



## SPL635-10-PM-PD

- Fiber-Coupled Laser Diode
- 638 nm, 10 mW
- 4  $\mu\text{m}$  Polarization Maintaining Fiber
- Built-in Photodiode



### Description

SPL635-10-PM-PD is a fiber-coupled laser diode, typically emitting at 638 nm with an output power of 10 mW. It comes in a coaxial package with a mounting bracket, with 4  $\mu\text{m}$  polarization maintaining fiber, FC/APC connector and built-in PD.

**Additional options** like closer peak wavelength selection or alternative housing are available on request.

### Maximum Rating ( $T_{\text{CASE}} = 25^{\circ}\text{C}$ )

Parameter	Symbol	Values		Unit
		Min.	Max.	
Reverse Voltage	$V_R$		2.0	V
Operating Temperature	$T_{\text{OPR}}$	- 10	+ 50	$^{\circ}\text{C}$
Storage Temperature	$T_{\text{STG}}$	- 40	+ 85	$^{\circ}\text{C}$
Soldering Temperature (max. 3s)	$T_{\text{SOL}}$		+ 260	$^{\circ}\text{C}$

### Electro-Optical Characteristics ( $T_{\text{CASE}} = 25^{\circ}\text{C}$ )

Parameter	Symbol	Values			Unit
		Min.	Typ.	Max.	
Peak Wavelength *1	$\lambda_P$	630	638	645	nm
Output Power	$P_O$		10		mW
Spectral Width (FWHM)	$\Delta\lambda$		2.0		nm
Threshold Current	$I_{\text{th}}$		45	60	mA
Operating Current	$I_F$		100	120	mA
Operating Voltage	$V_F$		2.6	3.0	V
PD Current	$I_{\text{PD}}$		0.3		mA
Fiber Specification	Type	Polarization Maintaining			
	Core	4			$\mu\text{m}$
	Connector *2	FC/APC			
	Length		80	100	Cm
Polarization Extinction Ratio	$PER$	13	15		dB

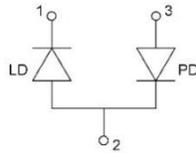


\*1 optional: down to  $\pm 3$  nm

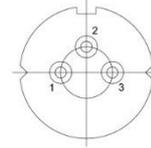


## Electrical Connection

Pin Configuration*	
PIN #	Function
1	LD Cathode
2	LD Anode, PD Cathode
3	PD Anode

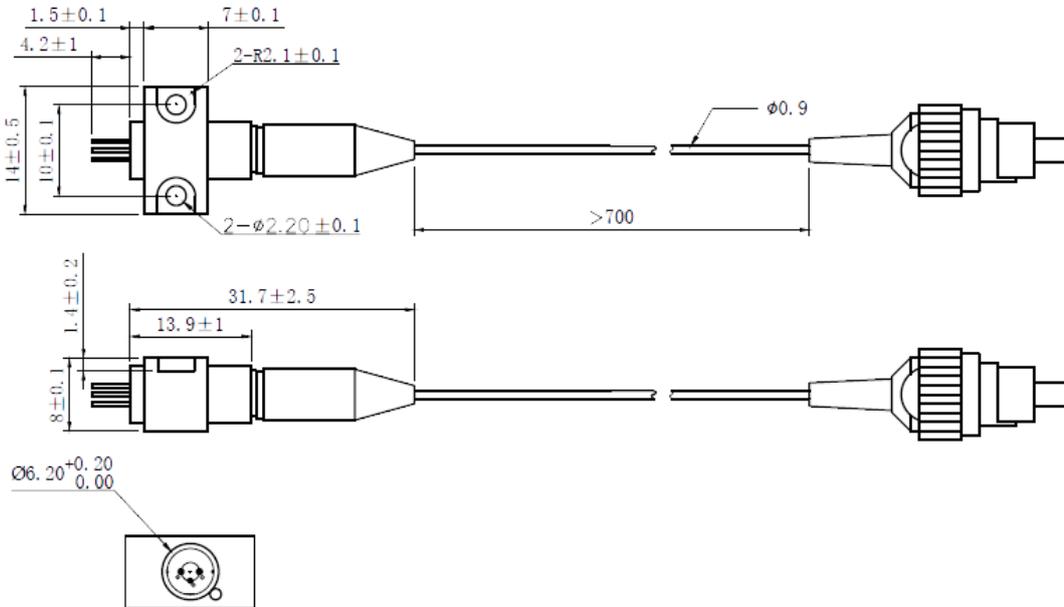


### Bottom View



\* subject to change

## Outline Dimension



### Optional: Coaxial Package

SPL635-10-CPM-PD



All dimensions in mm



## Precautions

### Safety

**Caution:** Laser light emitted from any laser diode may be harmful to the human eye. Avoid looking directly into the laser diode's aperture when the diode is in operation.

**Note:** The use of optical lenses with this laser diode will increase eye hazard



### ESD Caution

Always do handle laser diodes with extreme care to **prevent electrostatic discharge**, the primary cause of unexpected diode failure. To prevent ESD related failures we strongly advise to always **wearing wrist straps**, and **grounding all applicable work surfaces**, when handling laser diodes



### Operating Considerations

We strongly advise to only operate this laser diode with a current source. The current of a laser diode is an exponential function of the voltage across it. **Usage of current regulated drive circuits is mandatory.**

Laser diodes may be damaged by excessive drive currents or switching transients

It is advised, to operate the laser diode at the lowest temperature possible, and to never exceed maximum specifications as outlined in the datasheet. Device degradation will accelerate with increased temperature. **Proper heat sinking will greatly enhance stability and life-time of the laser diode.**