



## LD650A5C15

## 650nm 5mW 50°C CW Laser Diode in ø5.6mm TO-18 Can Package

## Description

The Lasermate LD650A5C15 is a 650nm, 5mW laser diode in a ø5.6mm, TO-18 can package and with operating temperature of 50°C. The laser diode is suitable for many applications, including general purpose red laser light source, industrial laser markers/measuring instruments, and laser pointers.

## Features

- 650nm Visible Laser Diode
- Optical output power: 5mW CW
- High temperature operation: +50°C
- FFP single lateral mode
- High precision assembly
- High reliability
- Package: TO-18, ø5.6mm

## Applications

- General purpose red laser light source
- Industrial laser markers / measuring instruments
- Laser pointers

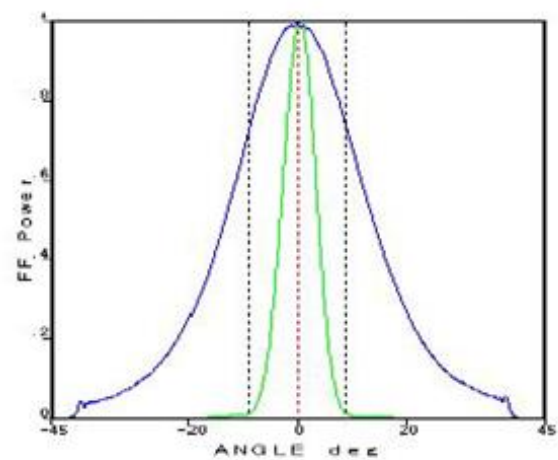
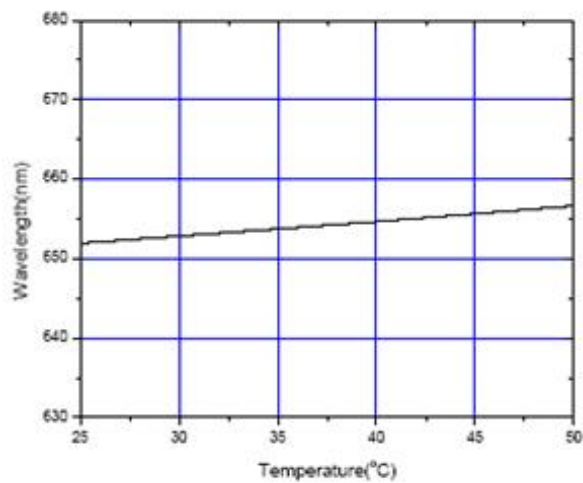
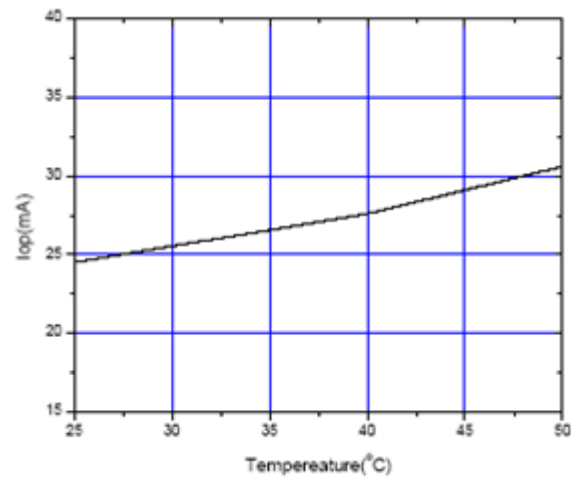
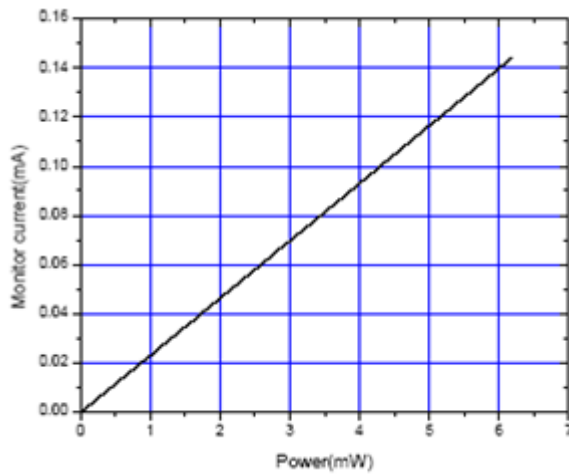
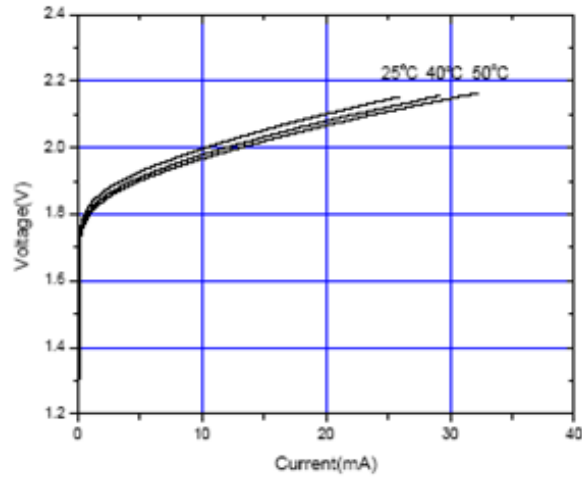
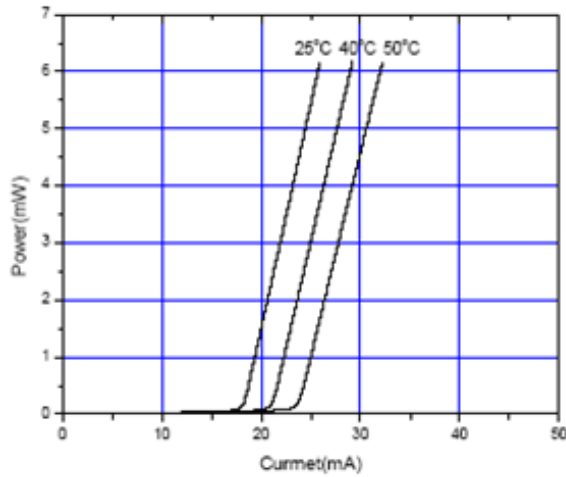
## Specifications

ABSOLUTE MAXIMUM RATINGS				
PARAMETER	SYMBOL	CONDITION	RATING	UNIT
Light output power	$P_O$	CW	7	mW
Reverse voltage (LD)	$V_{RL}$	-	2	V
Case temperature	$T_C$	-	-10 to +50	°C
Storage temperature	$T_S$	-	-40 to +85	°C

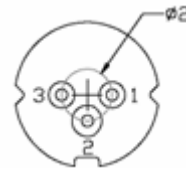
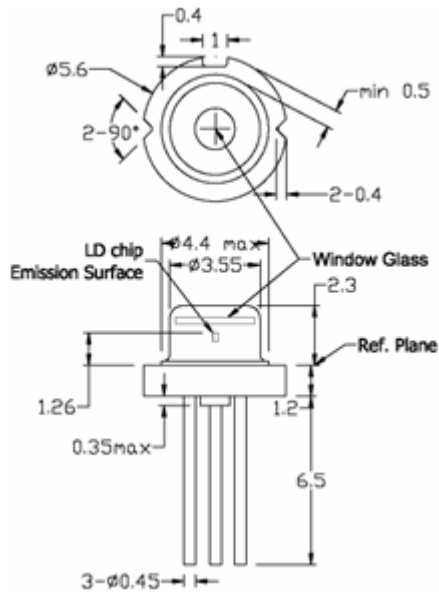
ELECTRICAL AND OPTICAL CHARACTERISTICS (TC = 25 °C)						
PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS
Peak wavelength	$\lambda$	645	655	660	nm	$P_O = 5mW$
Threshold current	$I_{th}$	-	18	25	mA	
Operating current	$I_{op}$	-	25	35	mA	$P_O = 5mW$
Operating voltage	$V_{op}$	-	2.2	2.5	V	$P_O = 5mW$
Differential efficiency	$\eta$	0.4	0.7	1.1	mW/mA	$P_O = 3-5mW$
Monitor current	$I_m$	0.05	0.2	0.4	mA	$P_O = 5mW, V_{RD} = 5V$
Parallel divergence angle	$\Theta_{//}$	6	9	11	deg	$P_O = 5mW$
Perpendicular divergence angle	$\Theta_{\perp}$	24	28	38	deg	
Parallel FFP deviation angle	$\Delta \Theta_{//}$	-3	0	+3	deg	
Perpendicular FFP deviation angle	$\Delta \Theta_{\perp}$	-3	0	+3	deg	
Emission point accuracy	$\Delta x \Delta y \Delta z$	-80	0	+80	um	



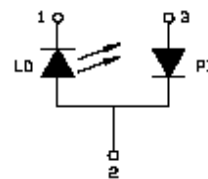
Typical Characteristics



Mechanical Outline (unit: mm)



PIN CONFIGURATION



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.