



LD830A250C16

830nm 250mW 60°C CW Laser Diode in ø5.6mm TO-18 Can Package

Description

The Lasermate LD830A250C16 is an 830nm, 250mW laser diode in a ø5.6mm, TO-can package and with operating temperature of 60°C. The laser diode is suitable as compact light source for many applications.

Features

- 830nm Infrared laser diode
- Optical output power: 250mW CW
- Operating temperature: +60°C
- Small far field angle
- Package: TO-18 (dia. 5.6mm)

Applications

- Light source for sensor
- Industry

Absolute Maximum Ratings

PARAMETER	SYMBOL	RATING	UNIT
Optical output power	P_O	270	mW
Reverse voltage (LD)	V_{RL}	0	V
Reverse voltage (PD)	V_{RD}	30	V
Forward current (PD)	I_{FD}	10	mA
Operating temperature	T_{opr}	-10 to +60	°C
Storage temperature	T_{stg}	-40 to +85	°C

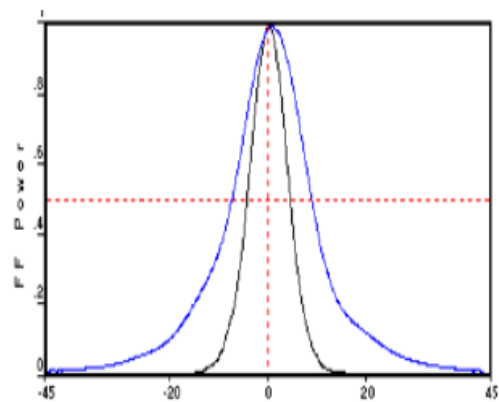
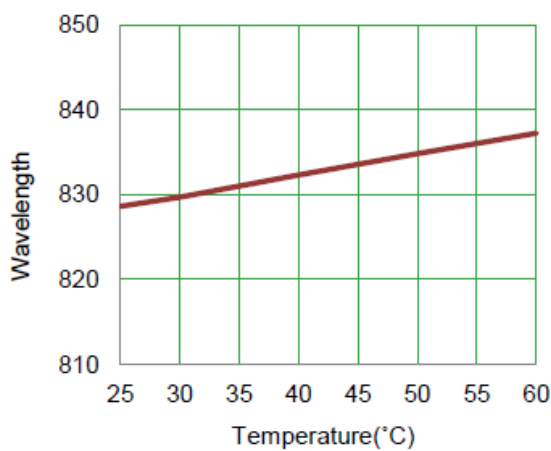
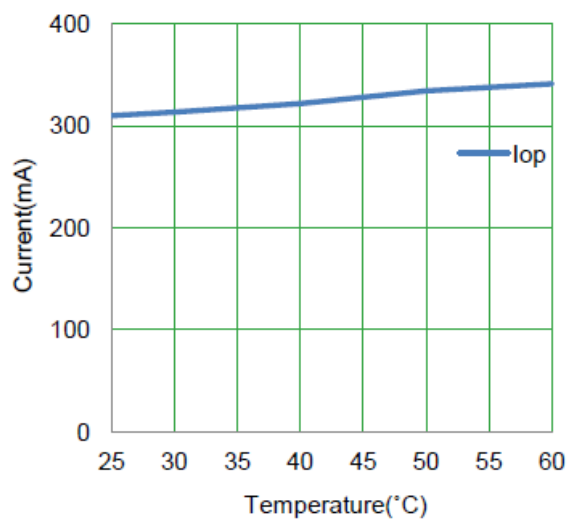
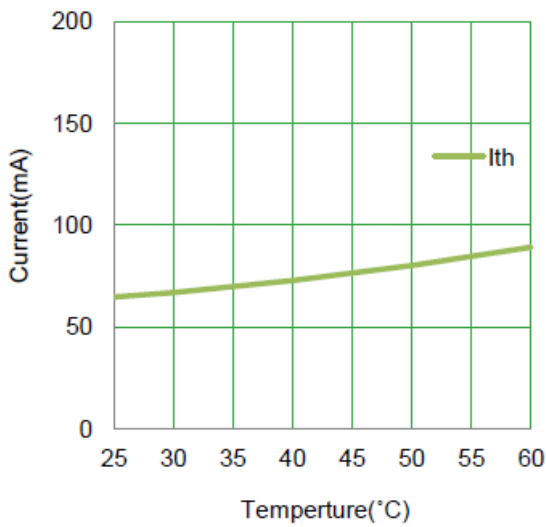
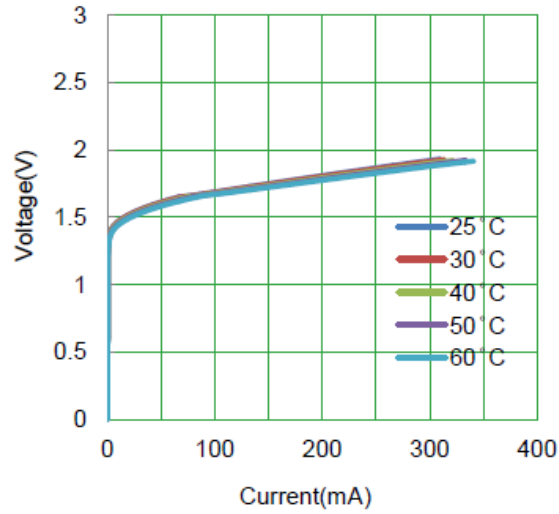
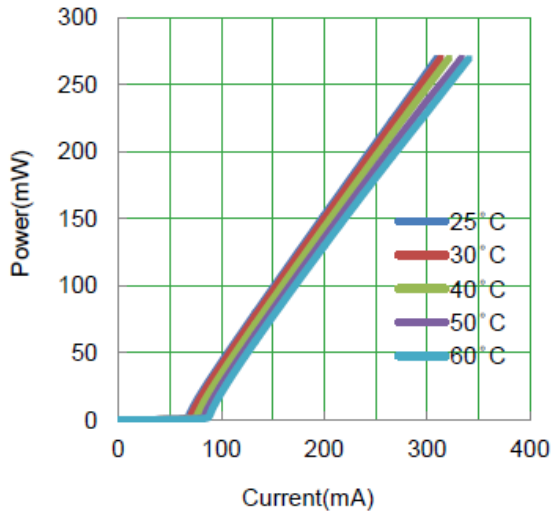
Electrical and Optical Characteristics ($T_C = 25^\circ\text{C}$)

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS
Peak wavelength	λ	820	830	840	nm	$P_O = 250\text{mW}$
Threshold current	I_{th}	-	75	100	mA	
Operating current	I_{op}	-	300	350	mA	$P_O = 250\text{mW}$
Operating voltage	V_{op}	-	1.9	2.4	V	$P_O = 250\text{mW}$
Slope efficiency	η	0.9	1.0	-	mW/mA	$P_O = 200\text{-}250\text{mW}$
Monitor current	I_m	0.4	1.1	1.9	mA	$P_O = 250\text{mW}$, $V_{RD} = 5\text{V}$
Parallel divergence angle	$\Theta_{//}$	5	7	12	deg	$P_O = 250\text{mW}$
Perpendicular divergence angle	Θ_{\perp}	10	14	20	deg	$P_O = 250\text{mW}$
Parallel FFP deviation angle	$\Delta \Theta_{//}$	-3	0	3	deg	$P_O = 250\text{mW}$
Perpendicular FFP deviation angle	$\Delta \Theta_{\perp}$	-3	0	3	deg	$P_O = 250\text{mW}$
Emission point accuracy	$\Delta x \Delta y \Delta z$	-50	0	50	um	$P_O = 250\text{mW}$

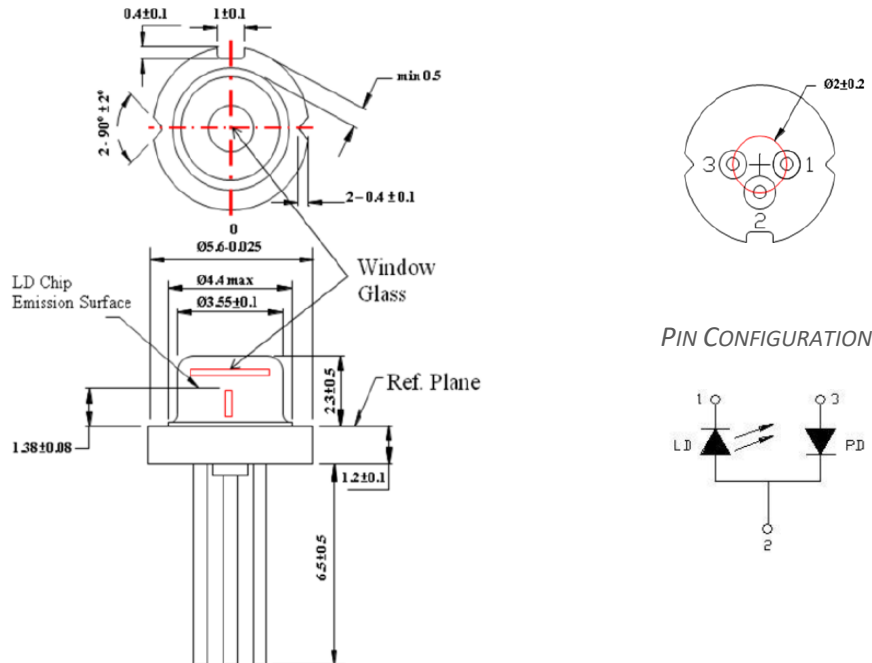
*Sufficient heat dissipation is required for CW operation.



Typical Characteristics



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.