

850nm 250mW 60°C Laser Diode in TO-18 ϕ 5.6mm Package

Part No. LD850A250C16

FEATURES

- 850nm 250mW laser diode
- Package: TO-18 (5.6mm)
- Small far field angle

APPLICATIONS

- Light source for sensing device
- LIDAR (Light detection & ranging)
- 3D sensing with laser

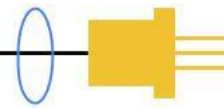
ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Rating	Unit
Optical output power	P_O	270	mW
Reverse voltage (PD)	V_{RD}	5	V
Forward current (PD)	I_{FD}	10	mA
Operating temperature	T_{opr}	-10 to +60	°C
Storage temperature	T_{stg}	-40 to +85	°C

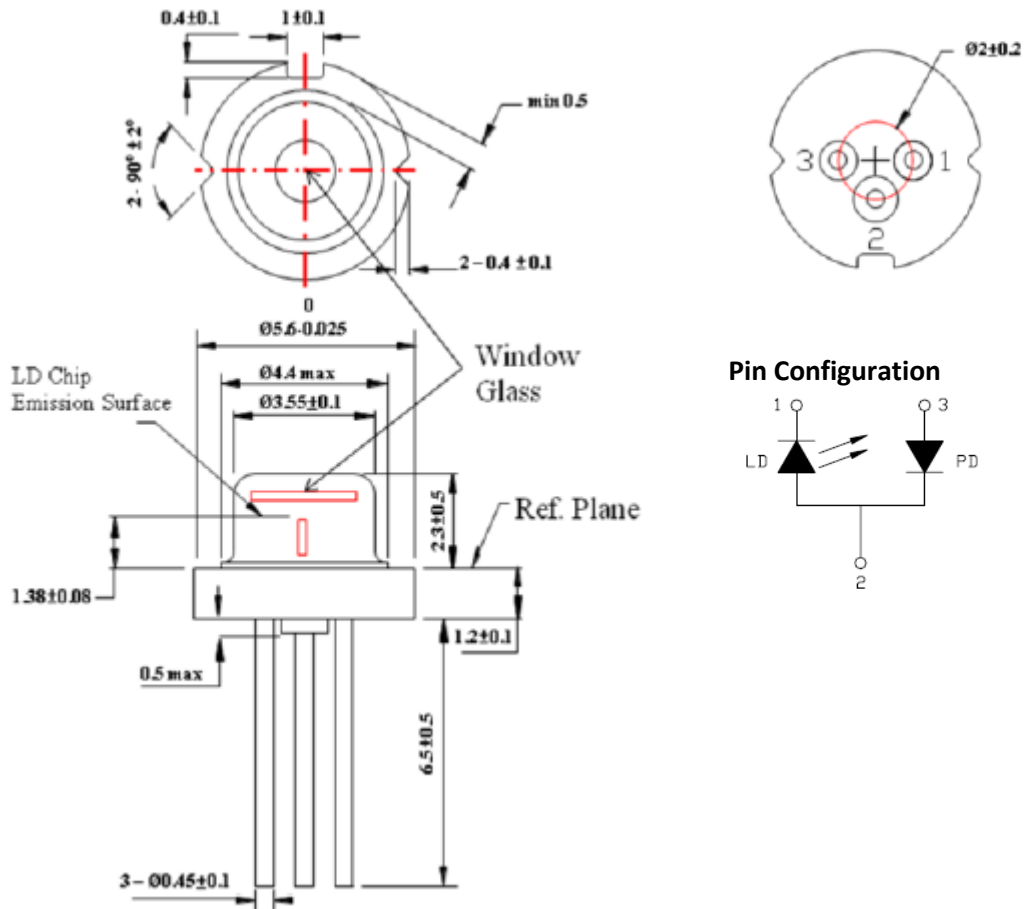
ELECTRICAL AND OPTICAL CHARACTERISTICS ($T_c = 25^\circ\text{C}$)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Peak wavelength	λ	840	850	860	nm	$P_O = 250\text{mW}$
Threshold current	I_{th}	-	65	90	mA	$P_O = 250\text{mW}$
Operating current	I_{op}	-	310	360	mA	$P_O = 250\text{mW}$
Operating voltage	V_{op}	-	1.9	2.4	V	$P_O = 250\text{mW}$
Slope efficiency	η	0.9	1.0	-	mW/mA	$P_O = 200\text{-}250\text{mW}$
Monitor current	I_m	0.5	1.1	1.8	mA	$P_O = 250\text{mW}$, $V_{RD} = 5\text{V}$
Parallel divergence angle	$\Theta_{//}$	6	8	13	deg	$P_O = 250\text{mW}$
Perpendicular divergence angle	Θ_{\perp}	12	17	22	deg	$P_O = 250\text{mW}$
Parallel FFP deviation angle	$\Delta \Theta_{//}$	-3	0	3	deg	$P_O = 250\text{mW}$
Perpendicular FFP deviation angle	$\Delta \Theta_{\perp}$	-3	0	3	deg	$P_O = 250\text{mW}$
Emission point accuracy	$\Delta x \Delta y \Delta z$	-80	0	80	um	$P_O = 250\text{mW}$

*Sufficient heat dissipation is required for CW operation.



MECHANICAL OUTLINE (unit: mm)



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.