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LD635A30C15
635nm 30mW 50°C CW Laser Diode in ⌀5.6mm TO-18 Can Package

Description

The Lasermate LD635A30C15 is a 635nm, 30mW laser diode in a ⌀5.6mm, TO-can package and with operating temperature of 50°C. The laser diode is suitable as a light source for many applications, including construction tools, high-definition laser displays, and medical applications.

Features

- 635nm Visible Laser Diode
- Optical output power: 30mW CW
- High temperature operation: 50°C
- TM mode
- Single transverse mode
- Package: TO-18, ⌀5.6mm

Applications

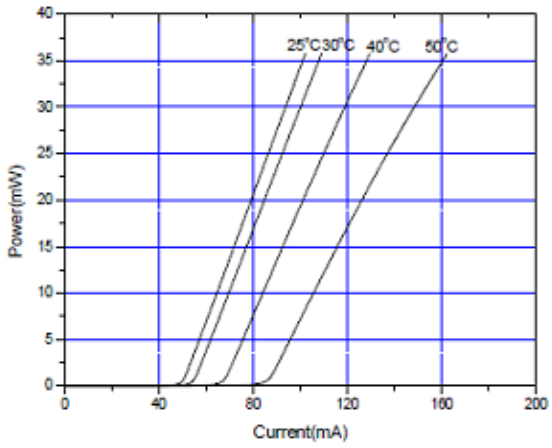
- Construction tools
- High-definition laser displays
- Medical applications

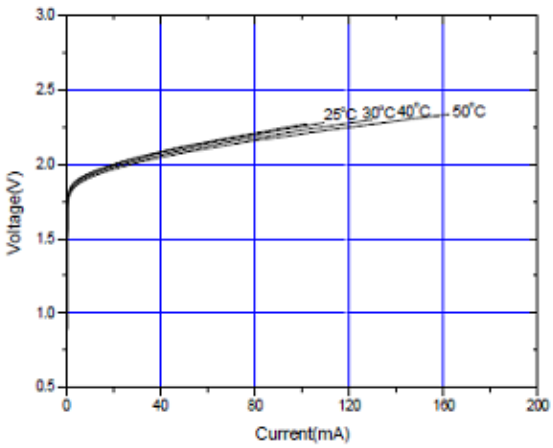
Specifications

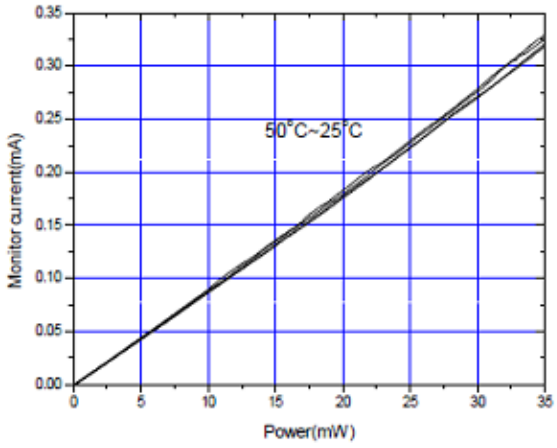
Absolute Maximum Ratings				
Parameter	Symbol	Condition	Rating	Unit
Light output power	P_O	CW	35	mW
Reverse voltage (LD)	V_{RL}	-	2	V
Reverse voltage (PD)	V_{RD}	-	30	V
Forward current (PD)	I_{FD}	-	10	mA
Case temperature	T_C	-	-10 to +50	°C
Storage temperature	T_S	-	-40 to +85	°C

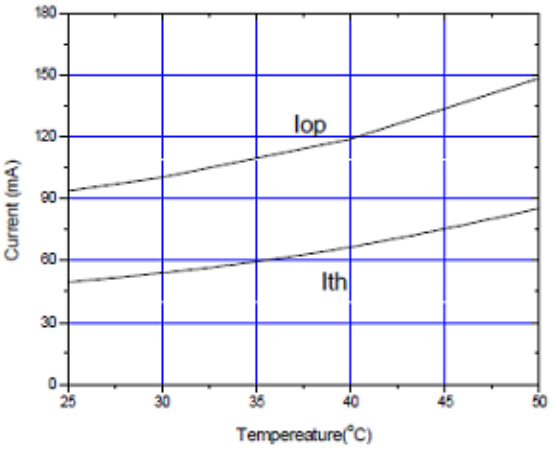
Electrical and Optical Characteristics (TC = 25 oC)						
Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Peak wavelength	λ	630	639	645	nm	P_O = 30mW
Threshold current	I_{th}	-	50	60	mA	
Operating current	I_{op}	-	95	110	mA	P_O = 30mW
Operating voltage	V_{op}	-	2.2	2.7	V	P_O = 30mW
Differential efficiency	η	0.30	0.60	0.90	mW/mA	P_O = 25-30mW
Monitor current	I_m	0.1	0.27	0.5	mA	P_O = 30mW, V_{RD} = 5V
Parallel divergence angle	$\Theta_{//}$	5	8	12	deg	P_O = 30mW
Perpendicular divergence angle	$\Theta_{\perp}$	25	30	35	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	Δx Δy Δz	-80	0	+80	um	

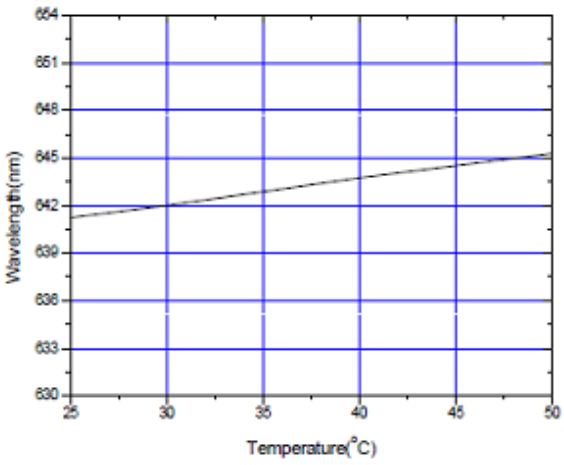
Typical Characteristics

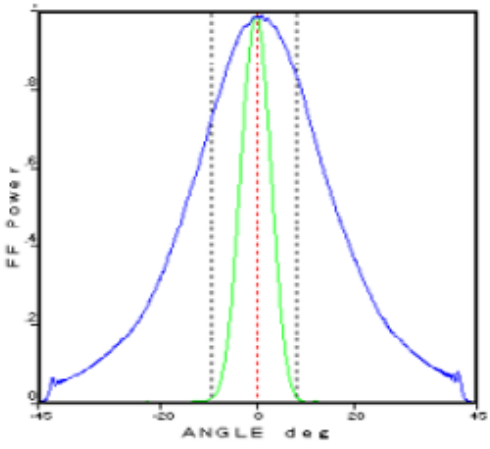




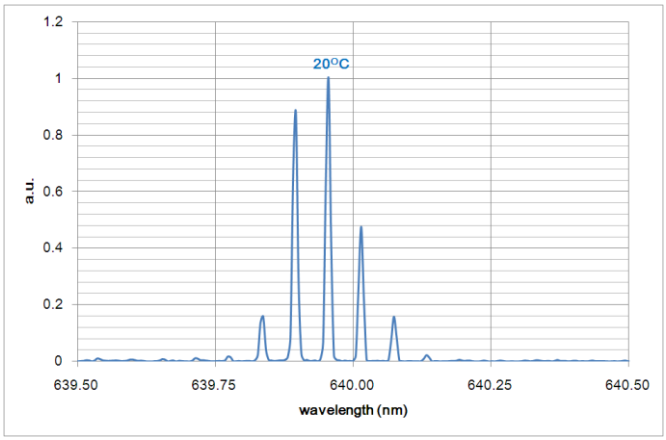


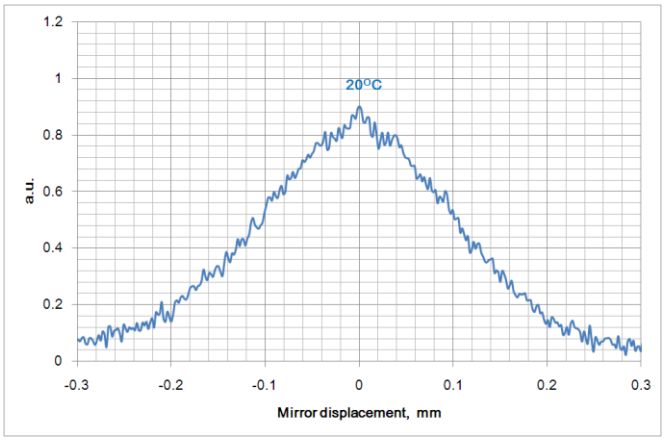


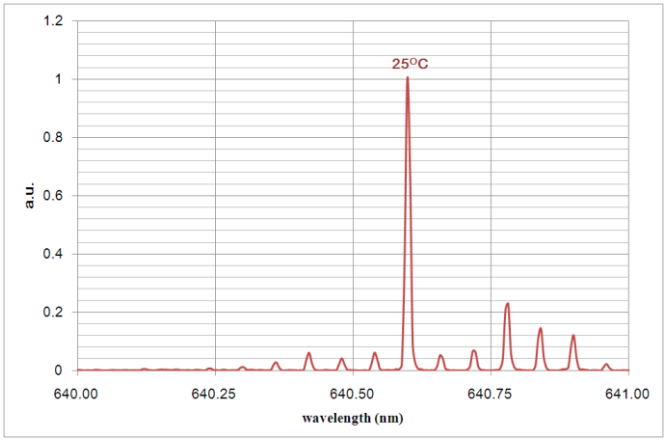


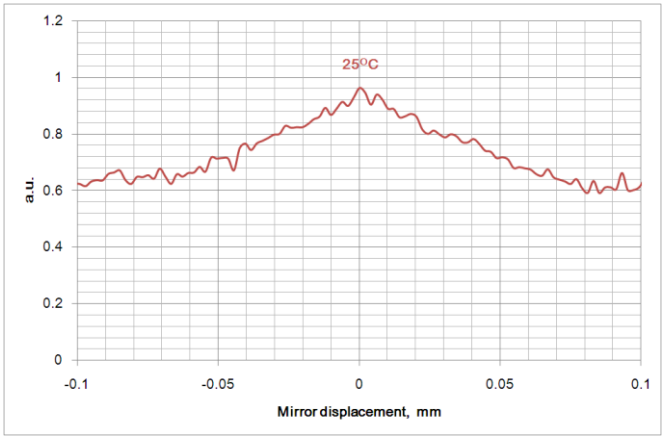


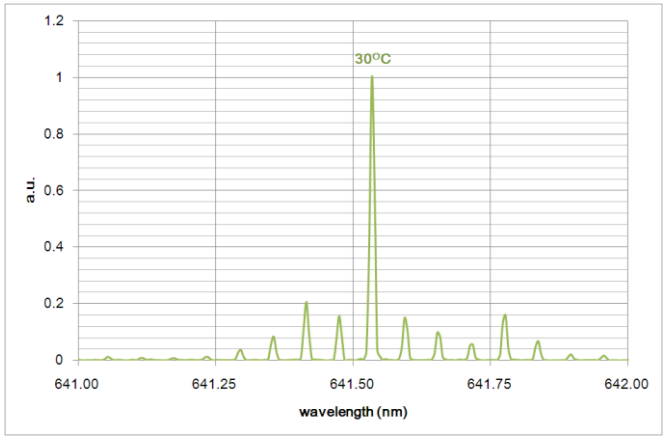
Typical Characteristics (continued)



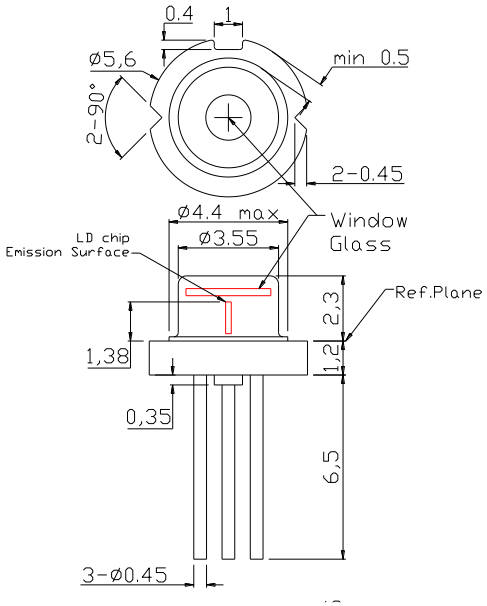


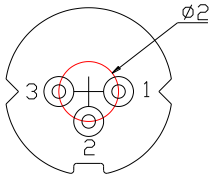




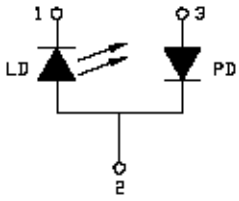


Mechanical Outline (unit: mm)





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.