



SPL405-50-PM

- Fiber-Coupled Laser Diode
- 405 nm, 50 mW
- 3 μm Polarization Maintaining Fiber



Description

SPL405-50-PM 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 polarization maintaining fiber and FC/APC connector.

Additional options like closer peak wavelength selection or alternative package 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_{OPR}	- 10	+ 70	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	- 40	+ 85	$^{\circ}\text{C}$
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 *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}		40	70	mA
Operating Current	I_F		150	170	mA
Operating Voltage	V_F		5.2	6.0	V
Fiber Specification	Type	Polarization Maintaining			
	Core	3			μm
	Connector *2	FC/APC			
	Length	80			cm
Polarization Extinction Ratio	PER	13	15		dB

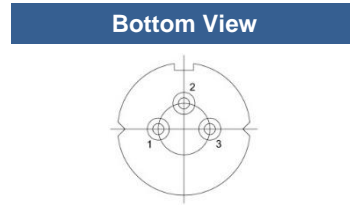
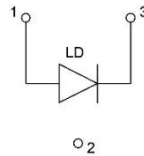
*1 optional: down to ± 5 nm





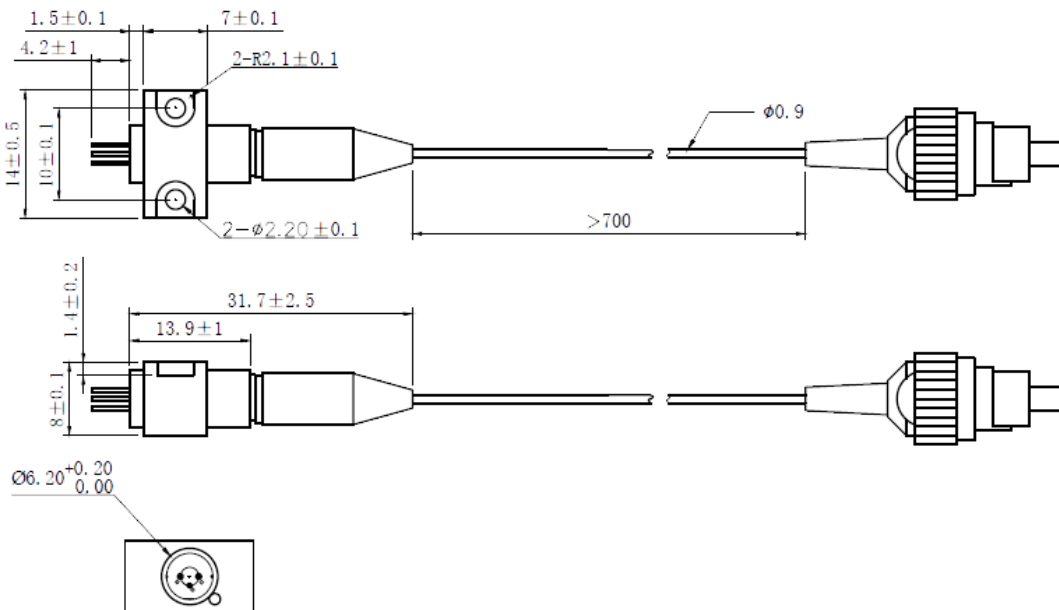
Electrical Connection

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



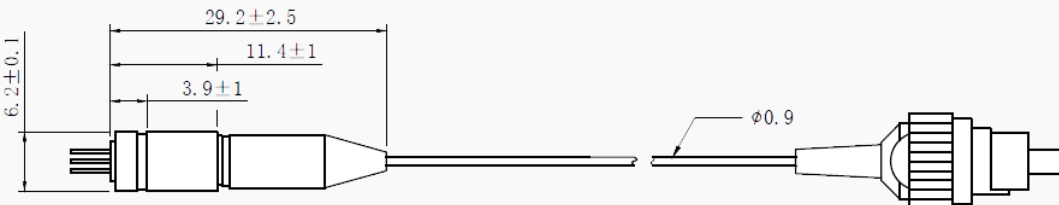
* subject to change

Outline Dimension



Optional: Coaxial Package

SPL405-50-CPM



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.**