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RLT400-50CMG

- *Ultra Violet Radiation Source*
- *400 nm ± 2nm*
- *50 mW CW*
- *5.6mm TO, without PD*

Complies with RoHS 2002/95/WE directive

Description

RLT400-50CMG is an Ultra Violet Laser Diode emitting at 400 nm with rated output power of 50 mW CW at room temperature, in standard 5.6mm TO package.

Maximum Ratings

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

Laser Characteristics (T_{CASE} = 25°C, P_O = 50 mW)

Parameter	Symbol	Values Min.	Values Typ.	Values Max.	Unit
Emission Wavelength	λ_{peak}	398	400	402	nm
Spectral Width	$\Delta\lambda$		0.5	1	nm
Polarization			TE		
Threshold Current	I_{th}	40	70	100	mA
Operating Current	I_F	100	120	150	mA
Operating Voltage	V_F	4.8	5.2	5.9	V
Beam Divergence (FWHM)	ΘII x $\Theta\perp$	6x15	10x20	13x25	deg.
Beam Pointing Accuracy (FWHM)	$\Delta\Theta_{II}$ / $\Delta\Theta_{\perp}$	8 / 18	-	14 / 25	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*

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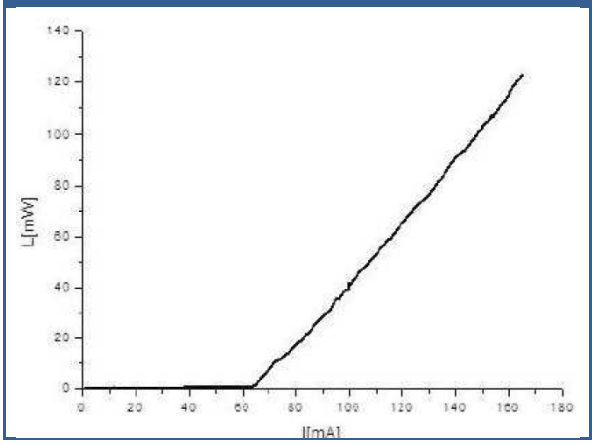
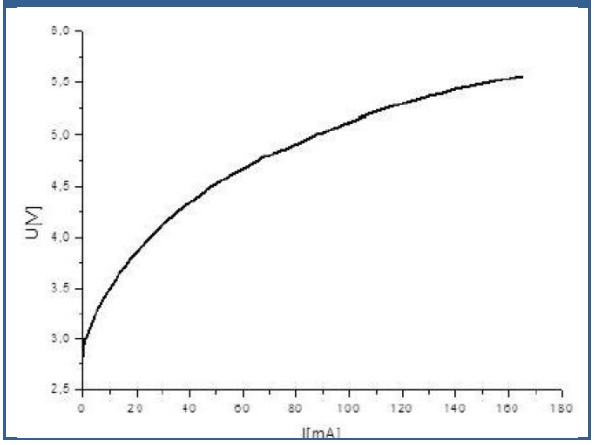
Performance Characteristics

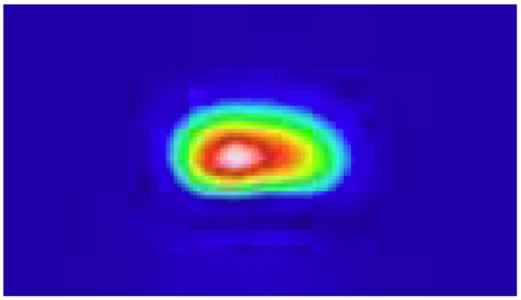
Output Power vs. Forward Current



Forward Voltage vs. Forward Current

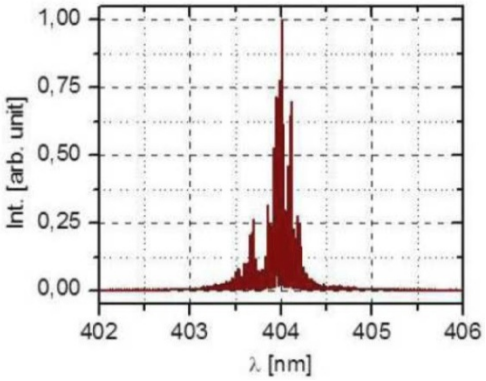


Near Field Pattern



Beam diameter 1.3x2.0mm @ 20cm distance

Spectrum



spectrum recorded from RLT405-50CMG

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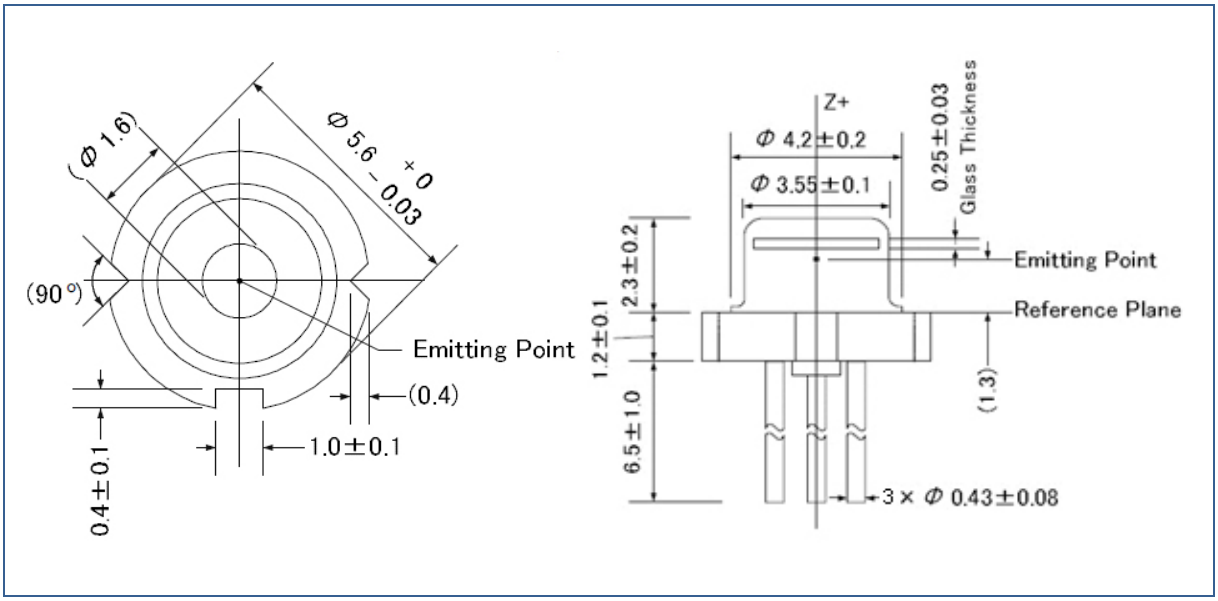
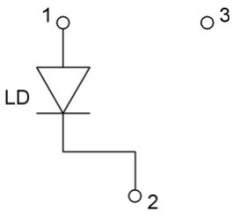
Drawing

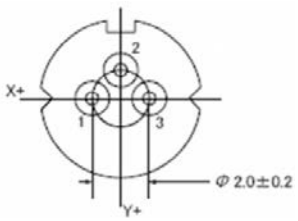


Dimensions in mm

Electrical Connection

Lead	Description
Pin 1	LD Anode
Pin 2	LD Cathode
Pin 3	Not connected





View from below, dimensions in mm

Mounting Instruction

In order to maintain lifetime and stability of the laser diode it is essential to provide efficient heat management. Heat dissipation is possible through the base plate only. For long time stable operation proper contact between laser diode base plate and heat sink is mandatory

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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