

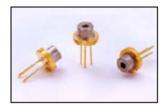
# ROITHNER LASERTECHNIK GIRDH

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# RLT8505MG

## **TECHNICAL DATA**



# **Infrared Laser Diode**

### **Features**

AlGaAs laser diode

Peak Wavelength: 850 nmOptical Ouput Power: 5 mW

Package: 5.6 mm, with photo diode



### **Electrical Connection**

| F     | Pin Configuration      | Bottom View  |
|-------|------------------------|--|
| 10 03 | n-type                 | BOTTON   |
| + 🗘   | PIN Function           | 3 1  |
| LD PD | 1 LD Cathode           | $\rightarrow$ $\oplus$ $+$ $\oplus$ $\leftarrow$ $-$ |
| 100   | 2 LD Anode, PD Cathode |  |
|       | 3 PD Anode             | 2  |
| °2    |                        | 11   |

## Absolute Maximum Ratings (T<sub>C</sub>=25°C)

| Item                       | Symbol              | Value   | Unit |
|----------------------------|---------------------|---------|------|
| CW Output Power            | Po                  | 5       | mW   |
| LD Reverse Voltage         | V <sub>R</sub> (LD) | 2       | V    |
| PD Reverse Voltage         | V <sub>R</sub> (PD) | 30      | V    |
| Operating Case Temperature | T <sub>C</sub>      | -10 +40 | °C   |
| Storage Temperature        | T <sub>sta</sub>    | -40 +85 | °C   |

## Specifications (T<sub>C</sub>=25°C)

| Item                      | Symbol               | Min. | Тур. | Max. | Unit |  |  |
|---------------------------|----------------------|------|------|------|------|--|--|
| Optical Specifications    |                      |      |      |      |      |  |  |
| CW Output Power           | Po                   | ı    | 5    |      | mW   |  |  |
| Peak Wavelength *         | $\lambda_{P}$        | 845  | 850  | 855  | nm   |  |  |
| FWHM Beam Divergence      | $\Theta_{\parallel}$ | 8    | 10   | 11   | deg  |  |  |
| FWHIVI Beam Divergence    | θ⊥                   | 25   | 30   | 40   | deg  |  |  |
| Electrical Specifications |                      |      |      |      |      |  |  |
| Threshold Current         | I <sub>th</sub>      | 5    | 10   | 15   | mA   |  |  |
| Operating Current         | I <sub>op</sub>      | 15   | 20   | 25   | mA   |  |  |
| Slope Efficiency          | η                    | 0.4  | 0.5  | 0.55 | W/A  |  |  |
| Operating Voltage         | $U_{op}$             | 1.8  | 1.9  | 2.0  | V    |  |  |
| Monitor Current           | I <sub>m</sub>       | 0.3  | 0.5  | 1.0  | mA   |  |  |

<sup>\*</sup> Measuring specifications.

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



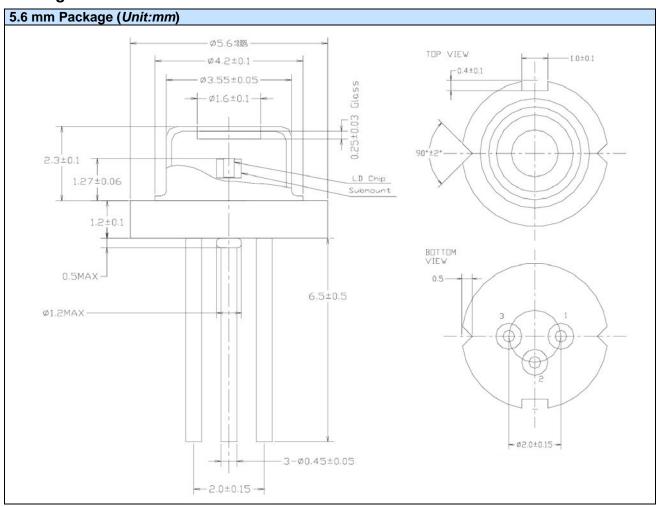
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## Package Dimensons



### **Cautions**

### 1. Operating methode

- This LD shall change its forward voltage requirement and optical ouput power according to temperature change. Also, the LD will require more operation current to maintain same ouput power as it degrades. In order to maintain output power, use of APC (Automatic Power Control) is recommended. Which use monitor feedback to adjust the operation current.
- 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 appropriat 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 handeling 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.