



RLT425-50CMG

- Violet Radiation Source
- 425 nm \pm 2nm
- 50 mW CW
- 5.6mm TO, without PD



Description

RLT425-50CMG is a violet laser diode emitting at 425 nm with rated output power of 50 mW CW at room temperature, in standard 5.6mm TO package.

Maximum Ratings

Parameter	Symbol	Values		Unit
		Min.	Max.	
Optical Output Power	P_O		50	mW
Operating Temperature	T_{CASE}	+10	+30	°C
Storage Temperature	T_{STG}	-40	+80	°C
Soldering Temperature	T_{SOLD}		260	°C

Laser Characteristics ($T_{CASE} = 25^{\circ}\text{C}$, $P_O = 1\text{ W}$)

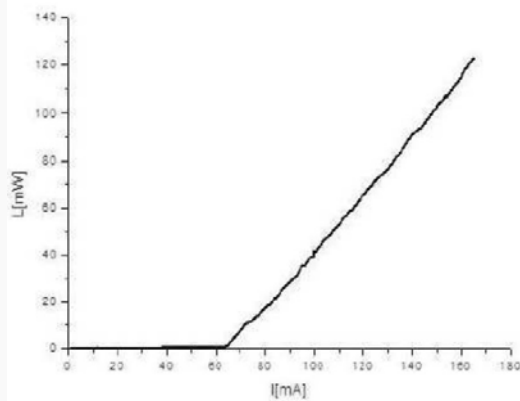
Parameter	Symbol	Min.	Values		Unit
			Typ.	Max.	
Emission Wavelength	λ_{peak}	423	425	427	nm
Spectral Width	$\Delta\lambda$		0.5	1	nm
Polarization			TE		
Threshold Current	I_{th}	40	70	150	mA
Operating Current	I_F	100	120	200	mA
Operating Voltage	V_F	4.8	5.2	5.9	V
Beam Divergence (FWHM)	$\theta_{ } \times \theta_{\perp}$	6x15	10x20	13x25	deg.
Beam Pointing Accuracy (FWHM)	$\Delta\theta_{ } / \Delta\theta_{\perp}$	18 / 8	-	25 / 14	deg.
Slope Efficiency	η	0.5	0.7	1.2	W/A
Expected Life Time*	T_L		2000		h

*life time calculation based on 10mW operation

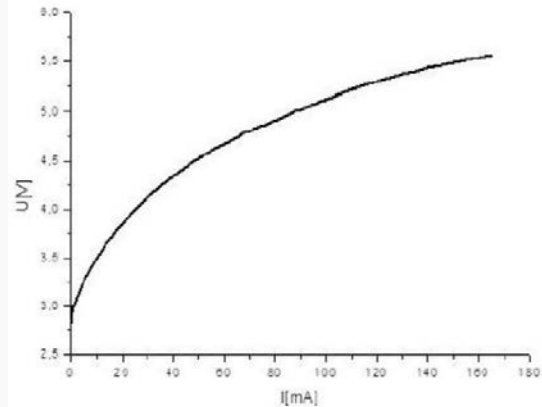


Performance Characteristics

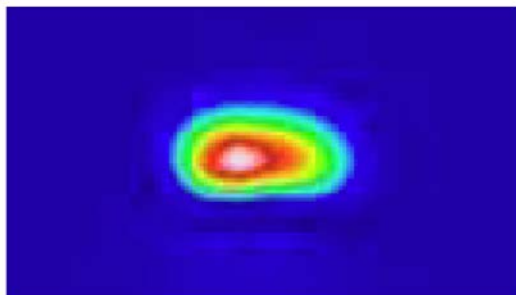
Output Power vs. Forward Current



Forward Voltage vs. Forward Current

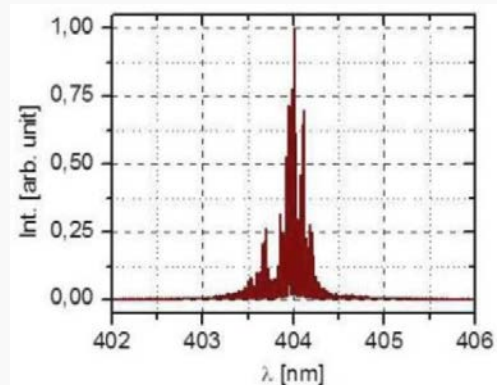


Near Field Pattern



Beam diameter 1.3x2.0mm @ 20cm distance

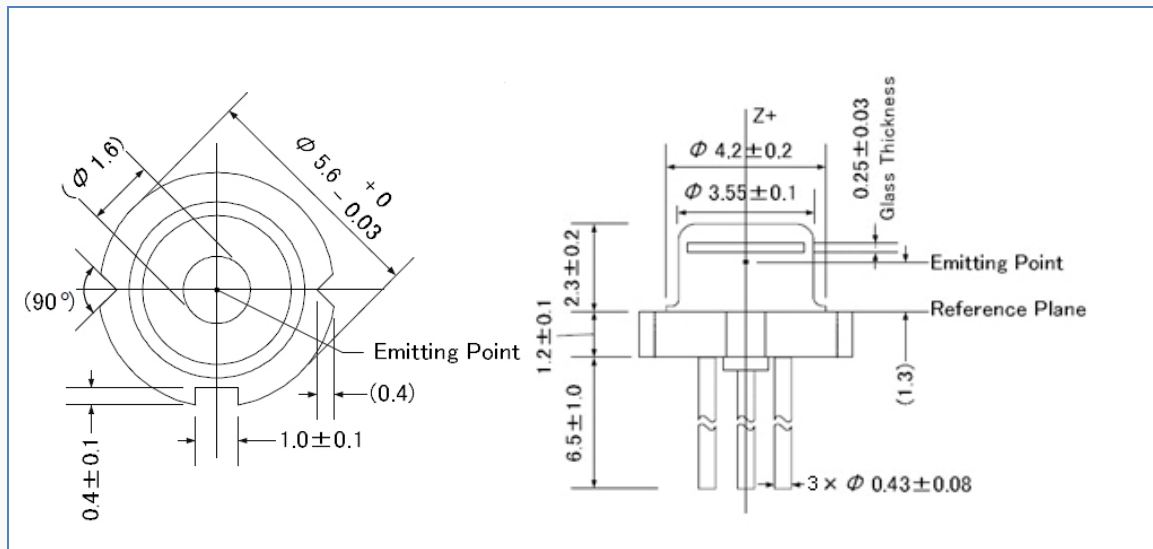
Spectrum



spectrum recorded from RLT405-50CMG



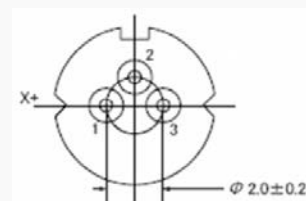
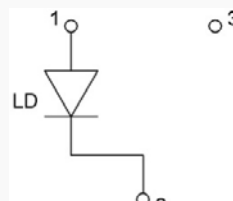
Drawing



All dimensions in mm

Electrical Connection

Lead	Description
Pin 1	LD anode
Pin 2	LD cathode
Pin 3	not connected



View from below, dimensions in mm

ESD Caution

Always do handle laser diodes with extreme caution to prevent electrostatic discharge, the primary cause of unexpected diode failure. ESD failures can be prevented by always wearing wrist straps, only using a grounding workplace, and following strict anti-static guidelines when handling the laser diode





Safety Advice

This laser diode emits highly concentrated ultra violet light which can be **hazardous to the human eye**. This diode is classified as **Class 3B laser product** according to **IEC 60825-1** and **21 CFR Part 1040.10 Safety Standards**. Actual laser light emitted and precautions necessary strongly depend on mode of operation.



This product is comply with 21 CFR Part 1040.10

Operating Considerations

Operating the laser diode outside of its maximum ratings may cause failure or a safety hazard. The diode may be damaged by excessive drive currents or switching transients. If the diode is operated using a power supply, it is strongly recommended to connect the diode with the output voltage set to zero. The voltage should then be increased slowly and with great caution, while at the same time carefully monitoring the laser diodes output power and drive current. The laser diode will show accelerated degradation with increased temperature, and it is advised to keep the case temperature low therefor, by means of heat sinking the device.

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