

## 940nm 400mW 60°C Laser Diode in TO-18 $\phi$ 5.6mm Package

Part No. LD940A400C16

### FEATURES

- 940nm 400mW laser diode
- Package: TO-18 (5.6mm)
- Single transverse/TE mode

### APPLICATIONS

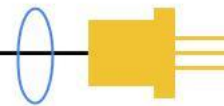
- Sensor
- Industrial optical module

### ABSOLUTE MAXIMUM RATINGS

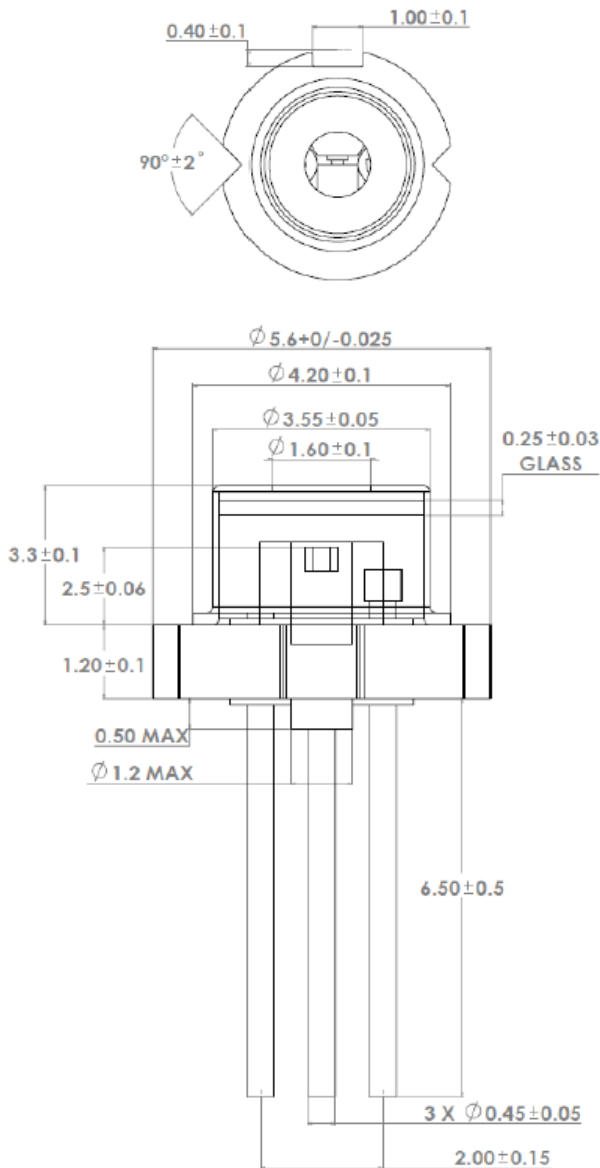
Parameter	Symbol	Rating	Unit
Optical output power	$P_O$	400	mW
Reverse voltage (LD)	$V_{RL}$	2	V
Reverse voltage (PD)	$V_{RD}$	30	V
Operating temperature	$T_{opr}$	-10 to +60	°C
Storage temperature	$T_{stg}$	-40 to +85	°C

### ELECTRICAL AND OPTICAL CHARACTERISTICS ( $T_C = 25^\circ\text{C}$ )

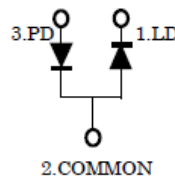
Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Lasing wavelength	$\lambda$	930	940	955	nm	$P_O = 400\text{mW}$
Threshold current	$I_{th}$	-	60	110	mA	-
Operating current	$I_{op}$	-	450	550	mA	$P_O = 400\text{mW}$
Operating voltage	$V_{op}$	1.8	2.1	2.5	V	$P_O = 400\text{mW}$
Slope efficiency	$\eta$	0.7	1.0	1.2	mW/mA	$P_O = 400\text{mW}$
Monitor current	$I_m$	0.1	0.6	1.5	mA	$P_O = 400\text{mW}$
Parallel divergence angle	$\theta_{//}$	6	8	12	deg	$P_O = 400\text{mW}$ FWHM
Perpendicular divergence angle	$\theta_{\perp}$	12	18	24	deg	$P_O = 400\text{mW}$ FWHM
Parallel FFP deviation angle	$\Delta\theta_{//}$	-3	-	+3	deg	$P_O = 400\text{mW}$
Perpendicular FFP deviation angle	$\Delta\theta_{\perp}$	-3	-	+3	deg	$P_O = 400\text{mW}$
Optical distance	$\Delta x \Delta y \Delta z$	-80	-	+80	um	



**MECHANICAL OUTLINE (unit: mm)**



**Pin Configuration**



\*Other pin configurations may be available upon request.

**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.