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RLT405-20MG

- **Violet Laser Diode**
- **405 nm, 20 mW**
- **5.6mm TO-Can, Flat Window**
- **Integrated Photodiode**

RoHS COMPLIANT Pb Pb-Free

Description

RLT405-20MG is a violet laser diode, typically emitting at 405 nm, at a rated output power of 20 mW. **RLT405-20MG** comes in 5.6 mm TO-Can package **with integrated PD.**

Maximum Rating*[1] (T_{CASE} = 25°C)

Parameter	Symbol	Values		Unit
		Min.	Max.	
PD Reverse Voltage	V_{RPD}		5.0	V
Operating Temperature*	T_{OPR}	- 10	+ 70	°C
Storage Temperature*	T_{STG}	- 40	+ 85	°C
Soldering Temperature (max. 3s)	T_{SOL}		+ 260	°C

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

Electro-Optical Characteristics (T_{CASE} = 25°C, P_O = 20 mW)

Parameter		Symbol	Values			Unit
			Min.	Typ.	Max.	
Peak Wavelength		λ_P	**400**	**405**	**410**	**nm**
Operating Voltage		V_F		4.8		V
Threshold Current		I_{th}		40		mA
Operating Current		I_F		80		mA
PD Current		I_{PD}		0.6		mA
Slope Efficiency		η	0.8	1.2	1.7	W/A
Beam Divergence (FWHM)	parallel	$\Theta_{\parallel}$		10		deg.
	perpendicular	$\Theta_{\perp}$		20		deg.
Emission Point Accuracy	parallel	$\Delta\Theta_{\parallel}$	- 2.0		2.0	deg.
	perpendicular	$\Delta\Theta_{\perp}$	- 2.5		2.5	deg.

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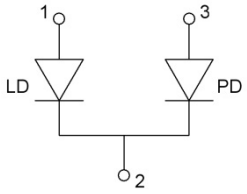
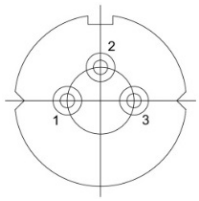
Electrical Connection

Pin Configuration

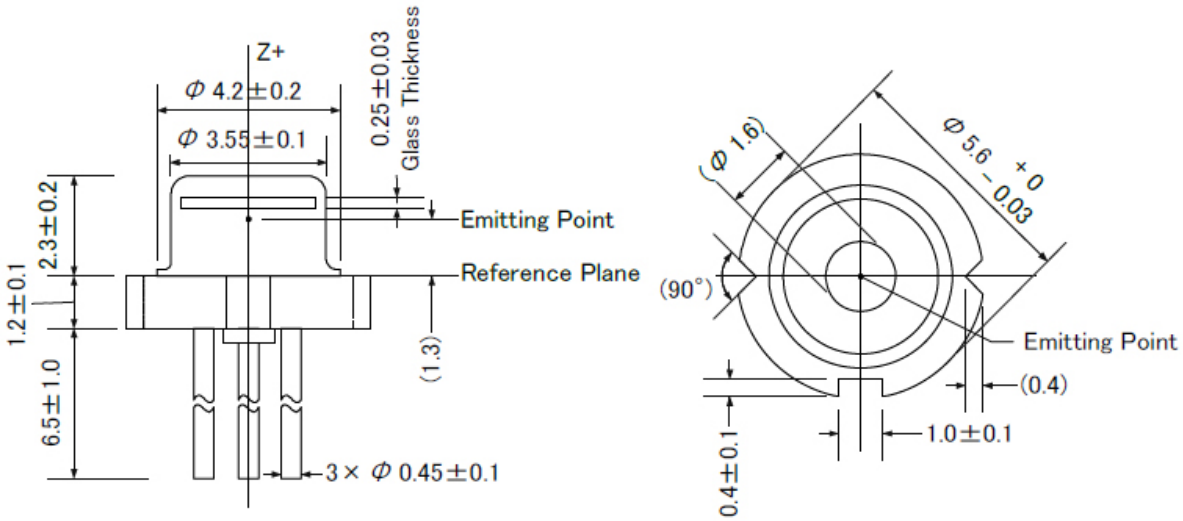
Pin #	Function
Pin 1	LD anode
Pin 2	LD cathode, PD cathode
Pin 3	PD anode



Bottom View



Outline Dimensions



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

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**