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## RLT808-3W-T03

- Infrared Laser Diode
- 808 nm, 3 W
- Multi Transverse Mode
- T03 Package



### Description

**RLT808-3W-T03** is an IR laser diode, typically emitting at 808 nm, with a 100 x 1  $\mu\text{m}$  emitter and **multi transverse mode** emission. It comes in TO3 package, and has been designed for industrial application like e.g. medical laser treatment, pumping laser and night vision. **Additional options** like closer peak wavelength selection are available on request.

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

Parameter	Symbol	Values		Unit
		Min.	Max.	
Reverse Voltage	$V_R$		2	V
Operating Temperature*	$T_{\text{OPR}}$	+ 10	+ 30	$^{\circ}\text{C}$
Storage Temperature*	$T_{\text{STG}}$	- 20	+ 80	$^{\circ}\text{C}$
Soldering Temperature (max. 3s)	$T_{\text{SOL}}$		+ 260	$^{\circ}\text{C}$

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



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

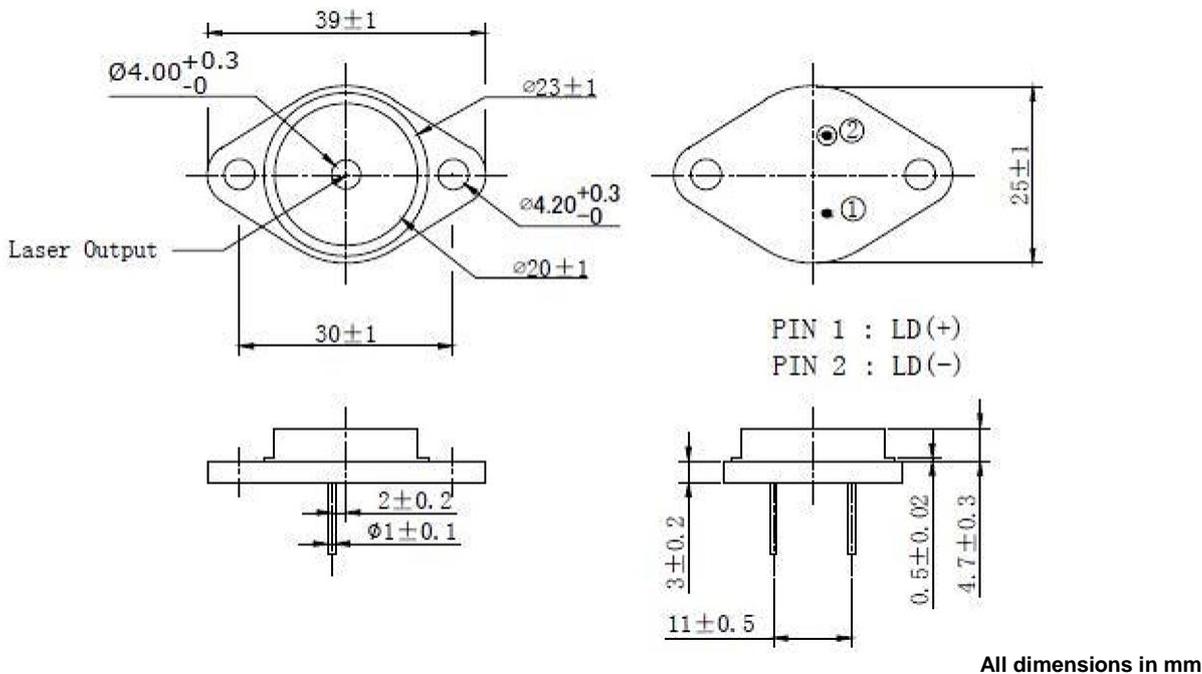
Parameter	Symbol	Values			Unit
		Min.	Typ.	Max.	
Peak Wavelength *	$\lambda_P$	798	808	818	nm
Optical Output Power	$P_O$		3		W
Spectral Width (FWHM)	$\lambda_{\Delta}$		3.0		nm
Emitting Area			100 x 1		$\mu\text{m}$
Operating Voltage	$V_F$		1.8	2.2	V
Threshold Current	$I_{\text{th}}$		0.4	0.7	A
Operating Current	$I_F$		3.0	3.4	A
Slope Efficiency	$\eta$		1.2		W/A
Temperature Coefficient	$\alpha$		0.3		nm/ $^{\circ}\text{C}$
Beam Divergence (FWHM)	parallel		$\Theta_{\parallel}$	8	deg.
	perpendicular		$\Theta_{\perp}$	35	deg.

\* optional: down to  $\pm 3$  nm





## Outline Dimensions



## 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, 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**