



RLT1080-80GS

- Infrared Laser Diode
- 1080 nm, 80 mW
- Single transverse mode
- 9 mm TO-Can



Description

RLT1080-80GS is an infrared Fabry Perot laser diode, typical emitting at 1080 nm. It features single transverse mode emission, CW or pulse operation, low threshold current and high slope efficiency. **RLT1080-80GS** comes in 9 mm TO-Can package with **integrated PD**.

Absolute Maximum Ratings

Parameter	Symbol	Values	Unit
Output Power	P_O		mW
Operating Temperature	T_{CASE}	-40 ..+50	°C
Storage Temperature	T_{STG}	-50 ..+80	°C
Soldering Temperature *	T_{SLD}	260	°C

* must be completed within 5 seconds

Electro-Optical Characteristics

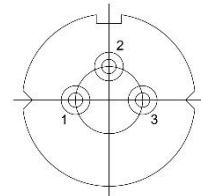
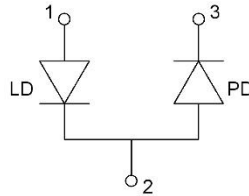
$T_{CASE} = 25^{\circ}C$

Parameter	Symbol	Min.	Typ.	Max.	Unit
Peak Wavelength	λ_P	1075		1100	nm
Spectral Width (FWHM)	$\Delta\lambda$		4	8	nm
Optical Output Power	P_O		80	100	mW
Emitter Size			3 x 1.5		μm
Operating Voltage	V_{OP}		2.0	2.2	V
Threshold Current	I_{TH}	25	30	35	mA
Operating Current	I_{OP}		250	300	mA
Monitor Current	I_M	0.07			mA
Slope Efficiency	η		0.4		mW/mA
Temperature Coefficient			0.3		nm/°C
Beam Divergence, Parallel (FWHM)	$\theta_{ }$	8	10	12	deg.
Beam Divergence, Perpendicular (FWHM)	θ_{\perp}	25	30	35	deg.
Off Axis Angle	$\Delta\alpha_{ } \times \Delta\alpha_{\perp}$			< ± 3	deg.
Position Accuracy	$\Delta X, \Delta Y, \Delta Z$			± 100	μm
Rise Time	t_r		0.5		ns



Pin Configuration

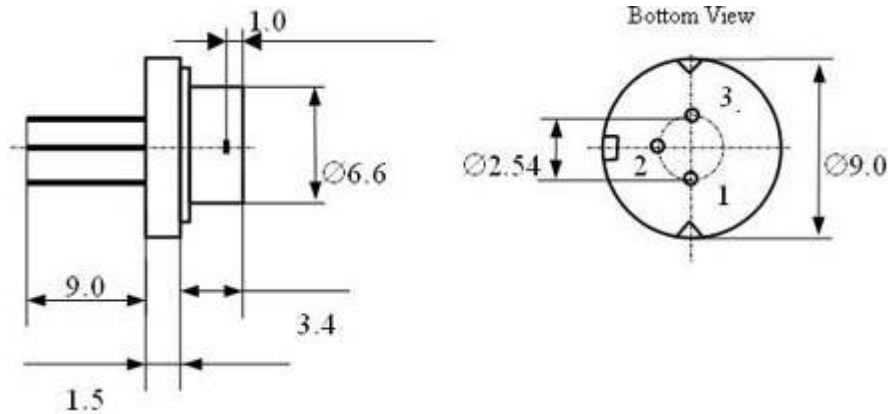
Pin	Description
1	LD Anode
2	LD Cathode, PD Anode
3	PD Cathode



bottom view

Outline Dimensions

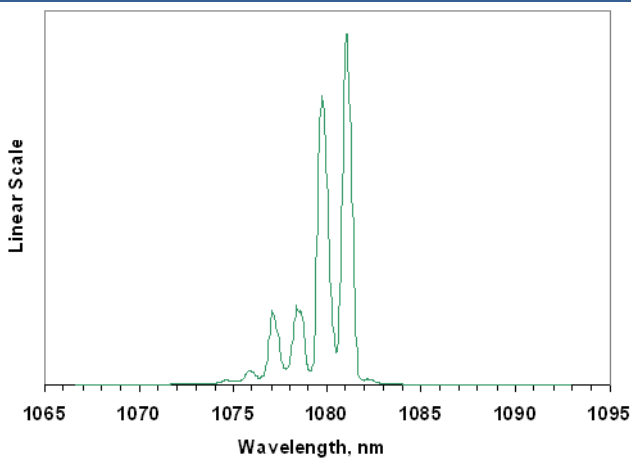
9 mm TO-can



Dimensions: mm

Performance Characteristics

Spectrum



(sample)



Precautions

Safety

Warning: This LD is emitting invisible laser radiation!

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.

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