



RLT850-150GS

TECHNICAL DATA



High Power Infrared Laser Diode

Features

- Lasing Mode Structure: single mode
- Peak Wavelength : typ. 852 nm
- Optical Output Power: 150 mW
- Package: 9 mm



Electrical Connection

| Pin Configuration | Bottom View | | | | | | | | |
|--|------------------------|----------|---|----------|---|------------------------|---|----------|--|
| <p><i>n-type</i></p> <table border="1"> <thead> <tr> <th>PIN</th> <th>Function</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>LD Anode</td> </tr> <tr> <td>2</td> <td>LD Cathode, PD Cathode</td> </tr> <tr> <td>3</td> <td>PD Anode</td> </tr> </tbody> </table> | PIN | Function | 1 | LD Anode | 2 | LD Cathode, PD Cathode | 3 | PD Anode | |
| PIN | Function | | | | | | | | |
| 1 | LD Anode | | | | | | | | |
| 2 | LD Cathode, PD Cathode | | | | | | | | |
| 3 | PD Anode | | | | | | | | |

Absolute Maximum Ratings ($T_C=25^\circ\text{C}$)

| Item | Symbol | Value | Unit |
|----------------------------|-------------|-------------|------------------|
| CW Output Power | P_O | | mW |
| LD Reverse Voltage | $V_{R(LD)}$ | | V |
| PD Reverse Voltage | $V_{R(PD)}$ | | V |
| Operating Case Temperature | T_C | -20 ... +50 | $^\circ\text{C}$ |
| Storage Temperature | T_{stg} | -40 ... +80 | $^\circ\text{C}$ |

Specifications ($T_C=25^\circ\text{C}$)

| Item | Symbol | Min. | Typ. | Max. | Unit |
|---------------------------------|------------------|--------|-------|------|---------------|
| Optical Specification | | | | | |
| CW Output Power | P_O | - | 150 | - | mW |
| Peak Wavelength | λ_P | 847 | 852 | 857 | nm |
| Spectral Width (FWHM) | $\Delta\lambda$ | - | 0.5 | 2.0 | nm |
| FWHM Beam Divergence | $\theta_{ }$ | - | 8 | 10 | deg |
| | θ_{\perp} | - | 18 | 23 | deg |
| Emitting Aperture | W x H | | 5 x 1 | | μm |
| Lifetime | | 100000 | - | - | hour |
| Electrical Specification | | | | | |
| Threshold Current | I_{th} | - | 20 | 40 | mA |
| Operating Current | I_{op} | - | 170 | 220 | mA |
| Slope Efficiency | η | 0.9 | 1.0 | - | W/A |
| Operating Voltage | V_{op} | - | 1.9 | 2.2 | V |
| Monitor Current | I_m | | | | mA |

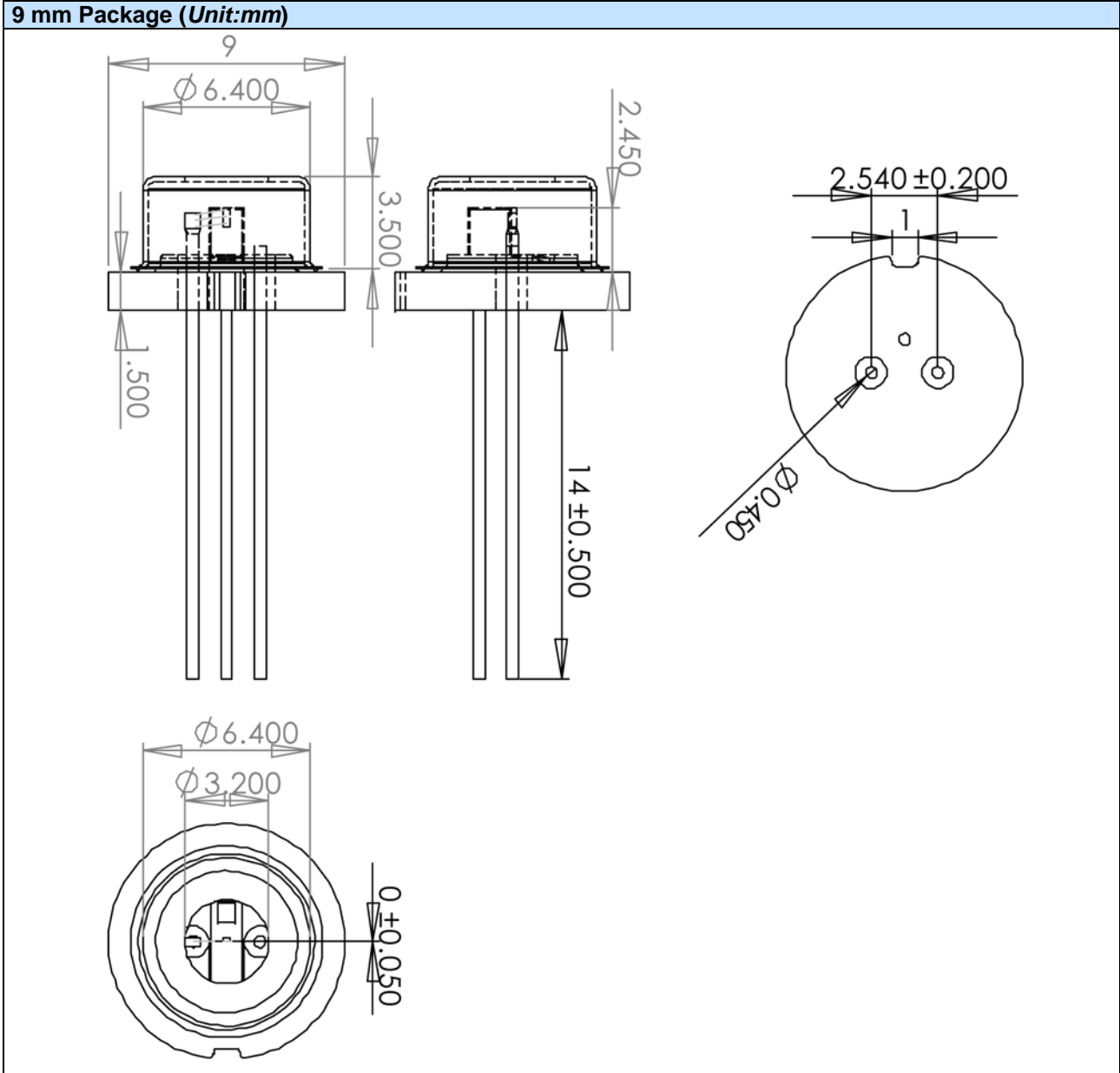
The above specifications are for reference purpose only and subjected to change without prior notice.





Package Dimensions

9 mm Package (Unit:mm)

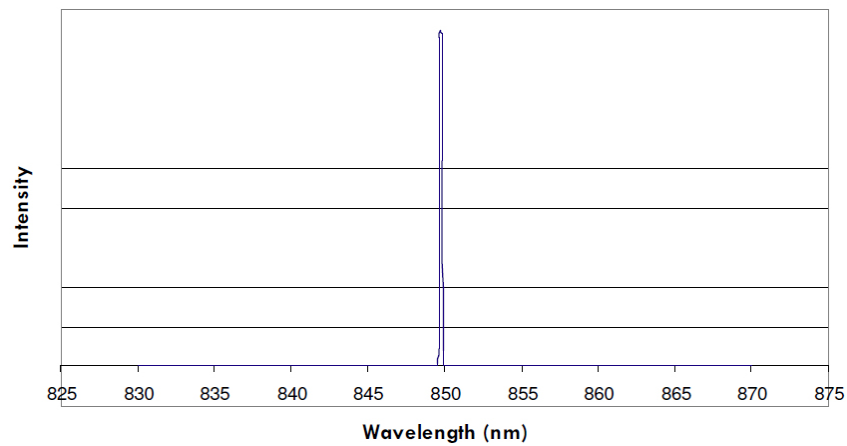




Typical Performance Curves

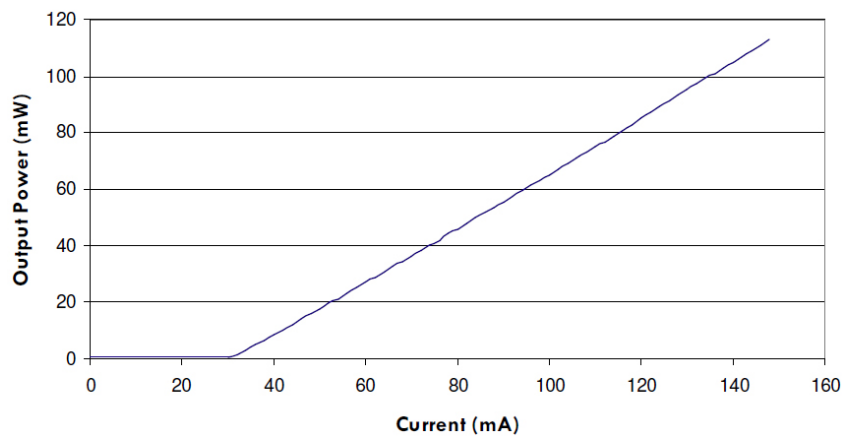
Spectrum

850nm 150mW Single Mode Spectrum



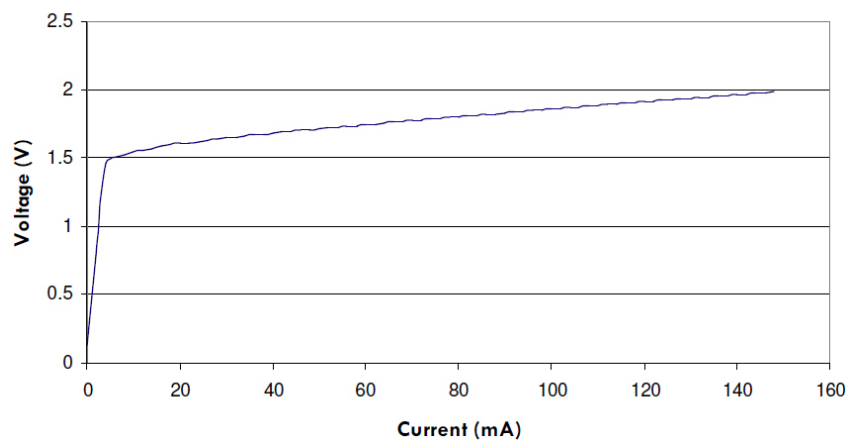
Operation Current vs. Output Power

850nm Single Mode LI



Operation Current vs. Operation Voltage

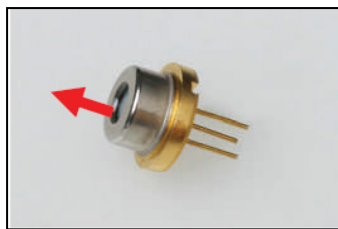
850nm 150mW Single Mode VI





Safety of Laser light

- Laser Light can damage the human eyes and skin. Do not expose the eye or skin directly to any laser light and/or through optical lens. When handling the LDs, wear appropriate safety glasses to prevent laser light, even any reflections from entering to the eye. Focused laser beam through optical instruments will increase the chance of eye hazard.
- **WARNING: Laser diode is emitting invisible light**



Cautions

1. Operating method

- This LD shall change its forward voltage requirement and optical output power according to temperature change. Also, the LD will require more operation current to maintain same output power as it degrades.
- Confirm that electrical spike current generated by switching on and off does not exceed the maximum operating current level specified herein above as absolute maximum rating. Also, employ appropriate countermeasures to reduce chattering and/or overshooting in the circuit.

2. Static Electricity

- Static electricity or electrical surges will reduce and degrade the reliability of the LDs. It is recommended to use a wrist trap or anti-electrostatic glove when handling the product.

3. Absolute Maximum Rating

- Active layer of LDs shall have high current density and generate high electric field during its operation. In order to prevent excessive damage, the LD must be operated strictly below absolute maximum rating.