



# ROITHNER LASERTECHNIK GmbH

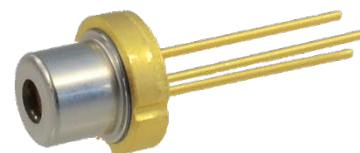
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## RLT405200MGS

- Violet Laser Diode
- 405 nm, 200 mW
- Singlemode
- 3.8 mm TO-Can, Flat Window



### Description

**RLT405200MGS** is a **InAlGaIn** based singlemode Laser Diode emitting at typical 405 nm with rated output power of 200 mW CW at room temperature. The 3.8 mm TO package includes a cap and flat window. **RLT405200MGS** comes **without monitor PD**.

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

Parameter	Symbol	Values		Unit
		Min.	Max.	
Optical Output	$P_O$		250	mW
Reverse Voltage	$V_R$		5	V
Operating Temperature	$T_{OPR}$	- 0	+ 70	$^{\circ}C$
Storage Temperature	$T_{STG}$	- 40	+ 80	$^{\circ}C$
Soldering Temperature (max. 3s)	$T_{SOL}$		+ 260	$^{\circ}C$



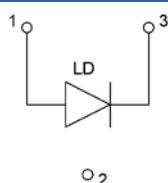
### Electro-Optical Characteristics ( $T_{CASE} = 25^{\circ}C, P_O = 200mW$ )

Parameter	Symbol	Values			Unit	
		Min.	Typ.	Max.		
<b>Peak Wavelength</b>	$\lambda_P$	<b>400</b>	<b>405</b>	<b>410</b>	<b>nm</b>	
Operating Voltage	$V_F$		5.2	6.0	V	
Threshold Current	$I_{th}$		45	60	mA	
Operating Current	$I_F$		170	210	mA	
Slope Efficiency	$\eta$	1.0	1.6	1.9	mW/mA	
Beam Divergence (FWHM)	parallel	$\theta_{  }$	7	9	12	deg.
	perpendicular	$\theta_{\perp}$	16	19	24	deg.
Deviation Angle	parallel	$\Delta\theta_{  }$	-2		2	deg.
	perpendicular	$\Delta\theta_{\perp}$	-2.5		2.5	deg.

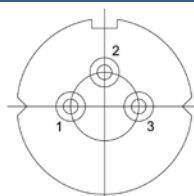
### Electrical Connection

#### Pin Configuration

Pin #	Function
Pin 1	Anode
Pin 2	Cathode
Pin 3	Case / NC



#### Bottom View

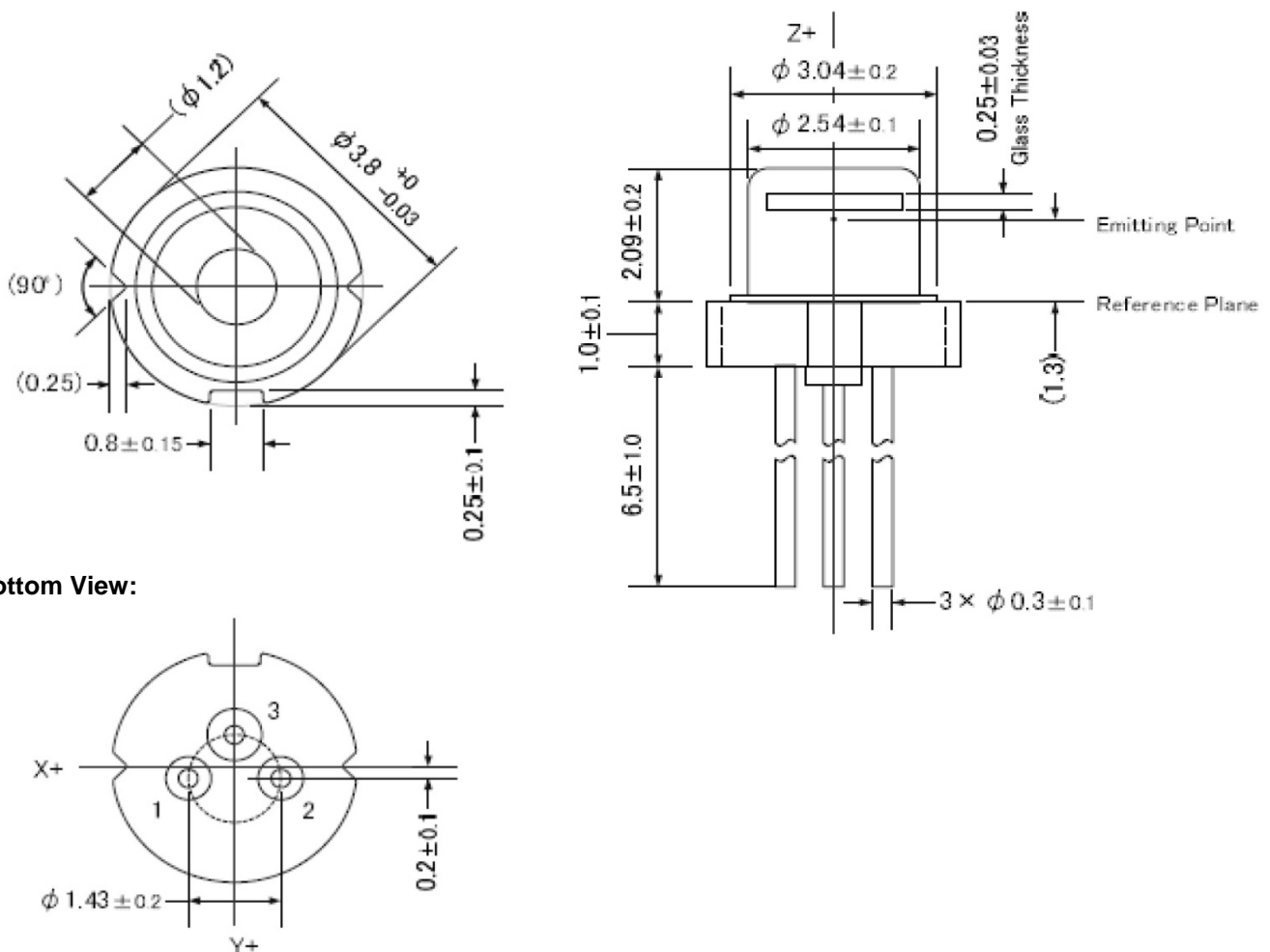




## Material

Component	Material	Finish
LD chip	InAlGaN	/
Stem	Fe, Cu	Au-plated
Cap	Kovar	Ni-plated
Window glass	Borosilicated glass	/
Lead pins	Kovar	Au-plated

## 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**