



## 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 blue 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.		
<b>Peak Wavelength</b>	$\lambda_P$	<b>630</b>	<b>638</b>	<b>645</b>	<b>nm</b>	
Spectral Width	$\lambda_\Delta$		1.0		<b>nm</b>	
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	$\eta$		1.0		W/A	
Spatial Mode		Multi transverse mode				
Beam Divergence (FWHM)	parallel	$\Theta_{  }$	2	10	20	deg.
	perpendicular	$\Theta_{\perp}$	23	35	45	deg.

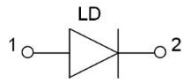




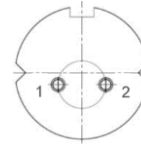
## Electrical Connection

### Pin Configuration (subject to change without notice)

Pin #	Function
Pin 1	LD Anode
Pin 2	LD Cathode

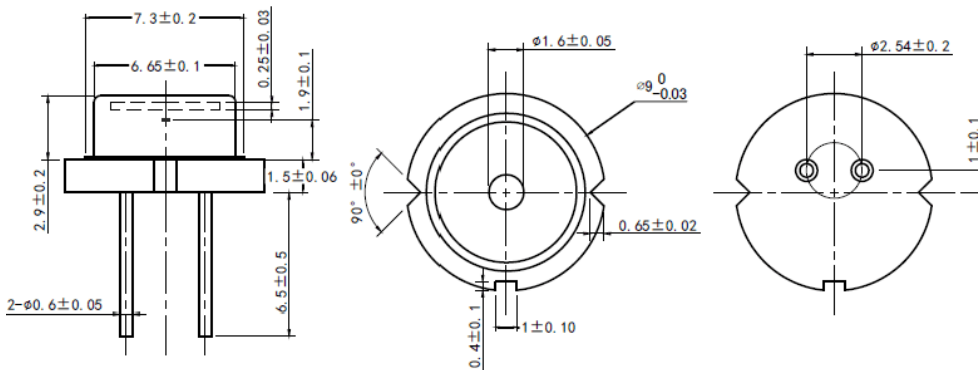


### Bottom View



## 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**