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# RLT1480-20G

- **Infrared Laser Diode**
- **1480 ±10 nm, 20 mW**
- **Single Mode**
- **9 mm TO-Can**

RoHS COMPLIANT

## Description

**RLT1480-20G** is an infrared single mode laser diode, based on InGaAsP / InP-heterostructure, typical emitting at **1480 nm** and featuring an **integrated PD**. It comes in 9 mm TO-Can package, with AR coated window, AIN carrier and AuSn bonding, hermetically sealed and plated gold over nickel pins.

## Absolute Maximum Ratings

| Parameter | Symbol | Values | Unit |
|---|---|---|---|
| Optical Output Power | $P_O$ | 25 | mW |
| Operating Current | $I_{OP}$ | 145 | mA |
| PD Offset Voltage | $V_{REV\ max}$ | 9.0 | V |
| PD Monitor Current | $I_{M\ max}$ | 1.0 | mA |
| Operating Temperature | $T_{CASE}$ | -0 – +40 | °C |
| Storage Temperature | $T_{STG}$ | -40 – +70 | °C |
| Soldering Temperature * | $T_{SLD}$ | 200 | °C |

* must be completed within 3 seconds

## Electro-Optical Characteristics

$T_{CASE}$ = 25°C

| Parameter | Symbol | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|
| Peak Wavelength * | $\lambda_P$ | 1470 | 1480 | 1490 | nm |
| Spectral Width (FWHM) | $\Delta\lambda$ | | 4 | 6 | nm |
| Optical Output Power | $P_O$ | | 20 | | mW |
| Emitter Size | | | 5.0 x 1 | | µm |
| Operating Voltage | $V_{OP}$ | | 1.5 | 2.0 | V |
| Threshold Current | $I_{TH}$ | | 30 | 35 | mA |
| Operating Current | $I_{OP}$ | | | 120 | mA |
| PD Monitor Current | $I_M$ | 20 | | | µA |
| PD Sensitivity | $S$ | 0.2 | | | µA/mW |
| PD Reverse Voltage | $V_{PD}$ | | 5.0±0.5 | | V |
| Beam Divergence, Parallel (FWHM) | $\Theta\parallel$ | | | 10 | deg. |
| Beam Divergence, Perpendicular (FWHM) | $\Theta\perp$ | | | 45 | deg. |
| Lifetime (25°C, $I_{OP}$, CW) | | >10000 | | | hour |

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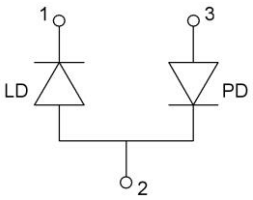
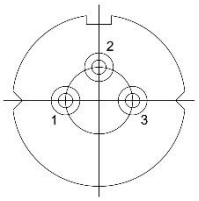
## Pin Configuration

| Pin | Description |
|---|---|
| 1 | LD Cathode |
| 2 | LD Anode, PD Cathode |
| 3 | PD Anode |

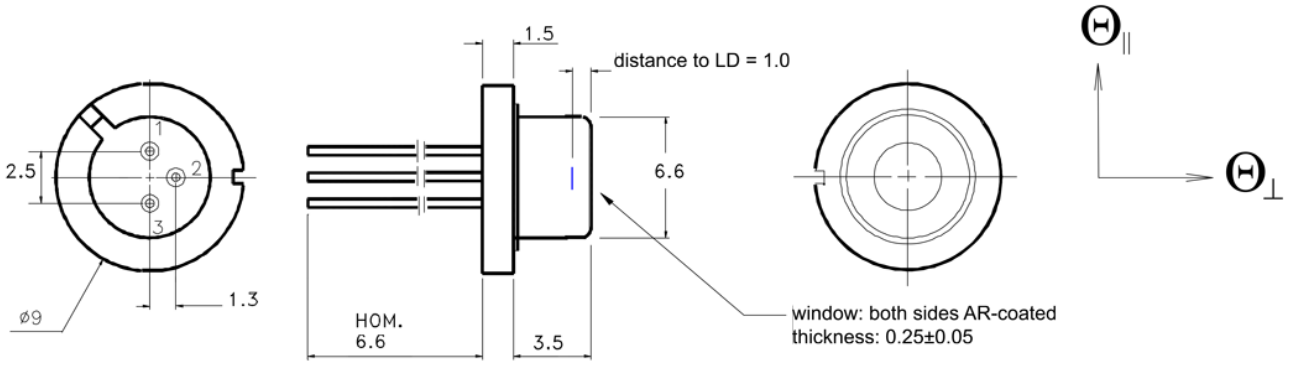


bottom view

## Outline Dimensions

### 9 mm TO-can




**Dimensions: mm**

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# Precautions

## Safety

**Warning: This LD is emitting invisible laser radiation!**

**Caution:** Laser light emitted from any laser diode may be harmful to the human eye. Avoid looking directly into the laser diode's aperture when the diode is in operation.

**Note:** The use of optical lenses with this laser diode will increase eye hazard.


## ESD Caution

Always do handle laser diodes with extreme care to prevent electrostatic discharge, the primary cause of unexpected diode failure. To prevent ESD related failures, it is strongly advised to always wearing wrist straps, and grounding all applicable work surfaces, when handling laser diodes.

## Operating Considerations

It is strongly advised to only operate this laser diode with a current source. The current of a laser diode is an exponential function of the voltage across it. Usage of current regulated drive circuits is mandatory. Laser diodes may be damaged by excessive drive currents or switching transients.

It is advised, to operate the laser diode at the lowest temperature possible, and to never exceed maximum specifications as outlined in the datasheet. Device degradation will accelerate with increased temperature. Proper heat sinking will greatly enhance stability and life time of the laser diode.