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LD660A50C16
660nm 50mW 60°C CW Laser Diode in ⌀5.6mm TO-18 Can Package

Description

The Lasermate LD660A50C16 is a 660nm, 50mW laser diode in a ⌀5.6mm, TO-can package and with operating temperature of 60°C. The laser diode is suitable as laser light source for many applications, including high power laser modules, medical applications, industrial laser markers/measuring instruments.

Features

- 660nm AlGaInP Visible Laser Diode
- Optical output power: 50mW CW
- High operating temperature: +60°C
- Highly reliable
- High efficiency
- Low operating current
- Package: TO-18, ⌀5.6mm

Applications

- High power laser modules
- Medical applications
- Industrial laser markers / measuring instruments

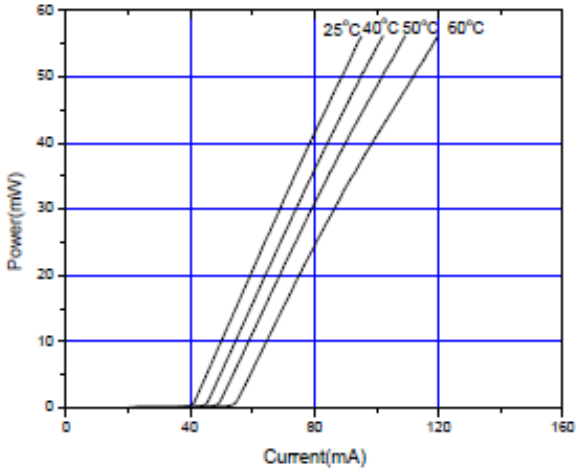
Absolute Maximum Ratings

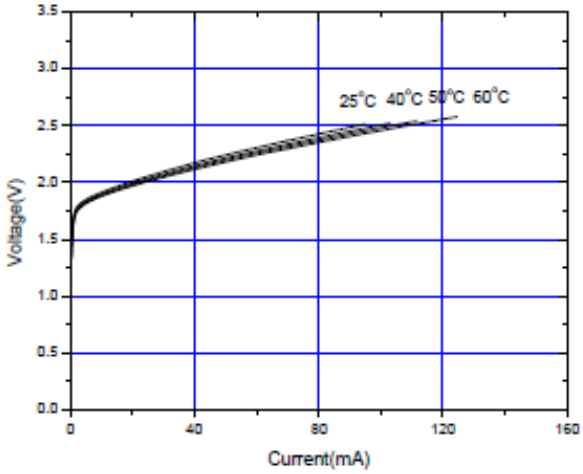
Parameter	Symbol	Condition	Rating	Unit
Light output power	P_O	CW	55	mW
Reverse voltage (LD)	V_{RL}	-	2	V
Reverse voltage (PD)	V_{RD}	-	30	V
Forward current (PD)	I_{FD}	-	10	mA
Case temperature	T_C	-	-10 to +60	°C
Storage temperature	T_S	-	-40 to +85	°C

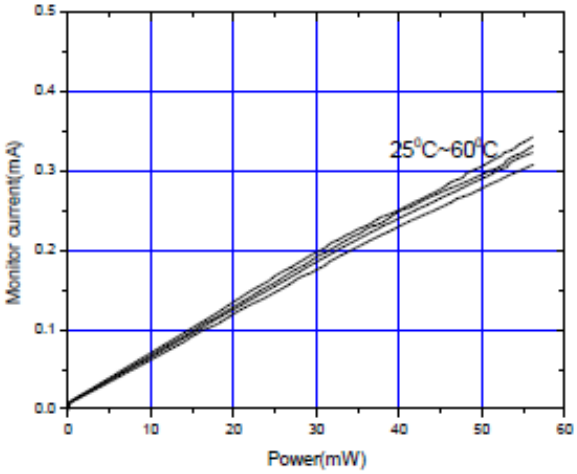
Electrical and Optical Characteristics (T_C = 25 °C)

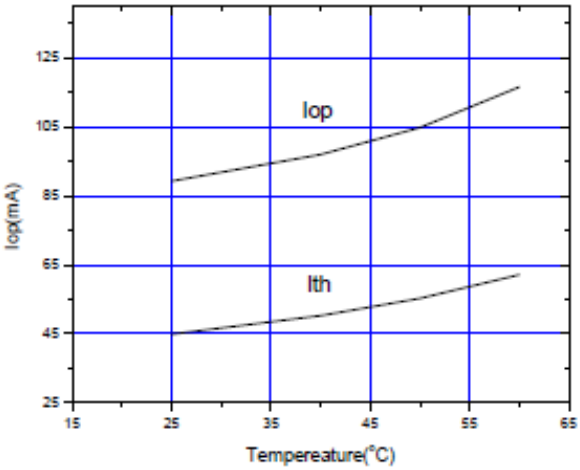
Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Peak wavelength	λ	650	660	670	nm	P_O = 50mW, CW, Kink free
Threshold current	I_{th}	-	45	60	mA	
Operating current	I_{op}	-	95	120	mA	
Operating voltage	V_{op}	2.0	2.5	3.0	V	
Differential efficiency	η	0.7	1.0	1.4	mW/mA	P_O = 45-50mW
Monitor current	I_m	0.05	0.2	0.5	mA	P_O = 50mW, V_{RD} = 5V
Parallel divergence angle	$\Theta_{//}$	6	9	13	deg	P_O = 50mW
Perpendicular divergence angle	$\Theta_{\perp}$	13	17	22	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	

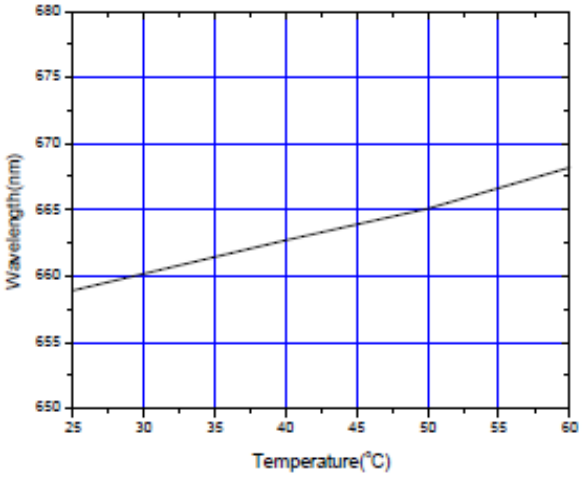
Typical Characteristics

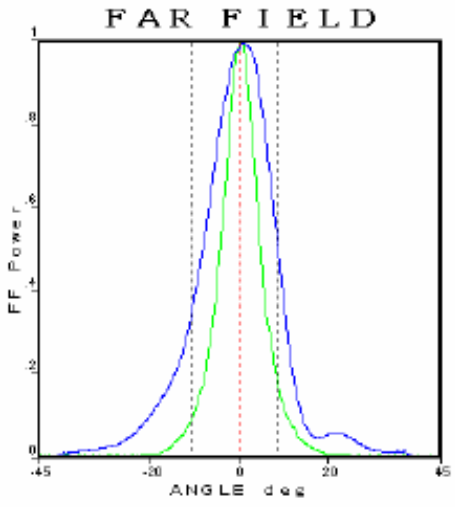




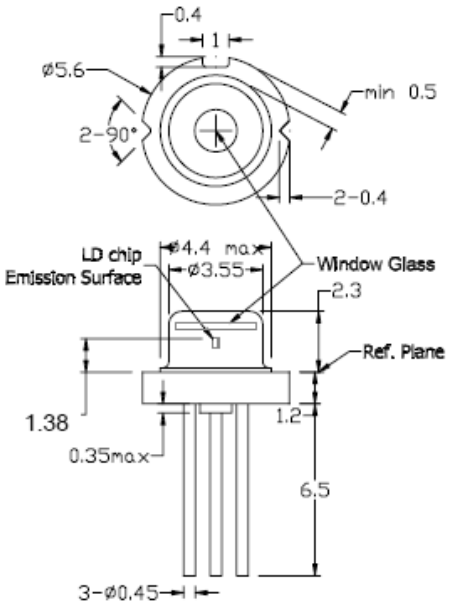


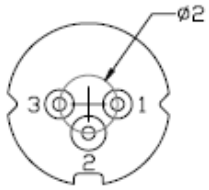




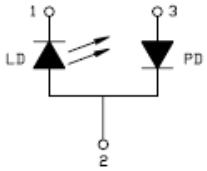


Mechanical Outline (unit: mm)





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.