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

RLT780-1000G

- **Infrared Laser Diode**
- **785 nm, 1000 mW**
- **Multi mode**

Description

RLT780-1000G is an infrared laser diode, based on InGaN quantum structures, typically emitting at 785 nm. It features multi mode emission, is TE polarized, and comes in 9 mm TO-Can package with integrated PD**. RLT780-1000G** is typically used for Raman Spectroscopy, Laser Pumping, and Laser Therapy.

Maximum Rating* (T_{CASE} = 25°C)

Parameter	Symbol	Values		Unit
		Min.	Max.	
Operating Temperature*2	T_{OPR}	- 20	+ 50	°C
Storage Temperature	T_{STG}	- 40	+ 80	°C
Soldering Temperature (max. 5s)	T_{SOL}		+ 250	°C

*2 operating outside these conditions may damage the device

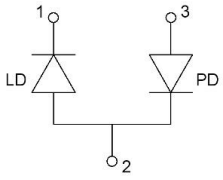
Electro-Optical Characteristics (T_{CASE} = 25°C)

Parameter		Symbol	Values			Unit
			Min.	Typ.	Max.	
Peak Wavelength		**λ_P**	**775**	**785**	**790**	**nm**
Optical Output Power		P_O		**1000**		mW
Spectral Width (FWHM)		$\Delta\lambda$		2	4	nm
Operating Voltage		V_F		1.9	2.2	V
Threshold Current		I_{th}		400	700	mA
Operating Current		I_F		1.4	1.8	A
Slope Efficiency		CW	1.0	1.2		W/A
Lifetime			10000			h
Beam Divergence (FWHM)	parallel	$\Theta\parallel$		8	11	deg.
	perpendicular	$\Theta\perp$		25	30	deg.

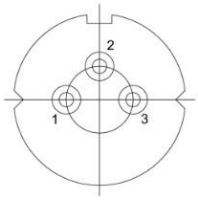
Electrical Connection

Pin Configuration

Pin #	Function
Pin 1	LD Cathode
Pin 2	LD Anode, PD Cathode
Pin 3	PD Anode

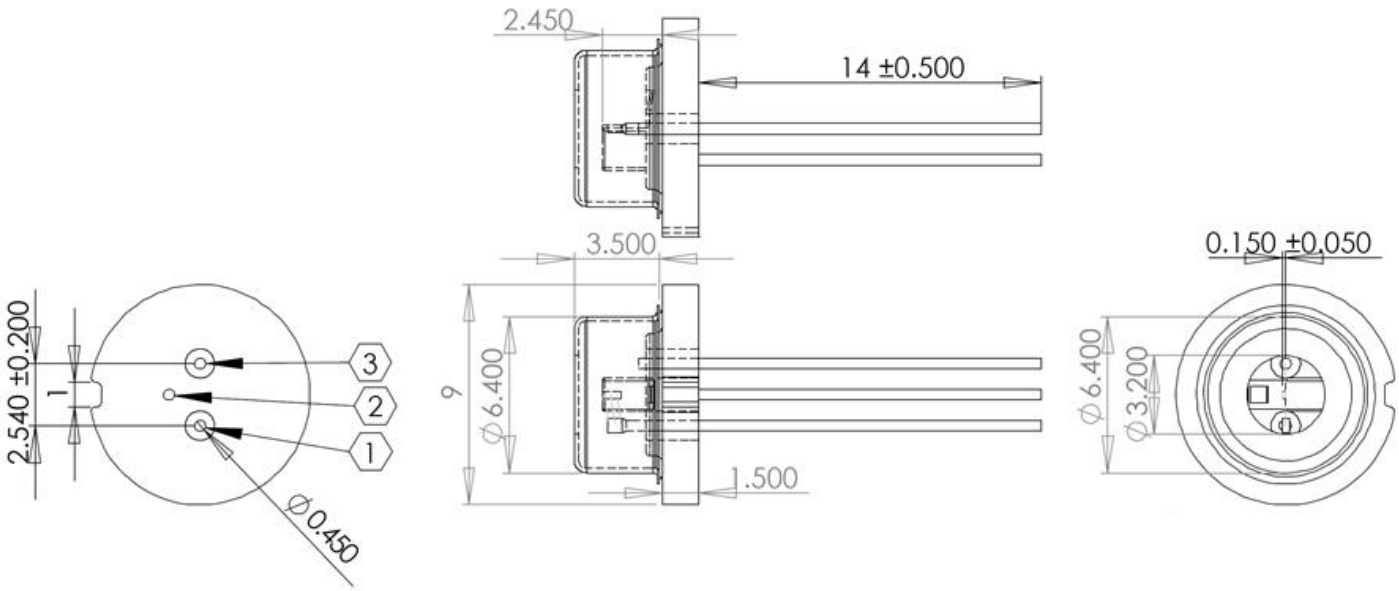


Bottom View



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

Outline Dimensions



All dimensions in mm

Precautions

Safety

Warning: Invisible laser radiation is emitted from this device !!!

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, it is strongly advised to always **wearing wrist straps**, and **grounding all applicable work surfaces**, when handling laser diodes

Operating Considerations

It is strongly advised 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**