



## LD635A10C15

635nm 10mW 50°C CW Laser Diode in  $\varnothing$ 5.6mm TO-18 Can Package

## Description

The Lasermate LD635A10C15 is a 635nm, 10mW laser diode in a  $\varnothing$ 5.6mm, TO-18 can package and with operating temperature of 50°C. The laser diode is suitable for many applications, including industrial laser markers, high visibility LD display, and survey and engineering instruments.

## Features

- 635nm Visible Laser Diode
- Optical output power: 10mW CW
- Operating temperature: +50°C
- High reliability
- Low operating current
- MTTF (Mean Time to Failure): >18000hrs @ 25°C and >4000hrs @ 50°C
- Package:  $\varnothing$ 5.6mm, TO-18 can

## Applications

- Industrial laser markers
- Survey and engineering instruments
- High visibility LD display

## Absolute Maximum Ratings

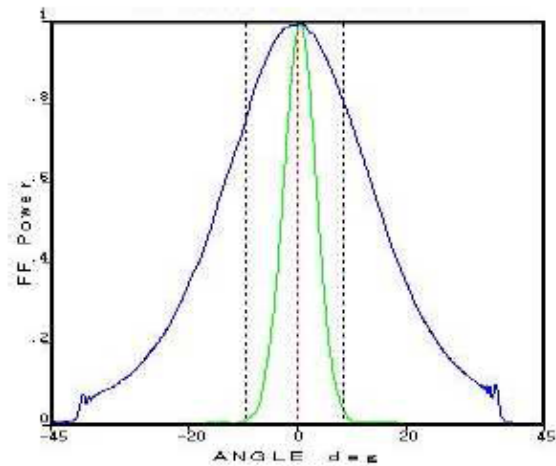
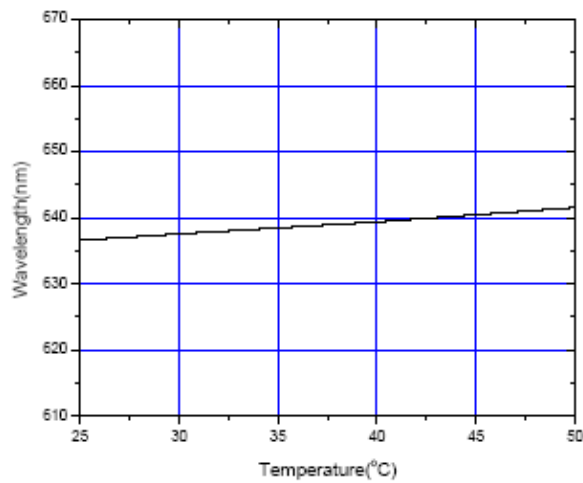
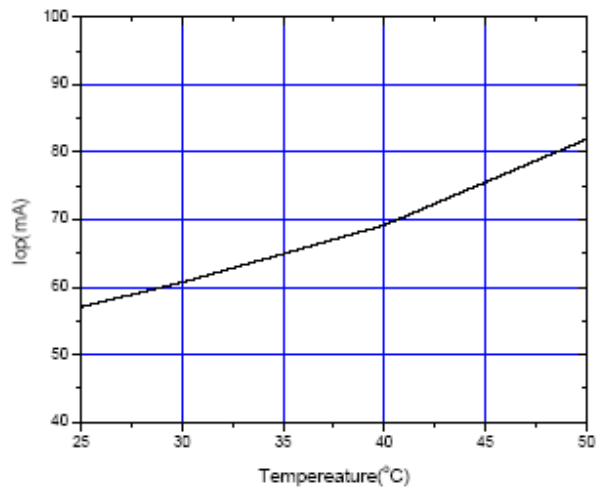
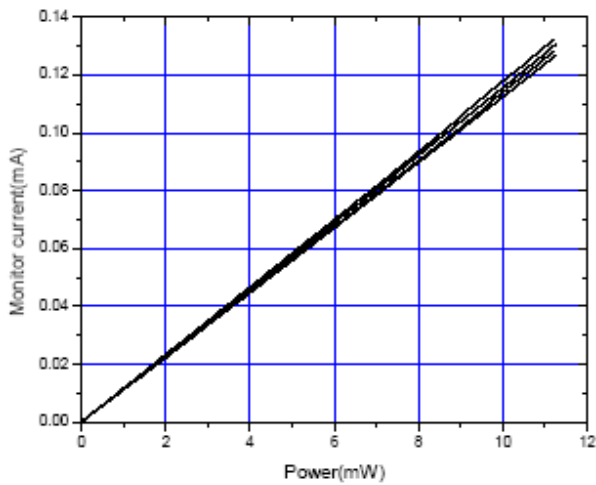
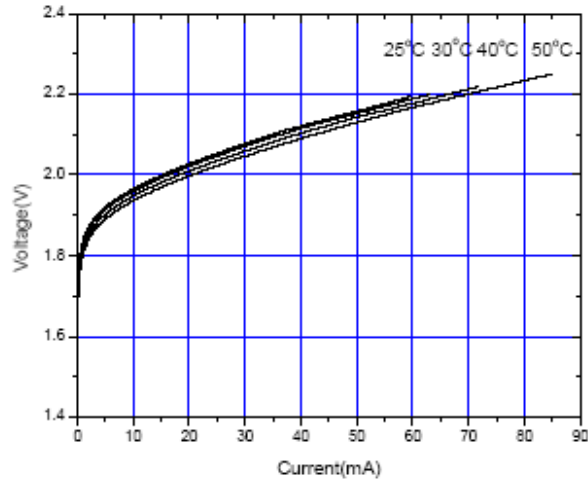
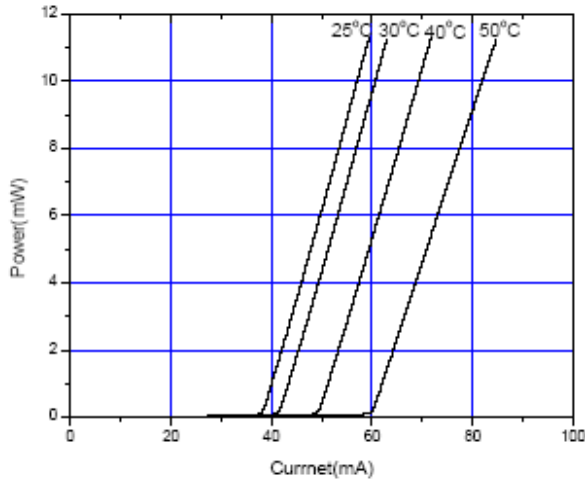
PARAMETER	SYMBOL	CONDITION	RATING	UNIT
Light output power	$P_O$	CW	12	mW
Reverse voltage (LD)	$V_{RL}$	-	2	V
Reverse voltage (PD)	$V_{RD}$	-	30	V
Forward current (PD)	$I_{FD}$	-	10	mA
Case temperature	$T_C$	-	-10 to +50	°C
Storage temperature	$T_S$	-	-40 to +85	°C

Electrical and Optical Characteristics ( $T_C = 25^\circ\text{C}$ )

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS
Peak wavelength	$\lambda$	630	637	642	nm	$P_O = 10\text{mW}$
Threshold current	$I_{th}$	-	35	40	mA	
Operating current	$I_{op}$	-	55	65	mA	$P_O = 10\text{mW}$
Operating voltage	$V_{op}$	2	2.2	2.5	V	$P_O = 10\text{mW}$
Differential efficiency	$\eta$	0.25	0.6	0.85	mW/mA	$P_O = 5\text{-}10\text{mW}$
Monitor current	$I_m$	0.05	0.12	0.5	mA	$P_O = 10\text{mW}$ , $V_{RD} = 5\text{V}$
Parallel divergence angle	$\Theta_{//}$	6	7.5	11	deg	$P_O = 10\text{mW}$
Perpendicular divergence angle	$\Theta_{\perp}$	30	33	40	deg	
Parallel FFP deviation angle	$\Delta \Theta_{//}$	-2	0	+2	deg	
Perpendicular FFP deviation angle	$\Delta \Theta_{\perp}$	-2	0	+2	deg	
Emission point accuracy	$\Delta x \Delta y \Delta z$	-80	0	+80	um	

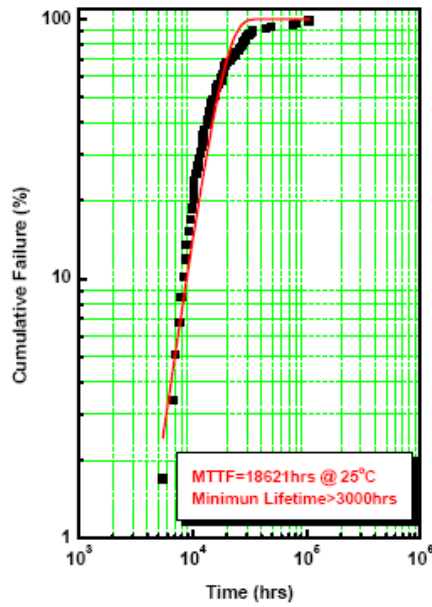
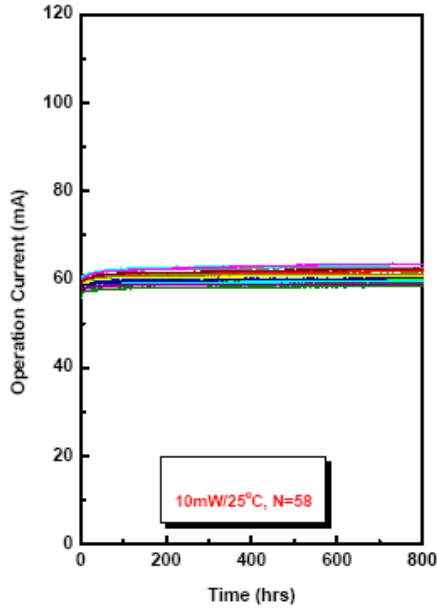


Typical Characteristics

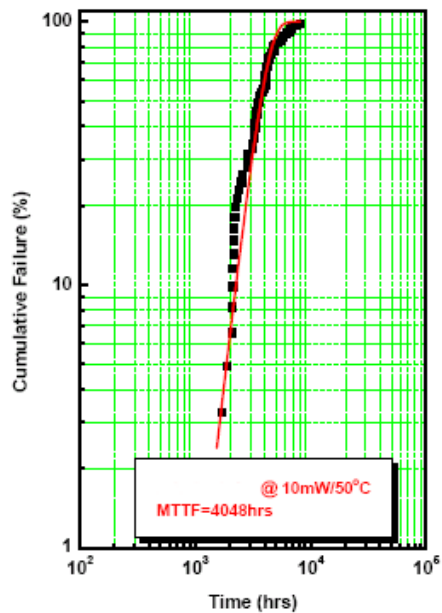
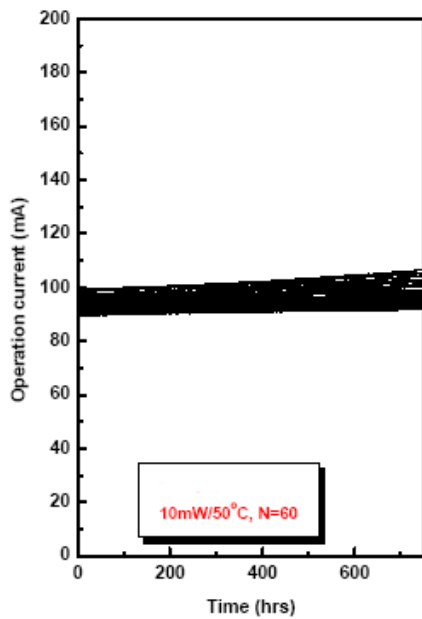




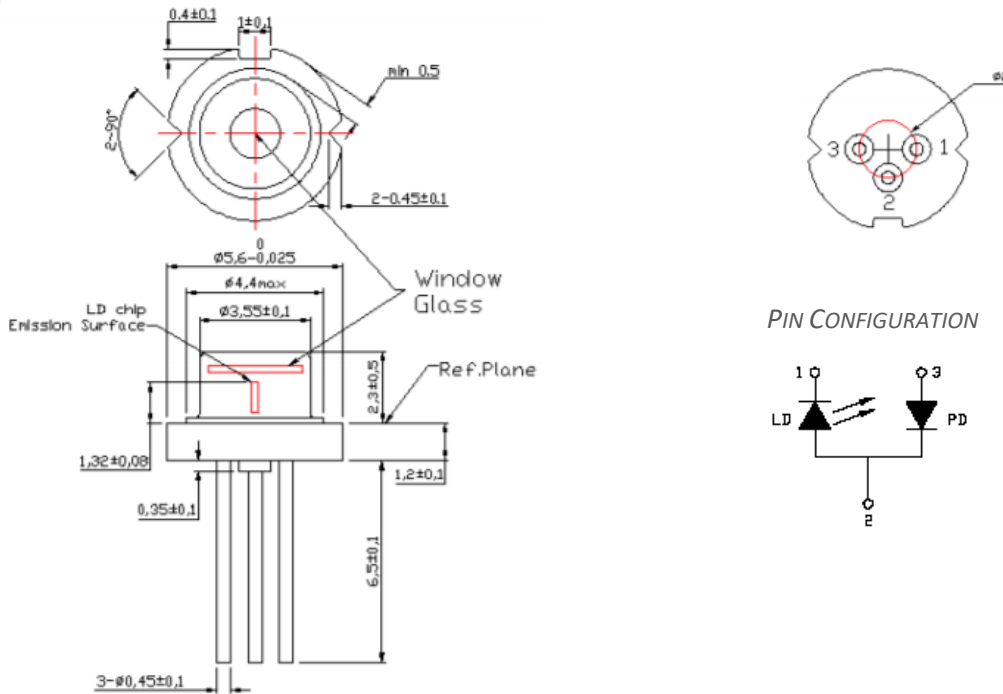
MTTF: 18621HRS @ 25°C



MTTF: 4048HRS @ 50°C



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.