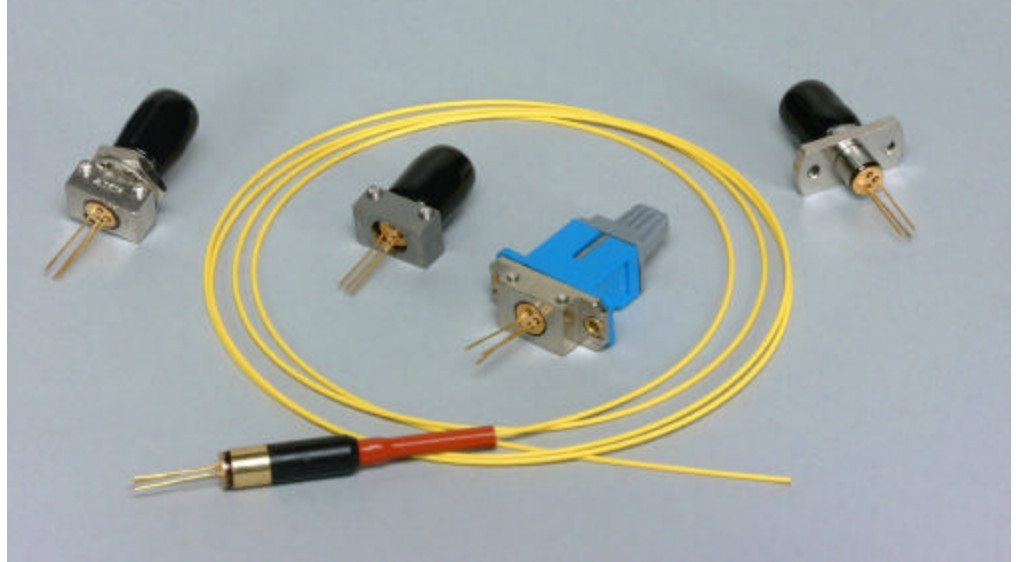


PD-LD Inc. offers a variety of standard Vertical Cavity Surface Emitting Lasers (VCSELs) in ready to use fiber coupled packages. Packaging options include Receptacle style housings such as ST, FC and SC as well as fiber pigtailed co-axial assemblies. VCSELs are typically used with multi-mode optical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

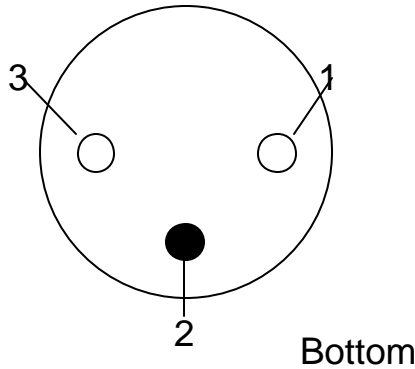
- **Low Operating Current, 6 to 12 mA typ.**
- **High Speed $\geq 1\text{GHz}$**
- **Hermetically Sealed optical subassembly**
- **Five Different Laser/Photodiode Polarities available**
- **Power monitor diode available**
- **Available in TOSA housings for transceiver packaging**

PD-LD Part Number	Wavelength Typ. (nm)	Operating Current (mA)		Fiber Type Core/Cladding (μm)	Fiber Coupled Power (μW)		Pin-Out	Spectral Width FWHM (nm)	Rise/Fall Time Max. (nsec)
		Typ.	Max		Min	Typ			
850nm GaAlAs VCSEL (I_{op}=12mA @25C, 1.8V, *indicates internal monitor photodiode)									
PV85L0.9ST74-Z-0	850	I _{th} =3.5, I _{op} =12		62.5/125	900	1000	3 lead	0.85	100 psec
PV85L0.5FC12-Z-0*	850	I _{th} =3.5, I _{op} =12		50/125	500	600	3 lead	0.85	100 psec
PV85L0.62STD-Z-0-01	850	I _{th} =3.5, I _{op} =12		50/125/900	600	—	3 lead	0.85	100 psec
PV85W0.53STA-0-0-01*	850	I _{th} =3.5, I _{op} =12		62.5/125	500	600	3 lead	0.85	100 psec
PV85A0.53FCA-0-0-01*	850	I _{th} =3.5, I _{op} =12		62.5/125	500	600	4 lead	0.55	100 psec

¹Examples only; most device/package combinations available.

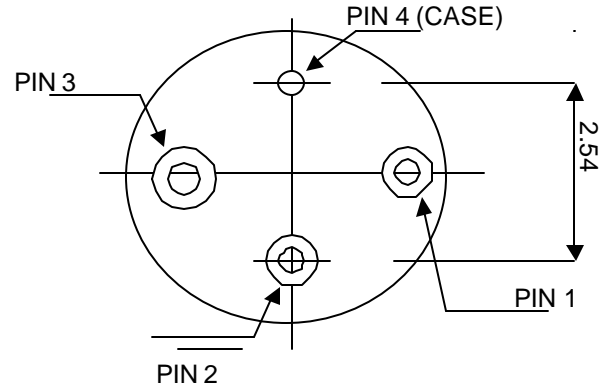
Changes to specifications may be made without notice.

3 Lead VCSEL PIN-OUT



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 850nm VCSEL Pinning

Device Code "85A"	
Number	Function
1	VCSEL Anode
2	VCSEL Cathode/ PD Anode
3	PD Cathode
4	Case

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

85A= 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(7.9mm)

ST8=ST high profile(10.4mm)

O=Orientation

0=N/A

A=Bracket Shipped Loose (pigtained unit)

Specify orientation as required

V=Version

0=Standard

Unique Codes for specific requirements

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

CC = Connector Type (pigtained devices only)

ST = ST/PC

SC = SCPC

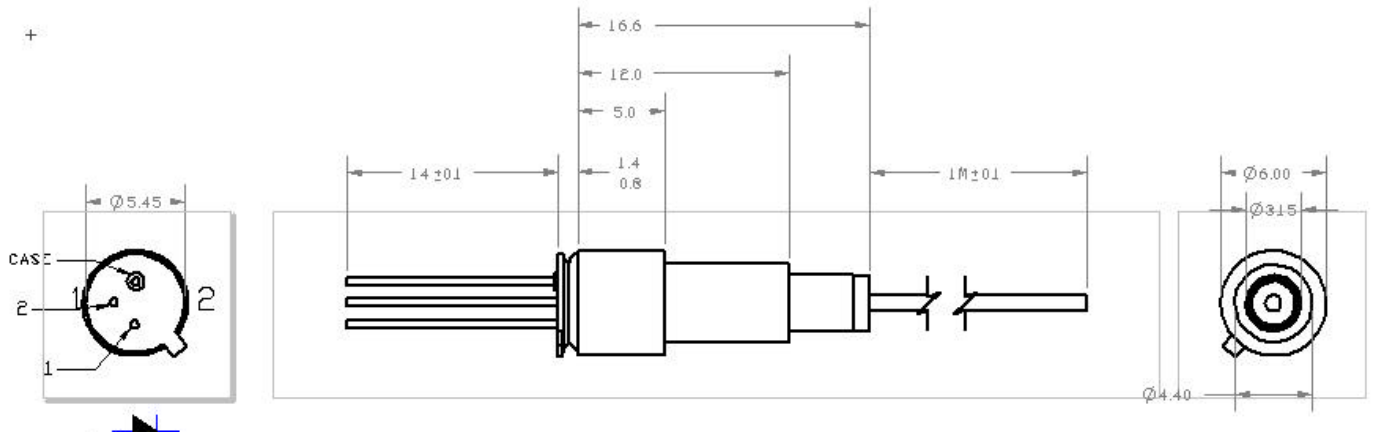
SA=SC/APC

FC = FC/PC

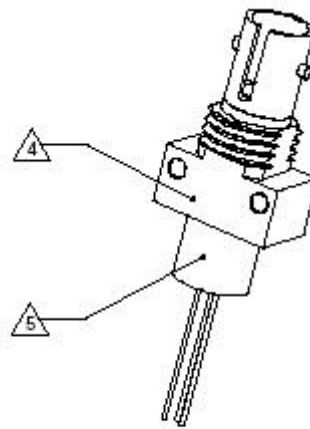
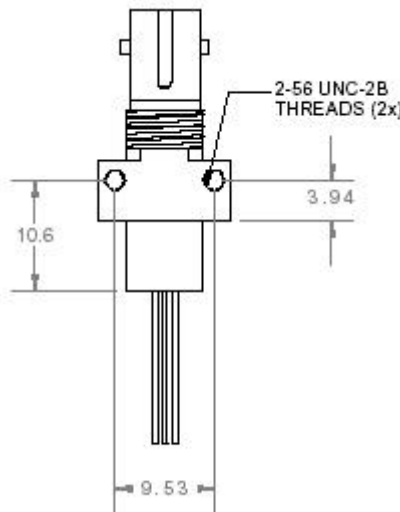
FA = FC/APC

FU = FC/UPC

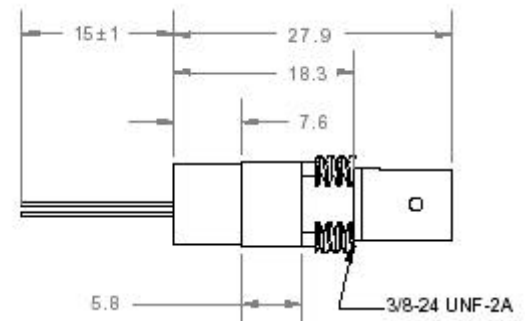
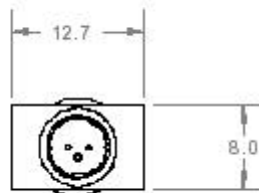
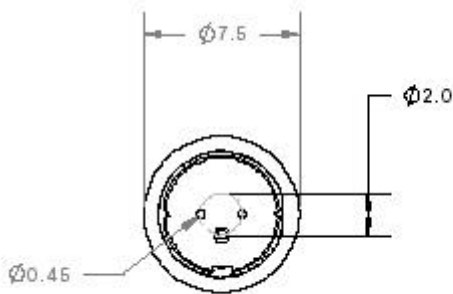
OO = No Connector



Mechanical Dimensions for Receptacle Packages



ST Receptacle Height
Low Profile 7.9mm
High Profile 10.4mm

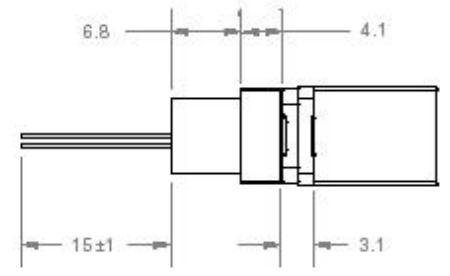
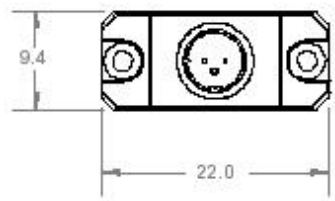
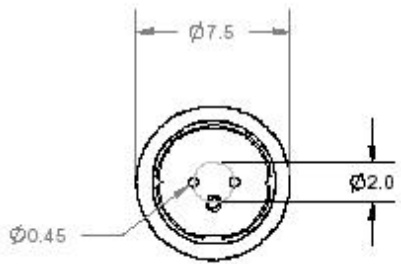
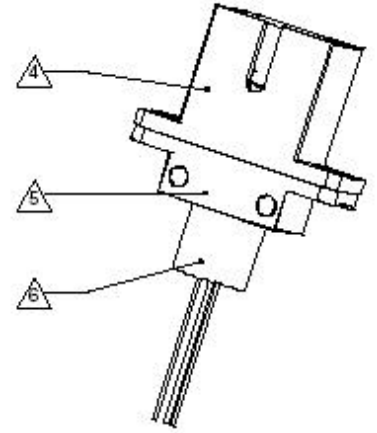
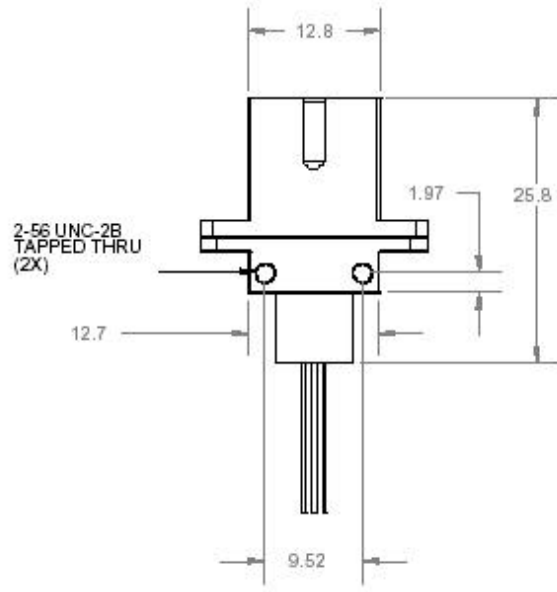


SC Receptacle Mounted 3 lead VCSEL

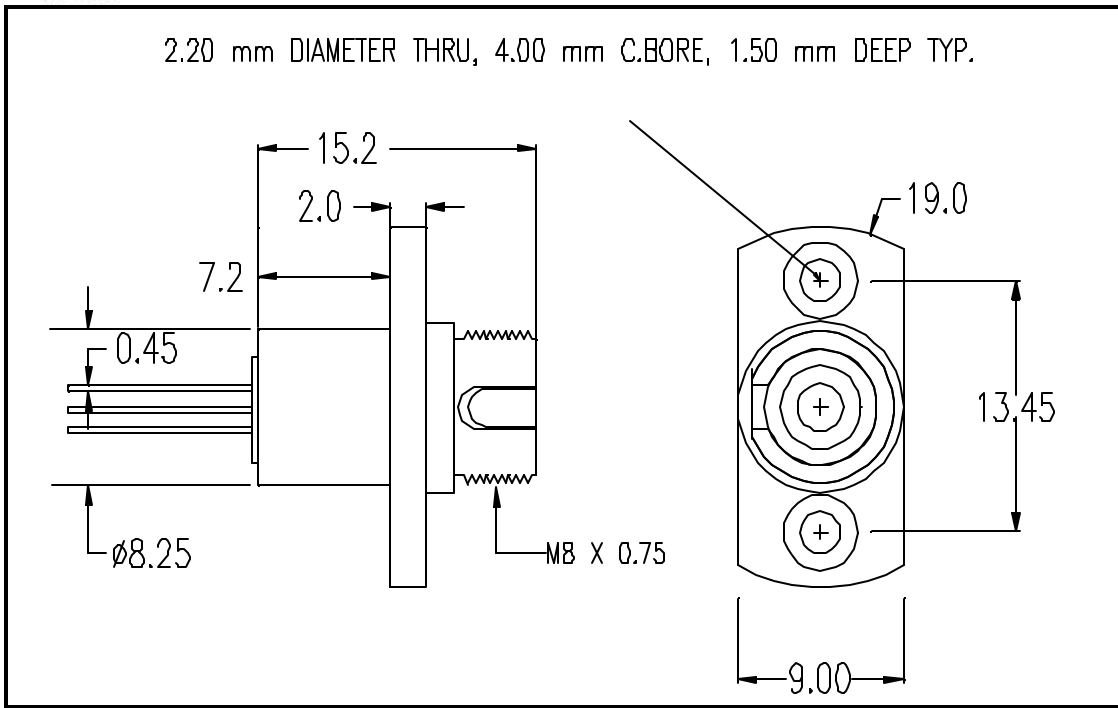
NOTES:

- 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



¹Examples only; most device/packaging combinations available. Changes to specifications may be made without notice. 08-05 PV Series .Rev A