# 850nm 15mW 60°C Laser Diode in TO-33 ϕ3.3mm Package

Part No. LD850G15A16

## FEATURES

- 850nm 15mW CW GaAs Laser Diode
- Package: TO-33 (dia. 3.3mm)
- TE mode oscillation
- Single transverse mode
- Attractive light source

## APPLICATIONS

- Sensor
- Industrial optical module

## ABSOLUTE MAXIMUM RATINGS

| Parameter | Symbol | Condition | Rating | Unit |
|---|---|---|---|---|
| Optical output power | $P_O$ | CW | 18 | mW |
| Reverse voltage (LD) | $V_{RL}$ | - | 10 | V |
| Operating temperature | $T_{opr}$ | - | -10 to +60 | °C |
| Storage temperature | $T_{stg}$ | - | -40 to +85 | °C |

## ELECTRICAL AND OPTICAL CHARACTERISTICS ($T_C$ = 25 °C)

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Conditions |
|---|---|---|---|---|---|---|
| Lasing wavelength | $\lambda_p$ | 845 | 850 | 855 | nm | $P_O$ = 15mW |
| Spectral width | $\Delta\lambda$ | - | 2 | 3 | nm | $P_O$ = 15mW |
| Threshold current | $I_{th}$ | - | 30 | 40 | mA | |
| Operating current | $I_{op}$ | - | 45 | 55 | mA | $P_O$ = 15mW |
| Differential Efficiency | $\eta$ | 0.8 | 1.0 | 1.2 | mW/mA | |
| Operating voltage | $V_{op}$ | - | 2.2 | 2.4 | V | $P_O$ = 15mW |
| Monitor current | $I_m$ | 0.05 | 0.15 | 0.4 | mA | $P_O$ = 15mW |
| Parallel divergence angle | $\Theta_{//}$ | 6 | 8 | 12 | deg | $P_O$ = 15mW |
| Perpendicular divergence angle | $\Theta_{\perp}$ | 16 | 19 | 24 | deg | $P_O$ = 15mW |
| Parallel FFP deviation angle | $\Delta\Theta_{//}$ | -3 | 0 | +3 | deg | $P_O$ = 15mW |
| Perpendicular FFP deviation angle | $\Delta\Theta_{\perp}$ | -3 | 0 | +3 | deg | $P_O$ = 15mW |
| Polarization | $P_{pr}$ | - | Fast axis (TE) | - | - | |
| Modulation frequency | $F_M$ | 200 | - | - | MHz | |
| Emission point accuracy | Δx Δy Δz | -60 | 0 | +60 | um | |

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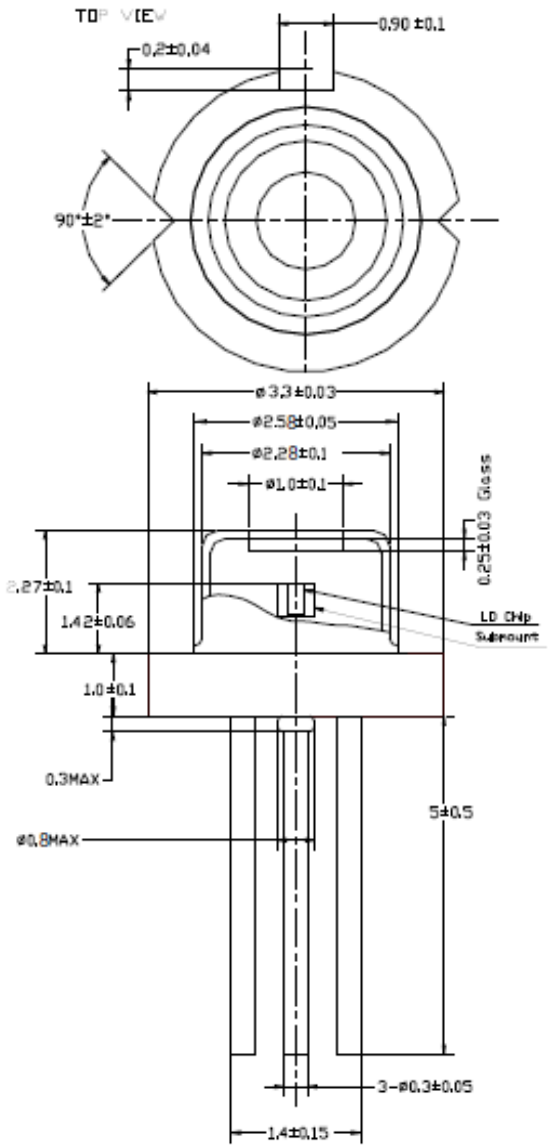
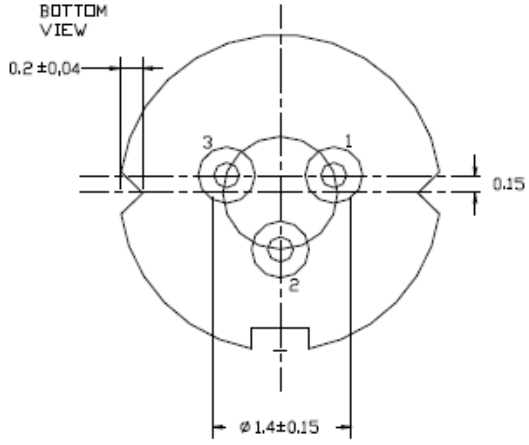
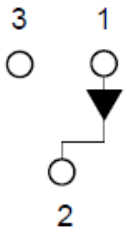
## MECHANICAL OUTLINE (unit: mm)




**Pin Configuration**




## ADDITIONAL NOTES

- Do not operate the device above maximum ratings. Doing so may cause unexpected and permanent damage to the device.
- Take precautions to avoid electrostatic discharge and/or momentary power spikes. A change in the characteristics of the laser or premature failure may result.
- Proper heat sinking of the device assures stability and lifetime. Always ensure that maximum operating temperatures are not exceeded.
- Observing visible or invisible laser beams with human eye directly, or indirectly, can cause permanent damage. Use a camera to observe the laser.
- No laser device should be used in any application or situation where life or property is at risk in the event of device failure.
- Specifications are subject to change without notice. Ensure that you have the latest specification by contacting us prior to purchase or use of the product.

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