



## LD635D500C13

High Power 638nm 500mW Laser Diode in  $\varnothing$ 5.6mm TO-56 Package

## Description

The Lasermate LD635D500C13 is a high power 638nm, 500mW laser diode in a  $\varnothing$ 5.6mm, TO-can package. The laser diode is suitable as a light source for many applications, including laser display, PDT, biochemistry, military, medical/life and health science, and illumination.

## Features

- 635nm Visible Laser Diode
- Optical output power: 500mW CW
- High power
- High brightness
- Package: TO-56,  $\varnothing$ 5.6mm

## Applications

- Laser display
- PDT
- Biochemistry
- Military
- Medical/Life and health science
- Illumination

## Specifications

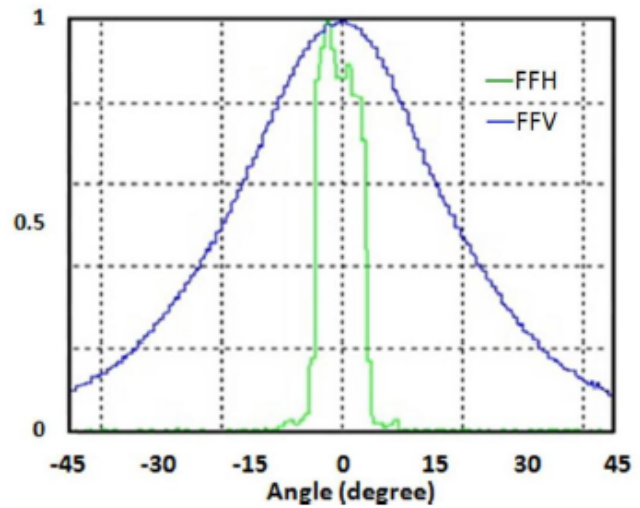
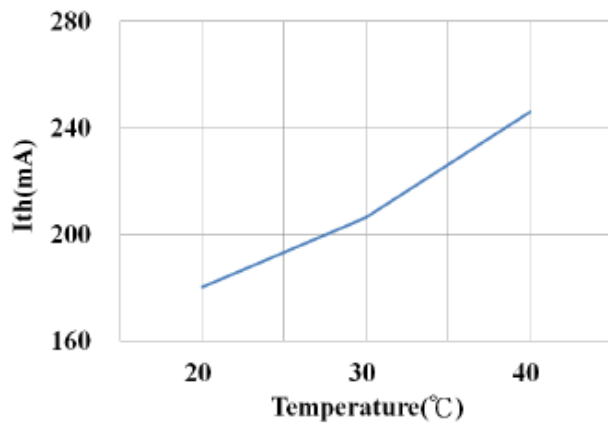
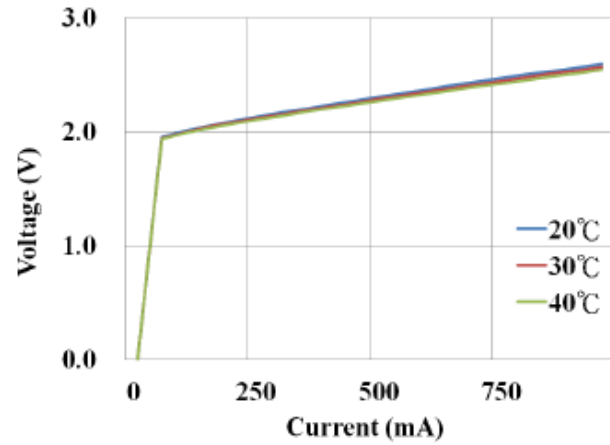
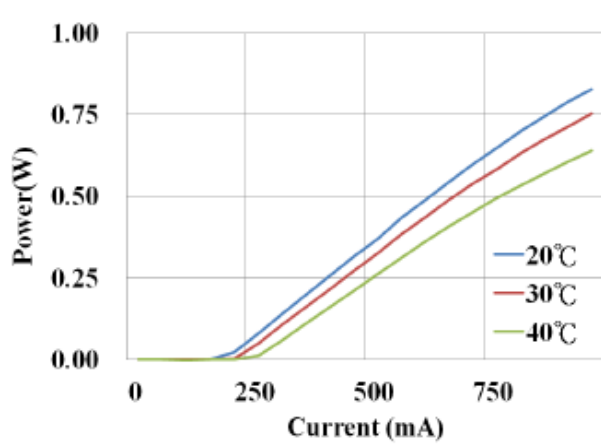
ABSOLUTE MAXIMUM RATINGS			
PARAMETER	SYMBOL	RATING	UNIT
Optical output power	$P_O$	500	mW
Reverse voltage (LD)	$V_{RL}$	2	V
Operating temperature	$T_{opr}$	-10 to +30	$^{\circ}$ C
Storage temperature	$T_{stg}$	-40 to +85	$^{\circ}$ C

ELECTRICAL AND OPTICAL CHARACTERISTICS (TC = 25 $^{\circ}$ C)						
PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS
Peak wavelength	$\lambda$	632	638	644	nm	$P_O = 500\text{mW}$
Polarization			TM			
Threshold current	$I_{th}$	-	200	300	mA	
Operating current	$I_{op}$	-	700	900	mA	$P_O = 500\text{mW}$
Operating voltage	$V_{op}$	1.9	2.5	3.0	V	$P_O = 500\text{mW}$
Slope efficiency	$\eta$	-	1.0	-	mW/mA	$P_O = 50\text{-}500\text{mW}$
Parallel divergence angle	$\Theta_{//}$	-	6	-	deg	$P_O = 500\text{mW}$
Perpendicular divergence angle	$\Theta_{\perp}$	25	36	45	deg	$P_O = 50\text{mW}$

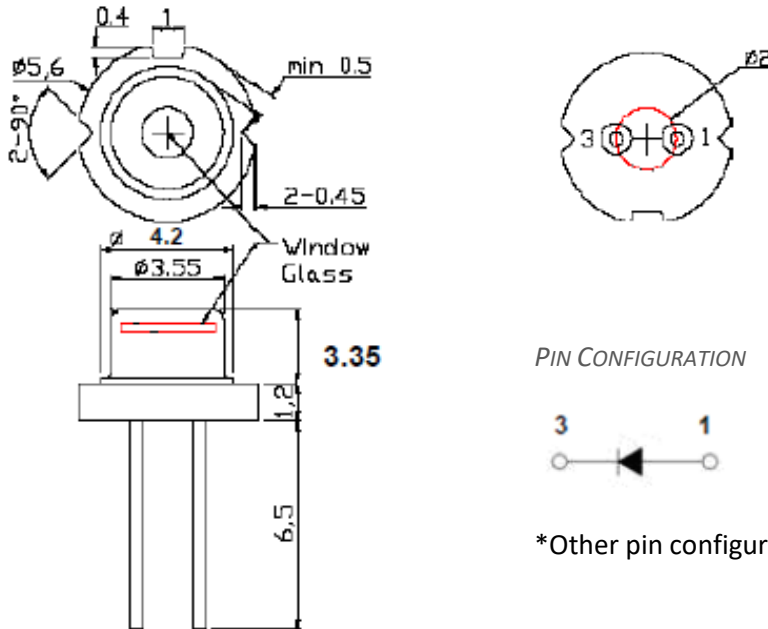
\*Sufficient heat dissipation is required for CW operation.



Typical Characteristics



Mechanical Outline (unit: mm)



PIN CONFIGURATION



\*Other pin configurations may be available upon request.

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.