ROITHNER LASERTECHNIK GmbH
WIEDNER HAUPTSTRASSE 76 1040 VIENNA AUSTRIA
TEL. +43 1 586 52 43 -0, FAX. -44 OFFICE@ROITHNER-LASER.COM

SPL1450-10-9-PDI

- **Infrared Pigtailed DFB Laser Diode**
- **1450 nm, 10 mW**
- **Single Mode Fiber**
- **FC/PC connector**
- **Built-in Photodiode & Optical Isolator**

Description

SPL1450-10-9-PDI is an infrared pigtailed DFB laser diode, typically emitting at 1450 nm with an output power of 10 mW. It comes in a coaxial package with a heat sink, 9 µm single mode fiber, FC/PC connector, built-in PD and optical isolator.

Additional options like closer peak wavelength selection, different fiber connector or package, and high polarization extinction ratio (PER) version are available on request.

Maximum Rating

Parameter	Symbol	Values Min.	Values Max.	Unit
Reverse Voltage	V_R		2.0	V
PD Reverse Voltage	V_{PDR}		15	V
Operating Temperature	T_{OPR}	- 20	+ 50	°C
Storage Temperature	T_{STG}	- 40	+ 100	°C
Soldering Temperature (max. 3s)	T_{SOL}		+ 260	°C

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

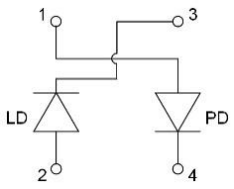
Parameter		Symbol	Values Min.	Values Typ.	Values Max.	Unit
Peak Wavelength *[1]		λ_P	1440	1450	1460	nm
Output Power		P_O		10		mW
Spectral Width (FWHM)		$\Delta\lambda$		0.3	1	nm
Operating Voltage		V_F		1.4	1.7	V
Threshold Current		I_{th}		5	15	mA
Operating Current		I_F		90	100	mA
SMSR				35		dB
Fiber Specification	Type		Single Mode			
	Core		9			µm
	Connector		FC/PC			
	Length			80		cm

[1] optional: down to ±3 nm

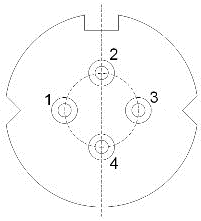
ROITHNER LASERTECHNIK GmbH
WIEDNER HAUPTSTRASSE 76 1040 VIENNA AUSTRIA
TEL. +43 1 586 52 43 -0, FAX. -44 OFFICE@ROITHNER-LASER.COM

Electrical Connection

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

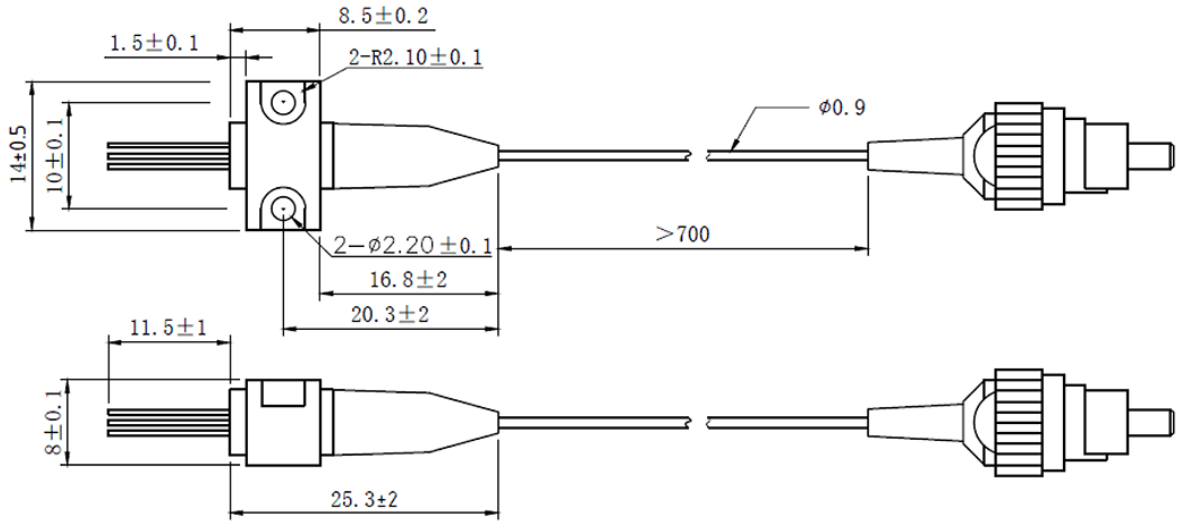


Bottom View

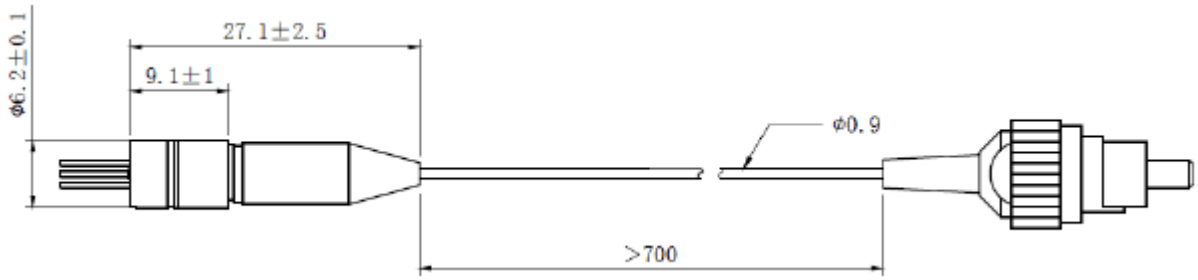


* subject to change

Outline Dimension



***Optional**: Coaxial Package* *SPL1450-10-9-C-PDI*



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.**