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RLT445-4W-GOP-FAC

- Blue High Power Laser Diode
- 445 nm, 4 W
- Fast Axis Collimator
- Multi transverse mode
- TO5 package (9mm), Flat Window



Description

RLT445-4W-GOP-FAC is a blue high power laser diode, typically emitting at 445 nm. It features multi transverse mode emission and wide operating temperature of up to 60°C. A **square beam output** is achieved by an integrated **Fast Axis Collimator (FAC)**. It is an efficient radiation source for many applications like laser projection, holography, metrology, or use in the biomedical field. **RLT445-4W-GOP-FAC** 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}	- 0	+ 60	°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	435	445	455	nm
Spectral Width	λ_Δ		3.0		nm
Optical Output Power	P_O		4		W
Operating Voltage	V_F		4.5	5.5	V
Threshold Current	I_{th}		0.3	0.6	A
Operating Current	I_F		3.0	3.3	A
Slope Efficiency	η		1.6		W/A
Spatial Mode		Multi transverse mode			
Lens Type		Fast axis collimator			
Beam shape		Square beam			
Beam Divergence (FWHM)	parallel	$\theta_{ }$	10	13	deg.
	perpendicular	θ_{\perp}	10	13	deg.



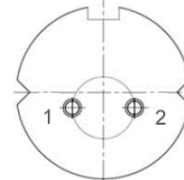
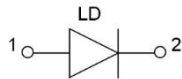


Electrical Connection

Pin Configuration (subject to change without notice)

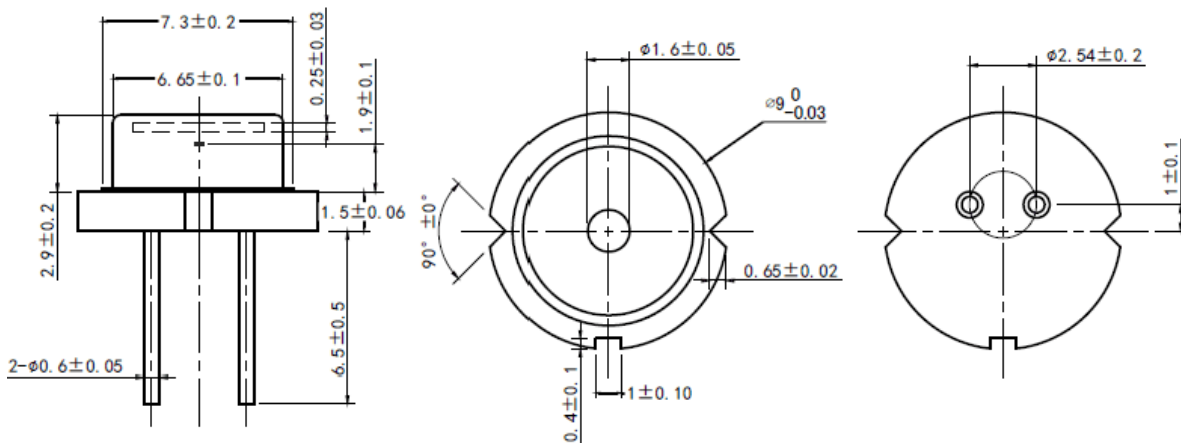
Bottom View

Pin #	Function
Pin 1	LD Anode
Pin 2	LD Cathode



Outline Dimensions

TO5



All dimensions in mm

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

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