ROITHNER LASERTECHNIK GmbH
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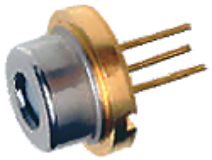
RLT940-300GS



- **Laser Diode**
- **940 nm, 300 mW CW**
- **Single-Mode**
- **9 mm TO-Can, Flat Window**

RoHS COMPLIANT Pb Pb-Free

Description

RLT940-300GS is an IR Fabry-Perot (**FP**) laser diode, typically emitting at 940 nm. It features an emitter with **single transverse mode** emission and wide operating temperature range.

RLT940-300GS is offered in a hermetically sealed 9 mm TO-Can package with AR coated window and **integrated PD**.

Additional options like closer peak wavelength selection, other pin configuration, packages and fast axis microlens are available on request..

Maximum Rating (T_{CASE} = 25°C)

Parameter	Symbol	Values Min.	Values Max.	Unit
Reverse Voltage	V_R			V
Operating Temperature	T_{OPR}	- 20	+ 50	°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 *		λ_P		940		nm
Spectral Width (FWHM)		$\Delta\lambda$				nm
Output Power		P_O		300		mW
Threshold Current		I_{th}		38	55	mA
Operating Current		I_F		370	450	mA
Operating Voltage		V_F		1.7	2.2	V
Slope Efficiency		η		0.9		W/A
Far Field @ FWHM	Vertical			28		deg.
	Horizontal			8		deg.

** optional: down to ±3 nm*

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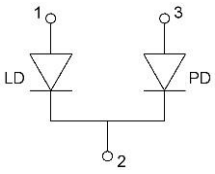
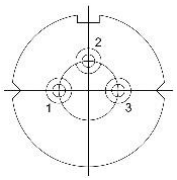
Electrical Connection

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



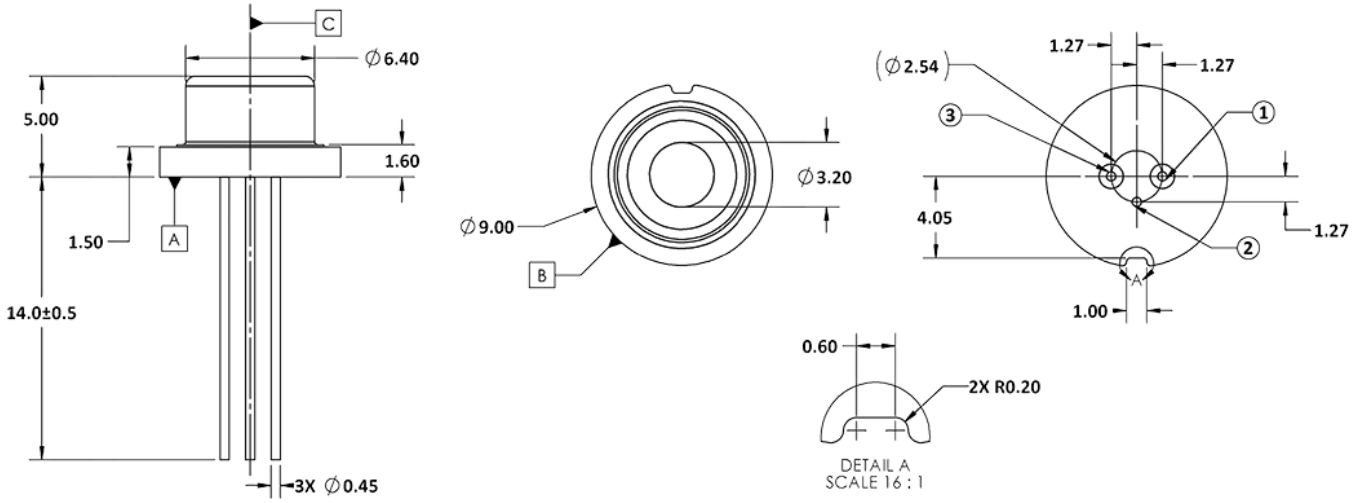
Bottom View



* subject to change

Optional					
PIN #	***Function***	***Function***	***Function***	***Function***	***Function***
1	*LD Cathode*	*LD Cathode*	*LD Anode*	*LD Anode*	*LD Cathode*
2	*LD Anode, PD Cathode, Case*	*LD Anode, PD Anode, Case*	*LD Cathode, PD Anode, Case*	*LD Cathode, Case*	*LD Anode, Case*
3	*PD Anode*	*PD Cathode*	*PD Cathode*	-	-

Outline Dimension



All dimensions in mm

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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.**