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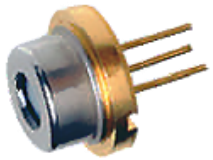
RLT440-6WG

- **Blue Laser Diode**
- **440 nm, 6 W**
- **ESD Protection**
- **9.0 mm TO Package**



Description

RLT440-6WG is a blue **multi-mode** laser diode, based on InAlGaN structure, typically emitting at 440 nm, with an output power of 6 W, and max. allowed operating temperature of 65°C. **RLT440-6WG** comes in 9.0 mm TO-Can package with integrated ESD protective device.

Maximum Ratings*

Parameter	Symbol	Values Min.	Values Max.	Unit
Operating Temperature*	T_{OPR}	- 20	+ 65	°C
Storage Temperature*	T_{STG}	- 40	+ 80	°C
Reverse Current	I_R		20	mA
Soldering Temperature (t_{MAX} = 3 s)	T_{SOL}		+ 260	°C

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

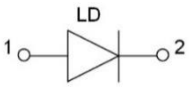
Electro-Optical Characteristics (T_{CASE} = 25°C)

Parameter		Symbol	Values Min.	Values Typ.	Values Max.	Unit
Peak Wavelength		**λ_P**	**430**	**440**	**450**	**nm**
Optical Output Power (CW)		P_O		6		W
Operating Voltage		U_F		4.0	5.0	V
Threshold Current		I_{th}		0.3	0.5	mA
Operating Current		I_F		3.5	4.0	mA
Beam Divergence (FWHM)	parallel	$\Theta\parallel$	5	10	15	deg.
	perpendicular	$\Theta\perp$	40	50	60	deg.
Chip Positioning Accuracy		$\Delta X, \Delta Y$	- 80		+ 80	µm
Beam Angle Deviance	parallel	$\Delta\Theta\parallel$	-3		+3	deg.
	perpendicular	$\Delta\Theta\perp$	-3		+3	deg.

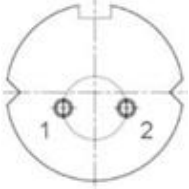
Electrical Connection

Pin Configuration

Pin #	Function
Pin 1	LD +
Pin 2	LD -



Bottom View



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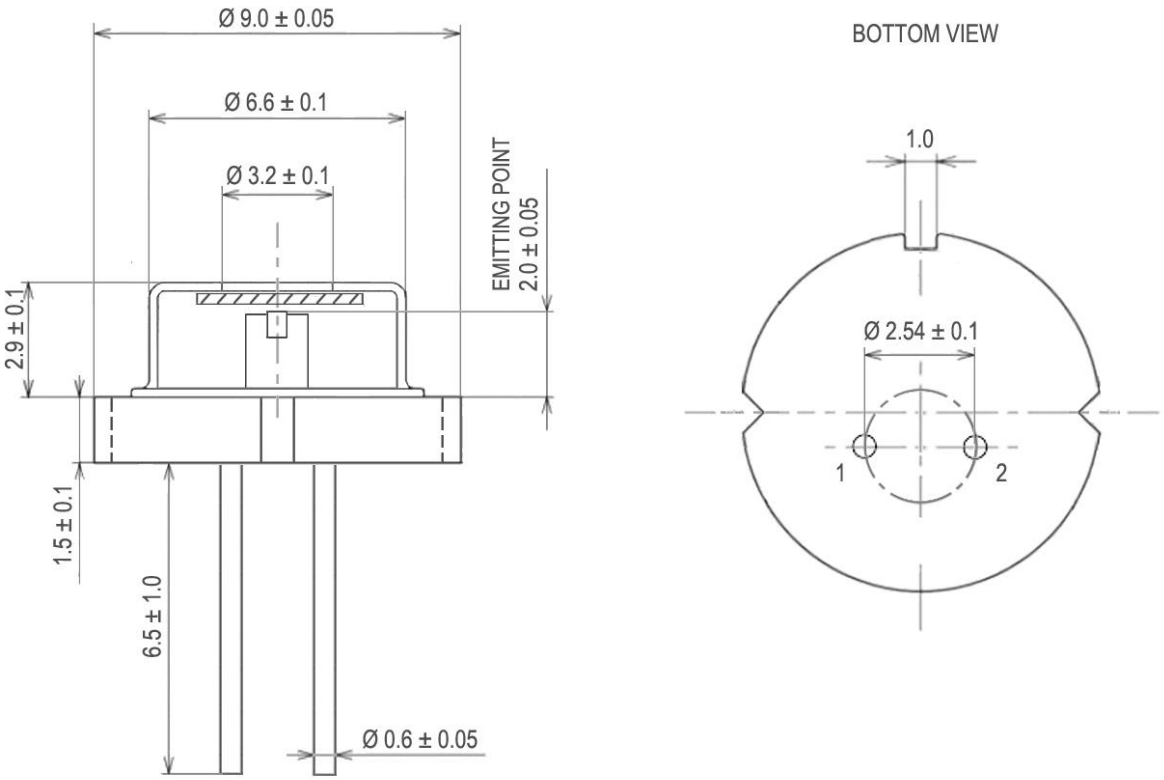
Outline Dimensions

9.0 mm TO-Can



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, we do advise to always **wearing wrist straps**, and **grounding all applicable work surfaces**, when handling laser diodes.

Operating considerations

We do advise to operate this laser diode with a current source only. 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