCSEL Cathode
Pin #2	VCSEL Anode / PD Cathode
Pin #3	PD Anode
Pin #4	Case Ground

Ordering Information

Pigtailed Devices

PXWWWPPPFCCB-0-V-LL

X = V for VCSEL
WWW=Wavelength and Pin-out
85W= 850 nm VCSEL 3 Lead
85L= 850 nm VCSEL 3 Lead
85T= 850 nm VCSEL 4 Lead

Receptacle Devices

PXWWWPPPRRRF-O-V

PPP = Fiber-Coupled Power

005 = 5 uW **015** = 15 uW **0.1**= 0.1 mW
008 = 8 uW **020** = 20 uW **0.5**= 0.5 mW
010 = 10 uW **030** = 30 uW

F = Fiber Type
1 = 9/125 SMF
2 = 50/125 MMF
3 = 62.5/125 MMF
4 = 100/140 MMF
7= 5/250 SMF
9 = Customer Supplied

B = Bracket Type
A = None
B = Panel Mount
D = Board Mount

RRR=Receptacle Type
FC1=FC Panel mount
FC2=FC Board mount
SC2=SC Panel/Board mount
ST7=ST low profile(7.9m)m
ST8=ST high profile(10.4mm)

O=Orientation
0=N/A
A=Bracket Shipped Loose (pigtailed unit
Specify orientation as required

V=Version
0=Standard
Unique Codes for specific requirements

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 **SM=** SMA **OO** = No Connector

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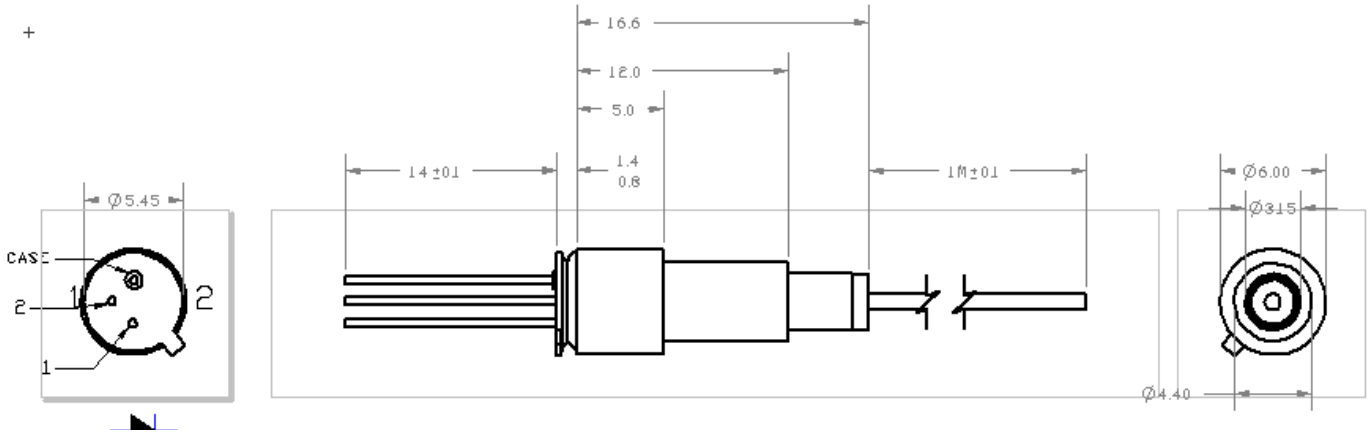
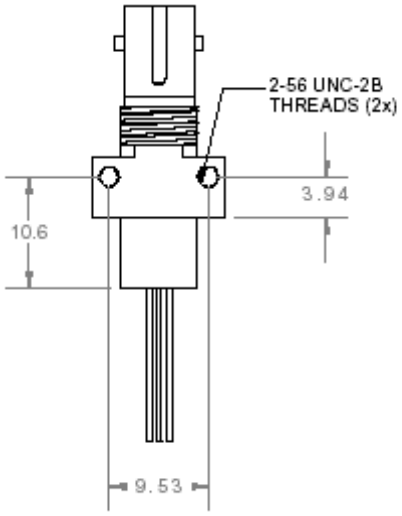
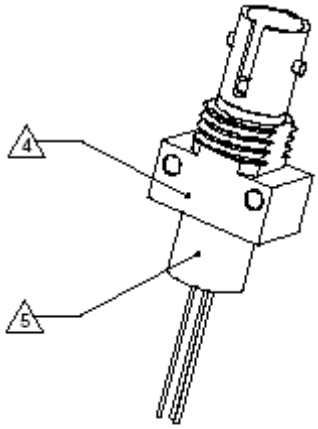
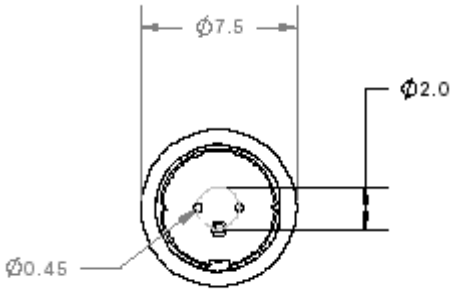


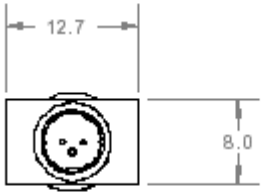
Mechanical Dimensions for Receptacle Packages

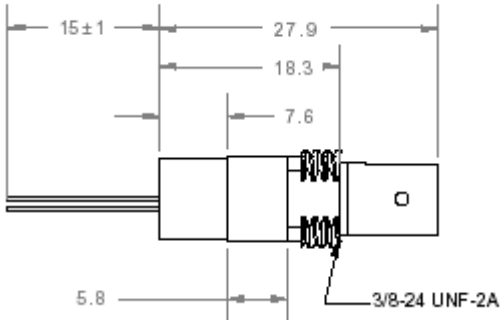




ST Receptacle Height
Low Profile 7.9mm
High Profile 10.4mm







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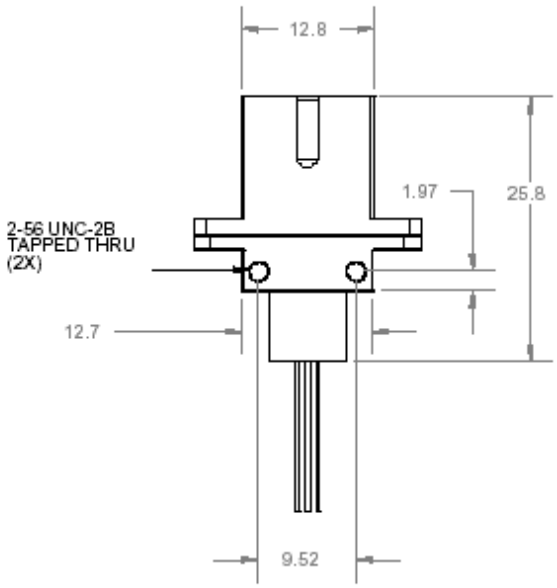
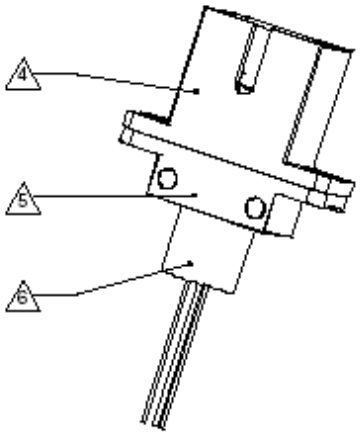
SC Receptacle Mounted 3 lead VCSEL

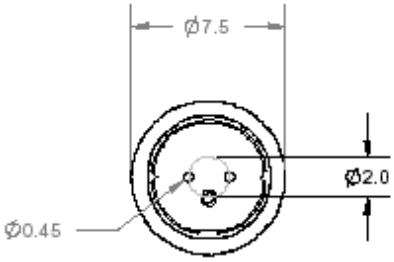
NOTES:

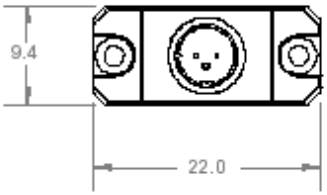
1. THESE DEVICES ARE ESD SENSITIVE. ESD PRECAUTIONS ARE ADVISED.
2. ALL DEVICES ARE SHIPPED WITH ESD LEAD PROTECTORS AND DUST COVERS.
3. ALL DEVICES WILL BE MARKED WITH A PD-LD SERIAL NUMBER.

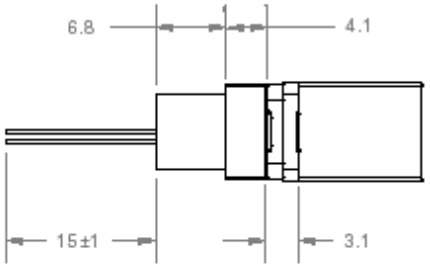
4. PBT PLASTIC, BLUE
5. BRASS, NICKEL PLATED
6. DELRIN, BLACK



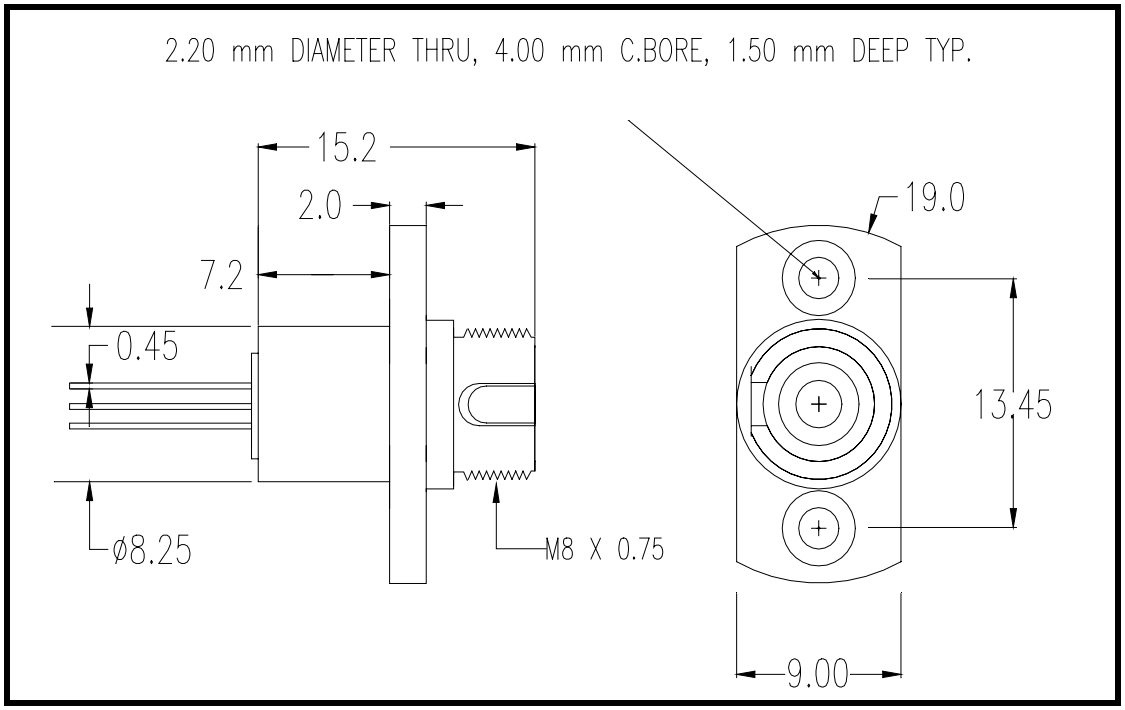








DETAIL



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Absolute Maximum Ratings	
Parameter	**Rating**
Operating Temperature	-10 to 70 C
Storage Temperature	-40 to 80 C
Lead Soldering Temperature	260 C, 10 seconds
Laser Continuous Average Current	15 mA
Laser Peak Forward Current with Pulse Width < 1usec	20 mA
Laser Reverse Voltage	5 V

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