

850nm 50mW 50°C Laser Diode in TO-18 ϕ 5.6mm Package

Part No. LD850A50C15

FEATURES

- 850nm 50mW CW AlGaAs Laser Diode
- Package: TO-18 (dia. 5.6mm)
- Low operation current
- Cost-effective

APPLICATIONS

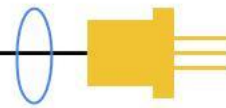
- Bar-code scanner
- Laser printer
- Sensing

ABSOLUTE MAXIMUM RATINGS

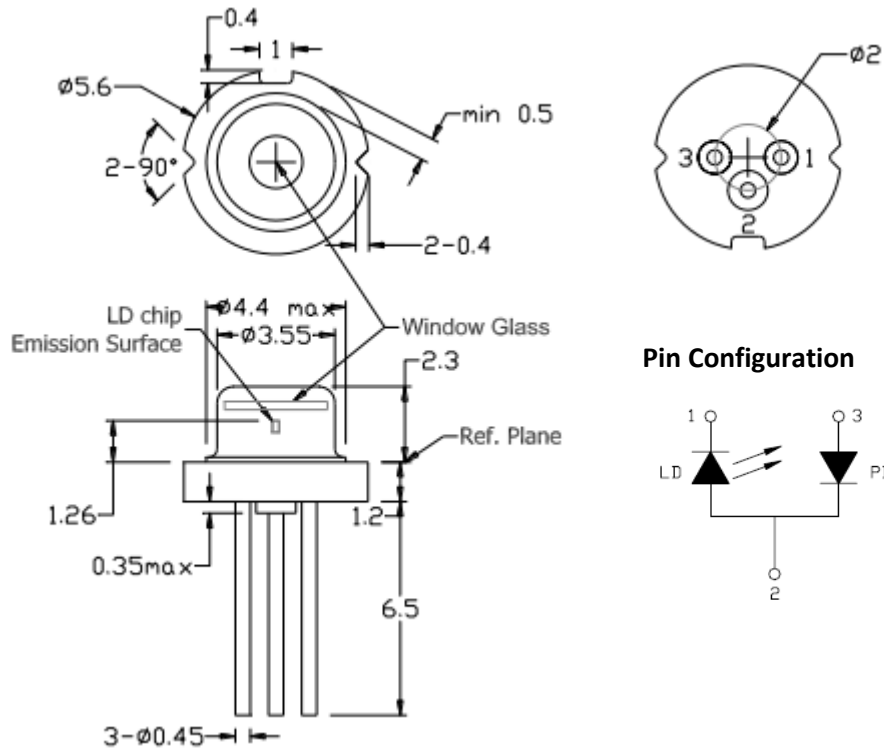
Parameter	Symbol	Condition	Rating	Unit
Optical output power	P_O	CW	50	mW
Reverse voltage (LD)	V_{RL}	-	2	V
Reverse Voltage (PD)	V_{RD}	-	30	V
Forward current (PD)	I_{FD}	-	10	mA
Operating temperature	T_{opr}	-	-10 to +50	°C
Storage temperature	T_{stg}	-	-40 to +85	°C

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Lasing wavelength	λ_p	840	850	860	nm	$P_O = 50\text{mW}$
Threshold current	I_{th}	-	25	30	mA	$P_O = 50\text{mW}$
Operating current	I_{op}	-	95	105	mA	$P_O = 50\text{mW}$
Monitor Current	I_m	0.2	0.5	1.0	mA	$P_O = 50\text{mW}$, $V_{RD} = 5\text{V}$
Differential Efficiency	η	0.7	0.8	1.0	mW/mA	$P_O = 10\text{-}50\text{mW}$
Operating voltage	V_{op}	-	1.8	2.4	V	$P_O = 50\text{mW}$
Parallel divergence angle	$\theta_{//}$	6	9	12	deg	$P_O = 50\text{mW}$
Perpendicular divergence angle	θ_{\perp}	26	30	35	deg	$P_O = 50\text{mW}$
Parallel FFP deviation angle	$\Delta\theta_{//}$	-3	0	+3	deg	$P_O = 50\text{mW}$
Perpendicular FFP deviation angle	$\Delta\theta_{\perp}$	-3	0	+3	deg	$P_O = 50\text{mW}$
Emission point accuracy	$\Delta x \Delta y \Delta z$	-80	0	+80	um	$P_O = 50\text{mW}$



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.