



## SPL850-50-5-PD

- Fiber-Coupled Laser Diode
- 850 nm, 50 mW
- 5  $\mu\text{m}$  Single Mode Fiber
- Built-in Photodiode



### Description

**SPL850-50-5-PD** is an infrared fiber-coupled laser diode, typically emitting at 850 nm with an output power of 50 mW. It comes in a coaxial package with a mounting bracket, with 5  $\mu\text{m}$  single mode fiber, FC/PC connector and built-in PD.

**Additional options** like alternative fiber connector or 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
PD Reverse Voltage	$V_{PD}$		30	V
Operating Temperature	$T_{OPR}$	- 10	+ 60	$^{\circ}\text{C}$
Storage Temperature	$T_{STG}$	- 40	+ 80	$^{\circ}\text{C}$
Soldering Temperature (max. 3s)	$T_{SOL}$		+ 260	$^{\circ}\text{C}$

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

Parameter	Symbol	Values			Unit
		Min.	Typ.	Max.	
Peak Wavelength	$\lambda_P$	840	850	860	nm
Output Power	$P_O$		50		mW
Spectral Width (FWHM)	$\Delta\lambda$				nm
Threshold Current	$I_{th}$		50	100	mA
Operating Current	$I_F$		210	230	mA
Operating Voltage	$V_F$		2.5	3.0	V
PD Current	$I_{PD}$		0.3		mA
Fiber Specification	Type	Single Mode			
	Core	5			$\mu\text{m}$
	Connector *	FC/PC			
	Length	80	100		cm

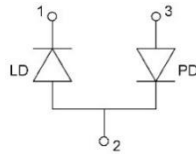


\*1 optional: SC or SMA905

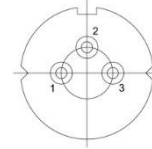


## Electrical Connection

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

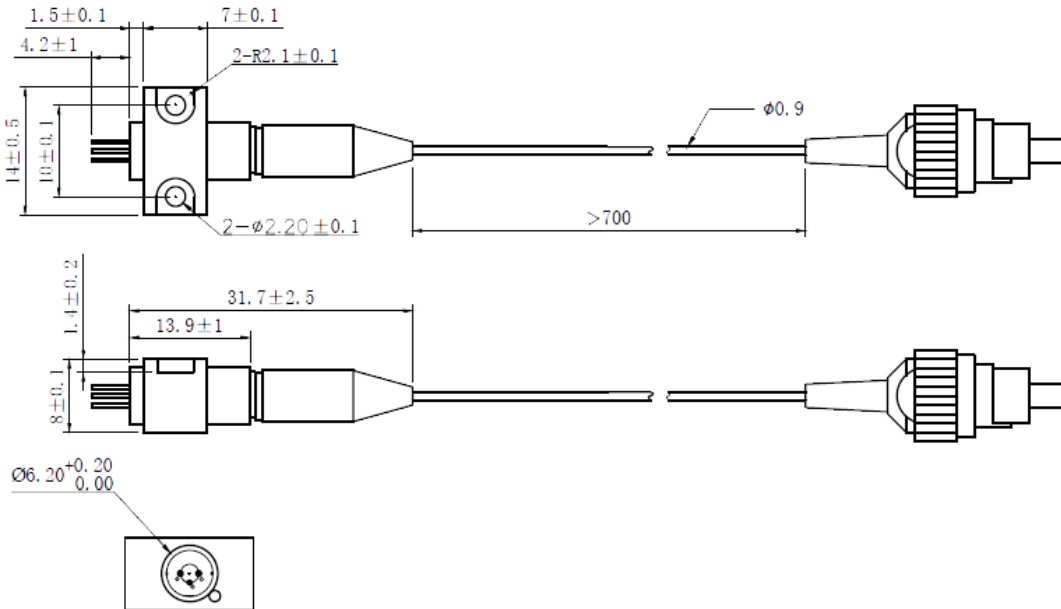


### Bottom View



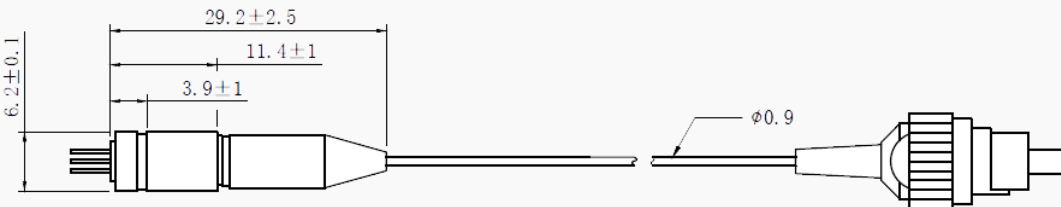
\* subject to change

## Outline Dimension



### Optional: Coaxial Package

SPL850-50-C5-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.**