



## RLT1080-80GS

- Laser Diode
- 1080 nm, 80 mW
- Single Mode
- 9 mm TO-Can, Flat Window



### Description

RLT1080-80GS is an IR Fabry Perot laser diode, typically emitting at 1080 nm. It features an emitter with **single transverse mode** emission and wide operating temperature range.

RLT1080-80GS is supplied in a 9 mm TO-Can package with an **integrated PD**.

### Maximum Rating ( $T_{CASE} = 25^{\circ}C$ )

Parameter	Symbol	Values		Unit
		Min.	Max.	
Reverse Voltage	$V_R$			V
Operating Temperature	$T_{OPR}$	- 40	+ 50	$^{\circ}C$
Storage Temperature	$T_{STG}$	- 40	+ 85	$^{\circ}C$
Soldering Temperature (max. 3s)	$T_{SOL}$		+ 260	$^{\circ}C$

### Electro-Optical Characteristics ( $T_{CASE} = 25^{\circ}C$ )

Parameter	Symbol	Min.	Values		Unit	
			Typ.	Max.		
Peak Wavelength	$\lambda_P$	1075		1100	nm	
Spectral Width (FWHM)	$\Delta\lambda$		4	8	nm	
Output Power	$P_O$		80	100	mW	
Emitter Size	$A$		3.0 x 1.5		$\mu m$	
Threshold Current	$I_{th}$	25	30	35	mA	
Operating Current	$I_F$		250	300	mA	
Operating Voltage	$V_F$		2.0	2.2	V	
PD Current	$I_{PD}$	0.07			mA	
PD Reverse Voltage	$V_{PDR}$				V	
Slope Efficiency	$\eta$		0.4		mW/mA	
Beam Divergence (FWHM)	parallel	$\theta^{\perp}$	25	30	35	deg
	perpendicular	$\theta_{  }$	8	10	12	deg
Off Axis Angle	$\Delta\alpha_{  } \times \Delta\alpha^{\perp}$			$< \pm 3$	deg.	
Position Accuracy	$\Delta X, \Delta Y, \Delta Z$			$\pm 100$	$\mu m$	
Rise Time	$t_r$		0.5		ns	

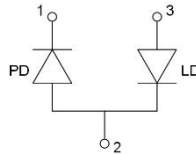




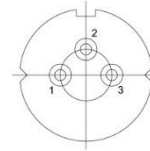
## Electrical Connection

### Pin Configuration\*

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

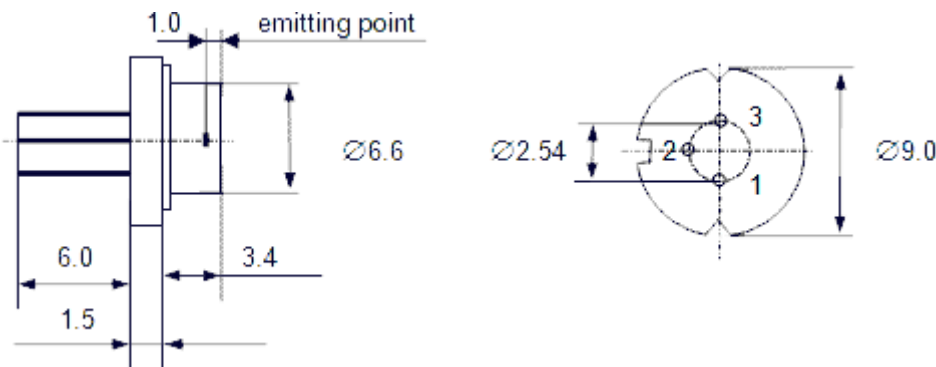


### Bottom View



\* subject to change

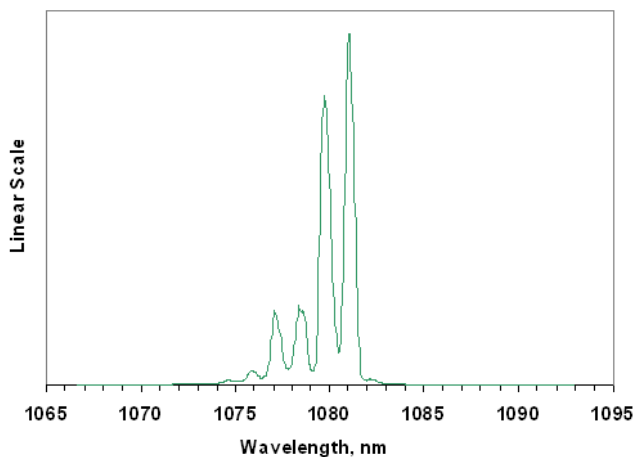
## Outline Dimension



All dimensions in mm

## Performance Characteristics

### Spectrum\*



\* sample



## 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.**

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The above specifications are for reference purpose only and subjected to change without prior notice