



## SPL405-450-C105M

- Fiber-Coupled Laser Diode
- 405 nm, 450 mW
- 105  $\mu\text{m}$  Multimode Fiber



### Description

**SPL405-450-C105M** is a violet fiber-coupled laser diode, typically emitting at 405 nm with an output power of 450 mW. It comes in a coaxial package with a mounting bracket, 105  $\mu\text{m}$  multimode fiber and FC/PC connector.

**Additional options** such as closer peak wavelength selection, alternative fiber connector or 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	$T_{\text{OPR}}$	0	+ 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	$\lambda_P$	395	405	415	nm
Spectral Width (FWHM)	$\Delta\lambda$		2.0		nm
Output Power	$P_O$		450		mW
Threshold Current	$I_{\text{th}}$		120	200	mA
Operating Current	$I_F$		420	500	mA
Operating Voltage	$V_F$		4.5	5.5	V
Fiber Specification	Type	UV Multimode			
	Core		105		$\mu\text{m}$
	Connector *2	FC/PC			
	Length	80			cm



\*1 optional: down to  $\pm 5$  nm

\*2 optional: SC or SMA905

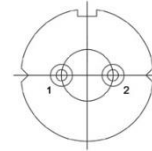


## Electrical Connection

### Pin Configuration\*

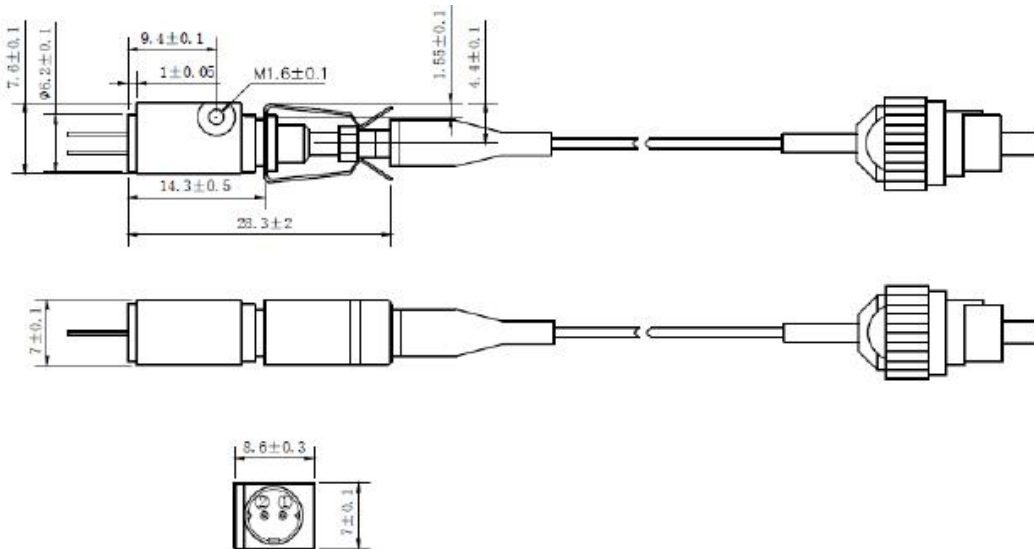
PIN #	Function
1	LD Anode
2	LD Cathode

### Bottom View



\* subject to change

## Outline Dimension



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.**