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SPL405-50-3

- **Pigtailed Laser Diode**
- **405 nm, 50 mW**
- **3 µm Single Mode Fiber**
- **FC/PC connector**

Description

SPL405-50-3 is a fiber-coupled laser diode, typically emitting at 405 nm with an output power of 50 mW. It comes in a coaxial package with a mounting bracket, with 3 µm single mode fiber and FC/PC connector.

Additional options like narrower peak wavelength selection or alternative packaging are available on request.

Maximum Rating (T_{CASE} = 25°C)

Parameter	Symbol	Values Min.	Values Max.	Unit
Reverse Voltage	V_R		2.0	V
Operating Temperature	T_{OPR}	- 10	+ 70	°C
Storage Temperature	T_{STG}	- 40	+ 85	°C
Soldering Temperature (max. 3s)	T_{SOL}		+ 260	°C

Electro-Optical Characteristics (T_{CASE} = 25°C)

Parameter		Symbol	Values Min.	Values Typ.	Values Max.	Unit
Peak Wavelength *1		λ_P	395	405	415	nm
Output Power		P_O		50		mW
Spectral Width (FWHM)		$\Delta\lambda$		2.0		nm
Threshold Current		I_{th}		35	55	mA
Operating Current		I_F		140	160	mA
Operating Voltage		V_F		5.0	5.8	V
Fiber Specification	Type		Single Mode			
	Core		3			µm
	Connector *2		FC/PC			
	Length		80			cm

*1 *optional: down to ±5 nm*

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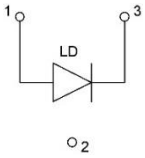
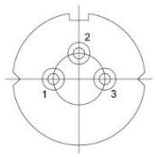
Electrical Connection

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

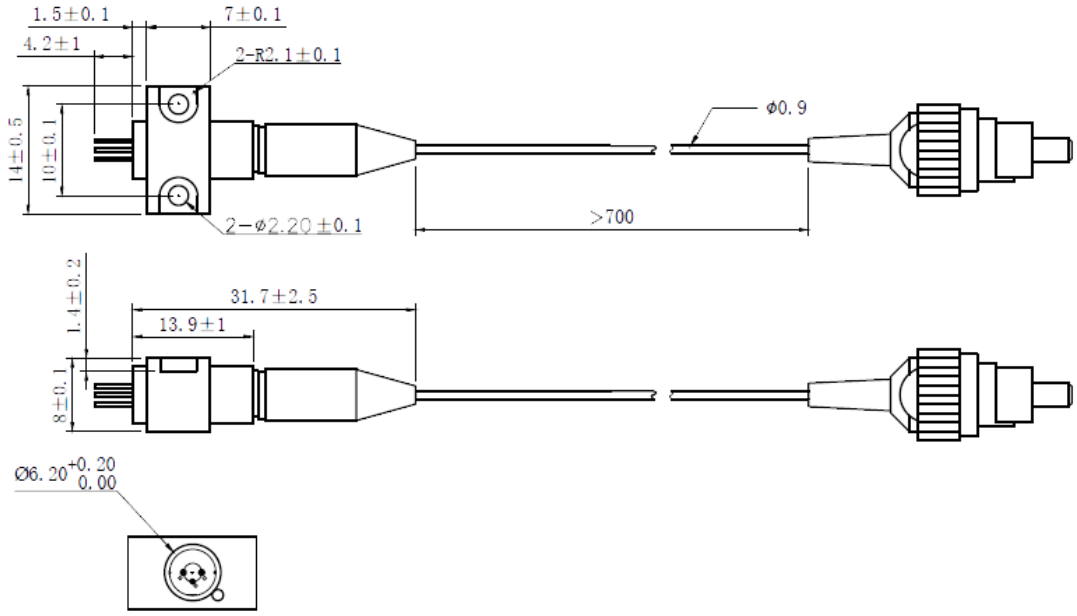


Bottom View

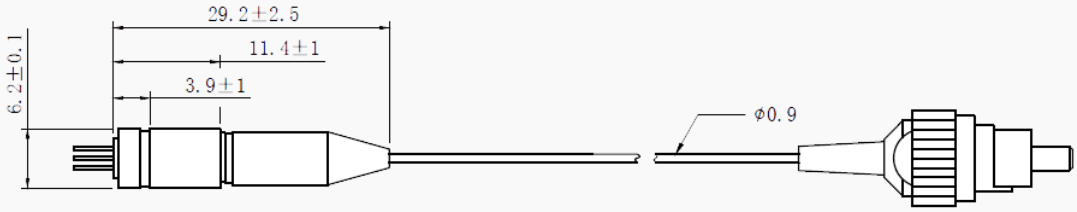


* subject to change

Outline Dimension



***Optional**: Coaxial Package* *SPL405-50-3-C*



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.**