



## LD850A50C15

850nm 50mW 50°C CW Laser Diode in  $\varnothing$ 5.6mm TO-18 Can Package

## Description

The Lasermate LD850A50C15 is an 850nm, 50mW laser diode in a  $\varnothing$ 5.6mm, TO-can package and with operating temperature of 50°C. The laser diode is suitable as compact light source for many applications.

## Features

- 850nm AlGaAs Infrared laser diode
- Optical output power: 50mW CW
- Operating temperature: +50°C
- Low operation current
- Cost-effective
- Package: TO-18 (dia. 5.6mm)

## Applications

- Bar-code scanner
- Laser printer
- Sensing

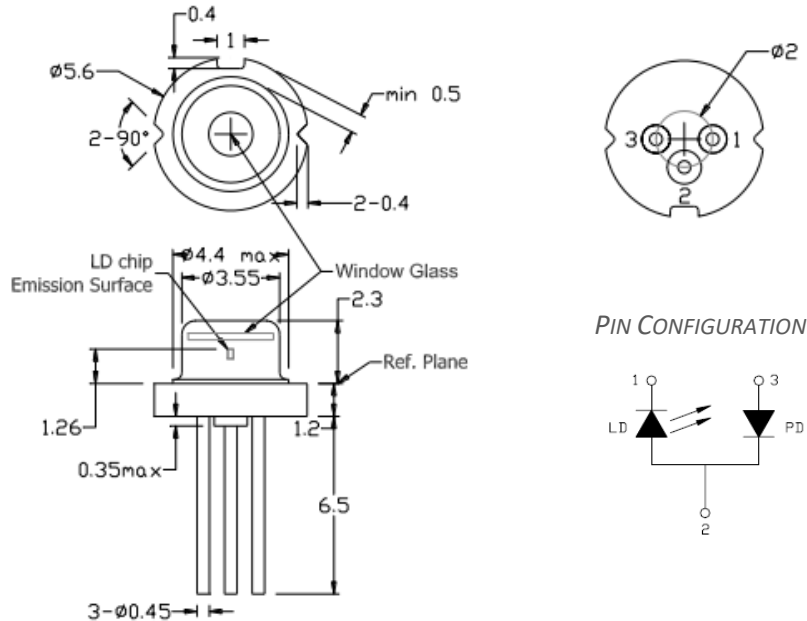
## Absolute Maximum Ratings

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	$\lambda_p$	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	$\eta$	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	$\Theta_{\perp}$	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.