



RLT635-1W-GOP

- Red High Power Laser Diode
- 638 nm, 1.0 W
- Multi transverse mode
- TO5 package (9mm), Flat Window



Description

RLT635-1W-GOP is a red high power laser diode, typically emitting at 638 nm. It features multi transverse mode emission and maximum operating temperature of 40°C. It is an efficient radiation source for many applications like laser projection, holography, metrology, or use in the biomedical field. **RLT635-1W-GOP** comes in 9 mm TO-Can package **without PD**.

Maximum Rating*

Parameter	Symbol	Values		Unit
		Min.	Max.	
Reverse Voltage	V_R		2	V
Operating Temperature*	T_{OPR}	- 10	+ 40	°C
Storage Temperature*	T_{STG}	- 40	+ 85	°C
Soldering Temperature (max. 3s)	T_{SOL}		+ 260	°C



* operating close to or outside these conditions may damage the device

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

Parameter	Symbol	Values			Unit	
		Min.	Typ.	Max.		
Peak Wavelength	λ_P	630	638	645	nm	
Spectral Width	λ_Δ		1.0		nm	
Optical Output Power	P_O		1.0		W	
Operating Voltage	V_F		2.4	2.8	V	
Threshold Current	I_{th}		0.3	0.5	A	
Operating Current	I_F		1.4	1.6	A	
Slope Efficiency	η		1.0		W/A	
Spatial Mode		Multi transverse mode				
Beam Divergence (FWHM)	parallel	$\Theta_{ }$	2	10	20	deg.
	perpendicular	Θ_{\perp}	23	35	45	deg.

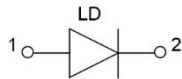




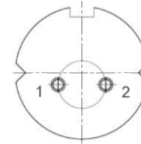
Electrical Connection

Pin Configuration (subject to change without notice)

Pin #	Function
Pin 1	LD Anode
Pin 2	LD Cathode

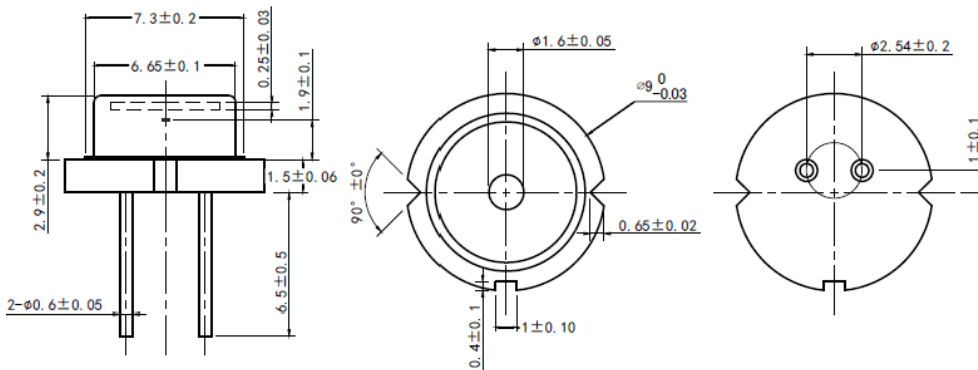


Bottom View



Outline Dimensions

T05



All dimensions in mm

Precautions

Safety

Caution: This laser diode emits highly concentrated light which can be **hazardous to the human eye and skin**. This diode is classified as **CLASS 4 laser product** according to **IEC 60825-1** and **21 CFR Part 1040.10 Safety Standards**.

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

Proper heat sinking will greatly enhance stability and lifetime of the laser diode