ROITHNER LASERTECHNIK
Wiedner Hauptstraße 76, A-1040 Vienna, Austria
Tel.: ++43 1 586 52 43-0, Fax -44, office@roithner-laser.com

RLT635- Series, *C-mount / TO-3*

TECHNICAL DATA

635nm High Power Laser Diode

Features

- CW Output Power: 150 mW, 300 mW, 500 mW
- High Reliability
- High Efficiency
- TO Package or C-Mount

Applications

- Medical Usage
- Pointer
- Laser Display

Specifications (25°C)

Type	RLT635-150-x			RLT635-300-x			RLT635-500-x			Unit
	Min.	*Typ.*	*Max.*	*Min.*	*Typ.*	*Max.*	*Min.*	*Typ,*	*Max.*	
Optical Specification										
CW Output Power P_O	-	150	-	-	300	-	-	500	-	W
Center Wavelength λ_C	630	635	642	630	635	642	630	635	642	nm
Spectral Width $\Delta\lambda$	-	1	2.5	-	1	2.5	-	1	2.5	nm
Emitting Area	-	100x1	-	-	100x1	-	-	150x1	-	µm
Wavelength Temperature Coefficient	-	0.25	-	-	0.25	-	-	0.25	-	nm/°C
Beam Divergence $\theta_\perp \times \theta_\parallel$	-	-	40x10	-	-	40x10	-	-	40x10	deg
Polarization		TM			TM			TM		
Electrical Specification										
Slope Efficiency E_S	0.80	0.90	-	0.80	0.90	-	0.8	0.95	-	W/A
Threshold Current I_{th}	-	400	450	-	550	620	-	750	850	mA
Operation Current I_O	-	600	650	-	850	1000	-	1250	1350	mA
Operation Voltage V_f	-	2.1	2.3	-	2.1	2.3	-	2.1	2.3	V
Series Resistance R_d	-	-		-	-		-	-	-	Ω
Package Style		TO3 / C-Mount			TO3 / C-Mount					
Absolute Maximum Ratings										
Operating Temperature T_O		10 … 25			10 … 25			10 … 25		°C
Storage Temperature T_{Stg}		-40 … 85			- 40 … 85			- 40 … 85		°C

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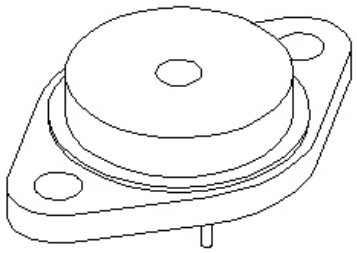
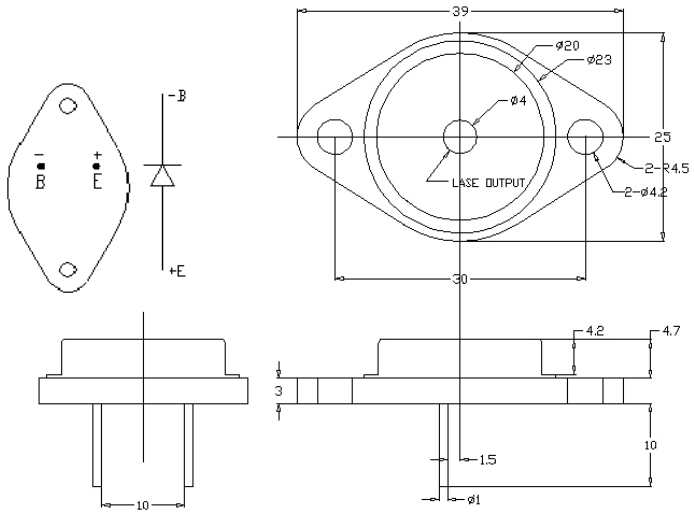
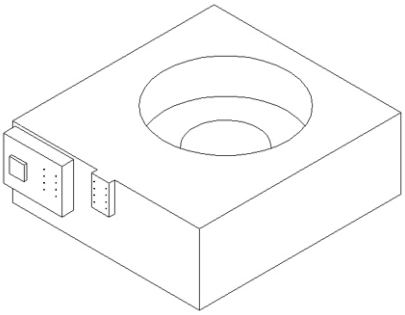
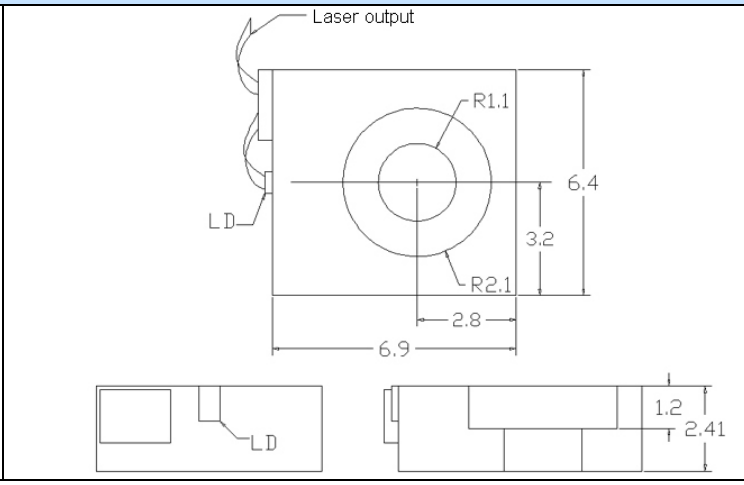
Package Dimensons

TO-3 Package (*Unit:mm*)	
	
C-mount (*Unit:mm*)	
	

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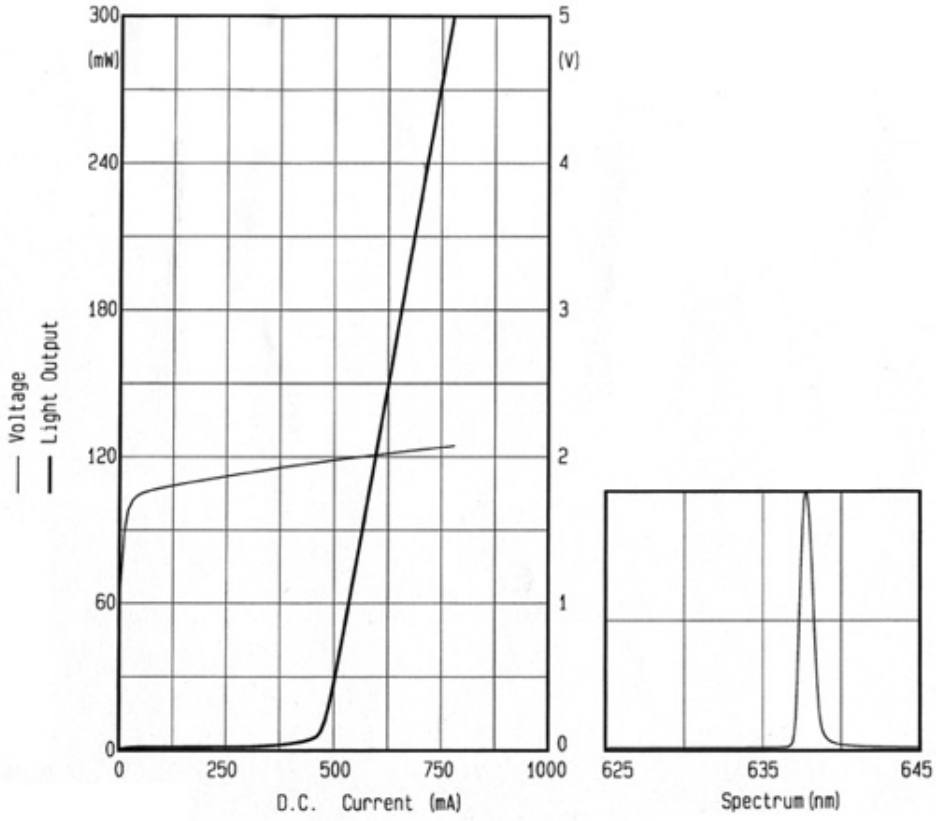
Typical Performance Curves



Notes

1. The 635nm high power laser diode radiated high power red beam .Don't look at the laser light directly, because it's harmful to eyes.
2. High-power semiconductor laser diodes are temperature-sensitive devices. The high temperature will effect the performance of the products. The lifetime can also be shortened by high temperature. So the generated heat must be removed in time when the LD working. The water cooling system or TEC system are recommended for keeping the LD at a suitable temperature.
3. Increase the current gradually to the specified operating value. For shutting down the laser diode, please decrease the current to zero gradually, and then turn off the power. Pleaser sure that the power supply have no current overshoot at any time. High power laser diodes could operate in forward voltage. The reverse current and voltage should not be higher than 25 mA and 3 V, respectively.
4. Be careful to keep the facet cleaning and prevent mechanical transmission. Contamination of facet will result in rapid degradation of devices. The chip of LD is fragile. Please do not use any hard thing to touch the chip.
5. The high power laser diode arrays are very sensitive to electrostatic. Please wear anti-static bracelet during operating with the laser diodes.
6. The operating temperature should be controlled at –10°C … ~70°C. A clean, dry and ventilated environment should be available when storing and operation. Dew can damage the laser diodes. Please check the model number of the laser diodes before you take it, and ensure the appearance test.

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