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RLT405-120MGS

- Violet Laser Diode
- 405 nm, 120 mW
- Single transverse mode
- TO18 package, Flat Window
- Integrated Monitor Photodiode



Description

RLT405-120MGS is a violet Fabry Perot laser diode, typically emitting at 405 nm. It features single transverse mode emission and wide operating temperature range of up to 70°C. It is an efficient radiation source for many applications like laser projection, holography, metrology, or use in the biomedical field. **RLT405-120MGS** comes in 5.6 mm TO-Can package **with integrated Monitor PD**.

Maximum Rating* (T_{CASE} = 25°C)

Parameter	Symbol	Values		Unit
		Min.	Max.	
Reverse Voltage	V _R		2	V
PD Reverse Voltage	V _{MR}		30	V
Operating Temperature*	T _{OPR}	- 10	+ 70	°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°C)

Parameter	Symbol	Values			Unit	
		Min.	Typ.	Max.		
Peak Wavelength	λ _P	395	405	415	nm	
Spectral Width	λ _Δ		2.0		nm	
Optical Output Power	P _O		120		mW	
Operating Voltage	V _F		5.0	6.0	V	
Threshold Current	I _{th}		40	70	mA	
Operating Current	I _F		110	130	mA	
PD Current	I _M		0.3		mA	
Slope Efficiency	η		1.7		W/A	
Temperature Coefficient			0.05		nm/K	
Beam Divergence (FWHM)	parallel	θ	5	9	12	deg.
	perpendicular	θ _⊥	15	19.5	24	deg.

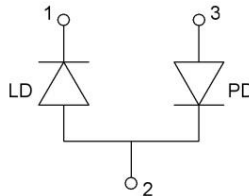




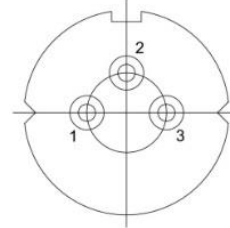
Electrical Connection

Pin Configuration

Pin #	Function
Pin 1	LD Cathode
Pin 2	LD Anode + PD Cathode, Case
Pin 3	PD Anode

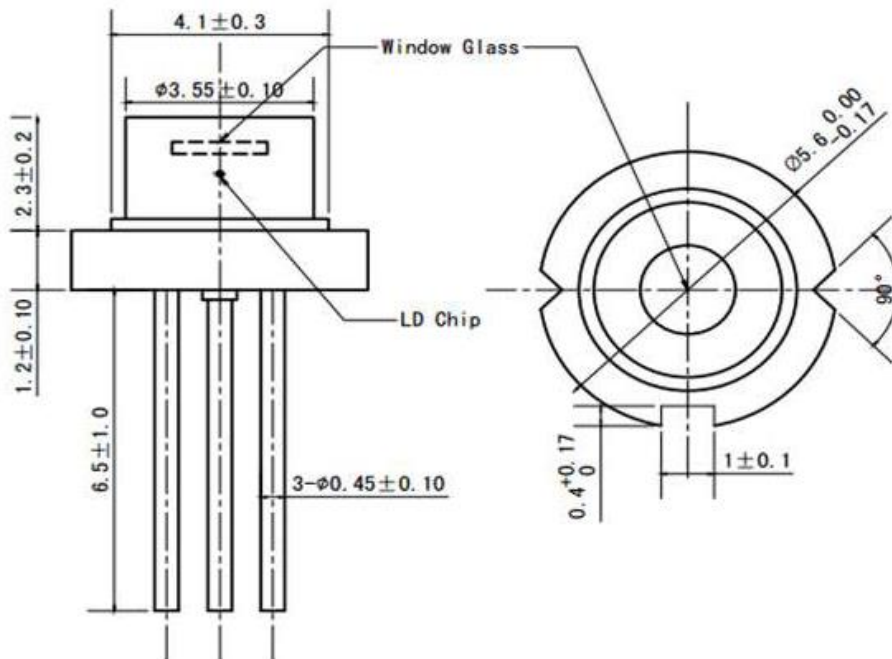


Bottom View



Outline Dimensions

TO-18



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**

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The above specifications are for reference purpose only and subjected to change without prior notice.