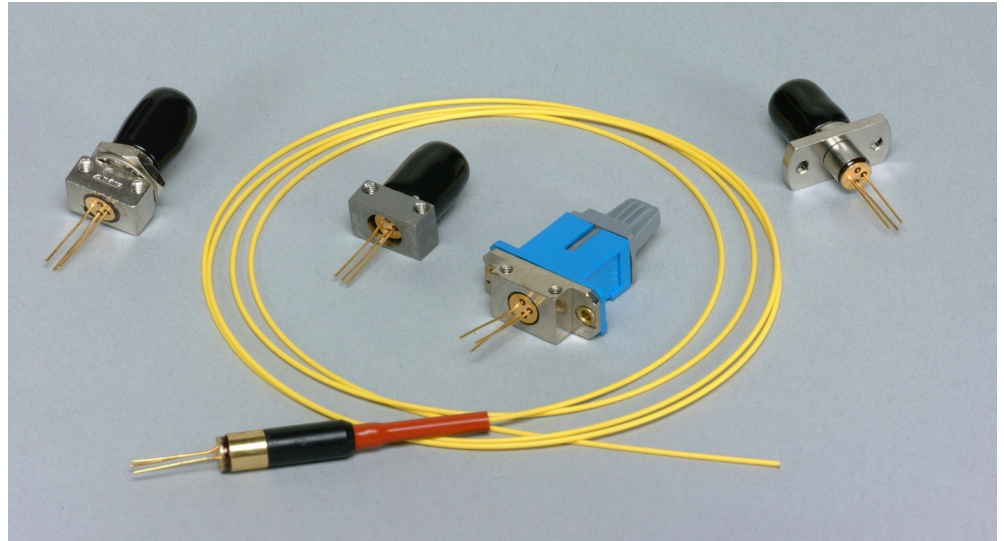




PV Series 850 nm VCSELs

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 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
- 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 (μm)	Fiber Coupled Power (μW) Min Typ	Pin-Out	Spectral Width FWHM (nm)	Rise/Fall Time Max. (nsec)
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
PV85L.53FUG-A-0-01	850	I _{th} = 3.5, I _{op} = 12	62.5/125/900	500 —	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
PV85T0.53SMA-0-0-01	850	I _{th} =2.0, I _{op} =8	62.5/125	500 1000	4 lead	0.85	150 psec

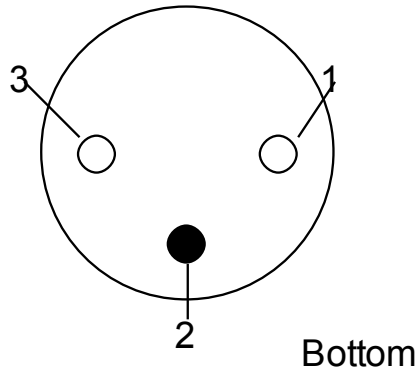
¹Examples only; most device/package combinations available.

Changes to specifications may be made without notice. 02-11 PV Series .Rev B



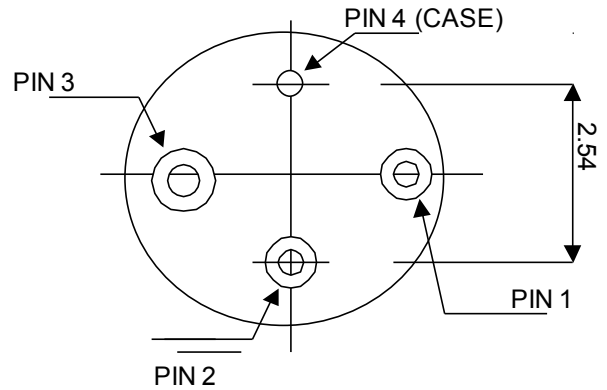
PV Series 850 nm VCSELs

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

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

¹Examples only; most device/packaging combinations available.

Changes to specifications may be made without notice. 02-11 PV Series .Rev B

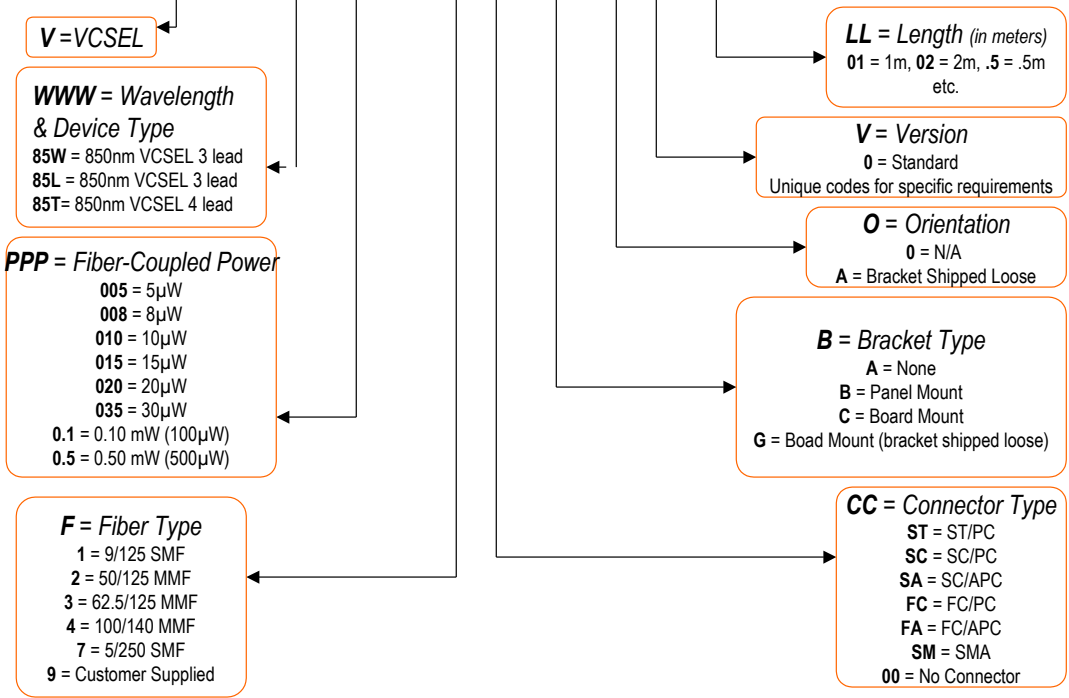


PV Series 850 nm VCSELs

Ordering Information

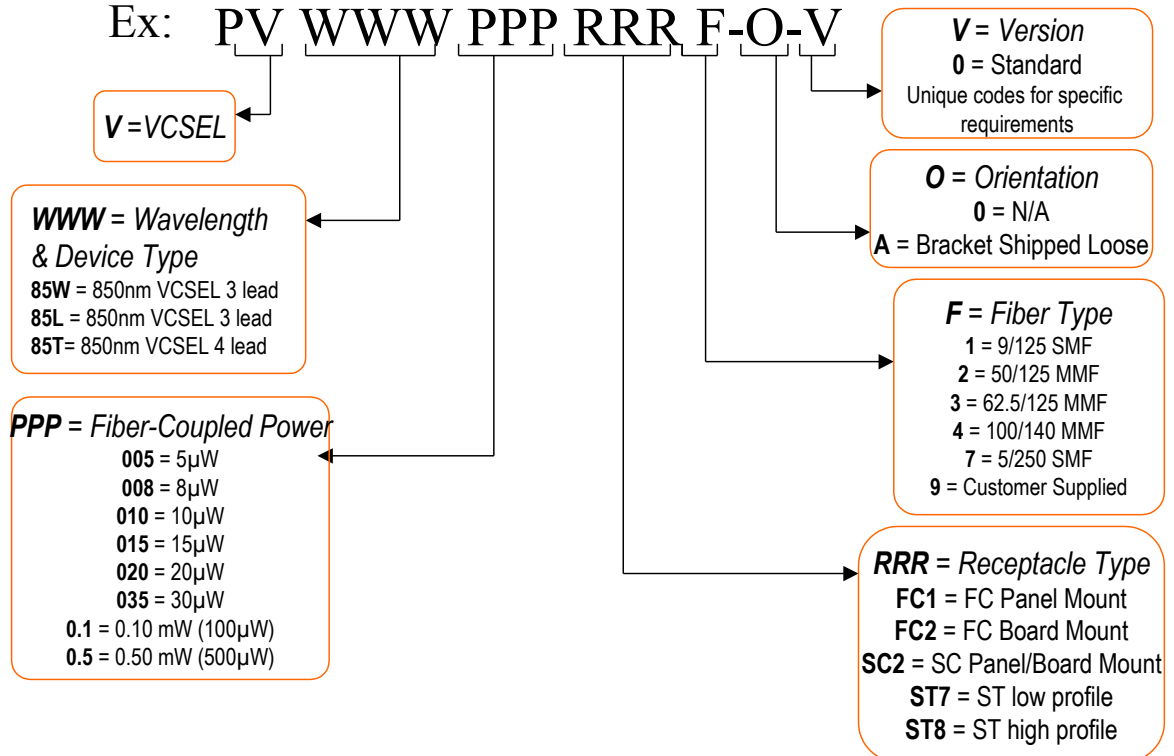
Data Legend: Pigtailed VCSELs

PV WWW PPP F CC B-O-V-LL



Data Legend: Receptacle VCSELs

Ex: PV WWW PPP RRR F-O-V

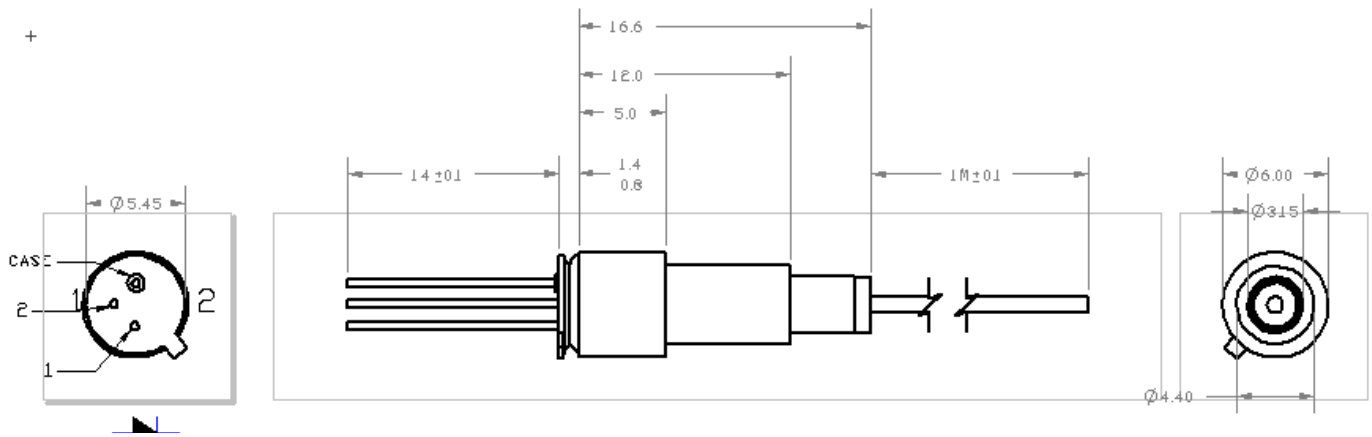


¹Examples only; most device/packaging combinations available.

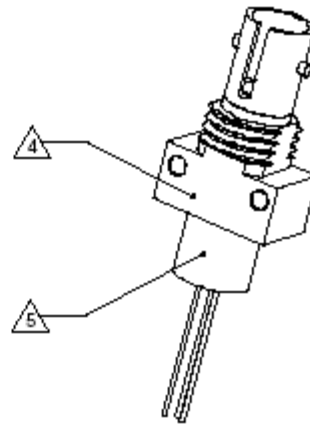
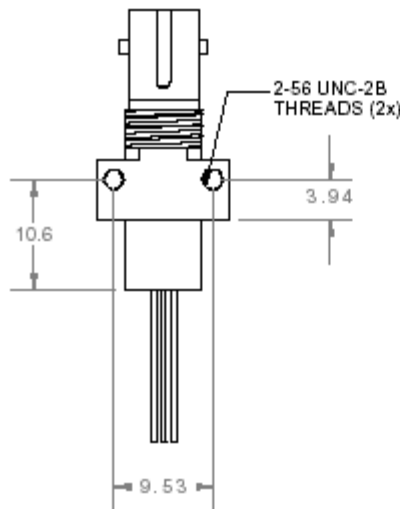
Changes to specifications may be made without notice. 02-11 PV Series .Rev B



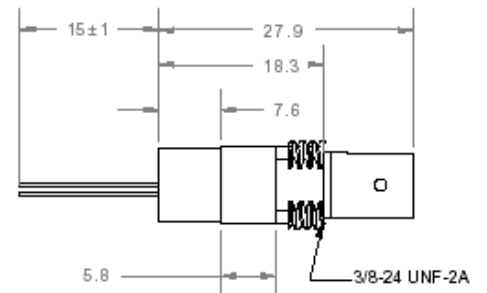
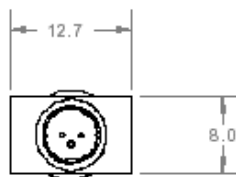
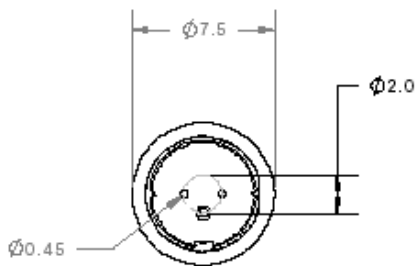
PV Series 850 nm VCSELs



Mechanical Dimensions for Receptacle Packages



ST Receptacle Height
 Low Profile 7.9mm
 High Profile 10.4mm



¹Examples only; most device/package combinations available.

Changes to specifications may be made without notice. 02-11 PV Series .Rev B



PV Series 850 nm VCSELs

1000 m VCSELs

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.

- PBT PLASTIC, BLUE
- BRASS, NICKEL PLATED
- DELRIN, BLACK

