



830nm 100mW Laser Diode, TO-56 (5.6mm) Package LD830A100C16

Data Sheet

Description

The Lasermate LD830A100C16 is an 830nm, 100mW laser diode in a \varnothing 5.6mm, TO-can package and with operating temperature of 60°C. The laser diode is suitable as a compact light source for many applications.

Features

- 830nm Infrared laser diode
- Optical output power: 100mW CW
- Operating temperature: +60°C
- Small perpendicular divergence angle
- Lateral single mode lasing
- Built-in photodiode for monitoring laser diode
- Package: TO-56 (dia. 5.6mm)

Applications

- Motion sensor
- 3D depth sensor
- Illumination
- Industry
- Medical application

Absolute Maximum Ratings ($T_c = 25^\circ\text{C}$)

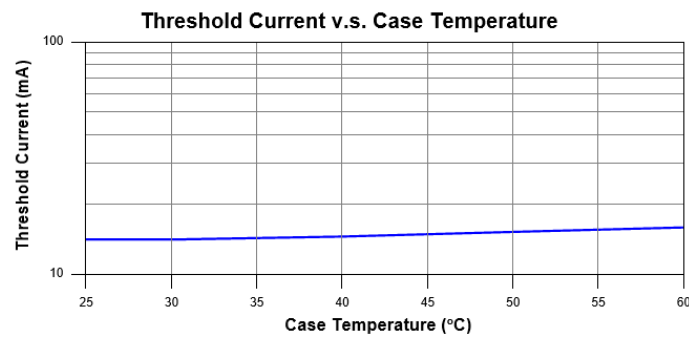
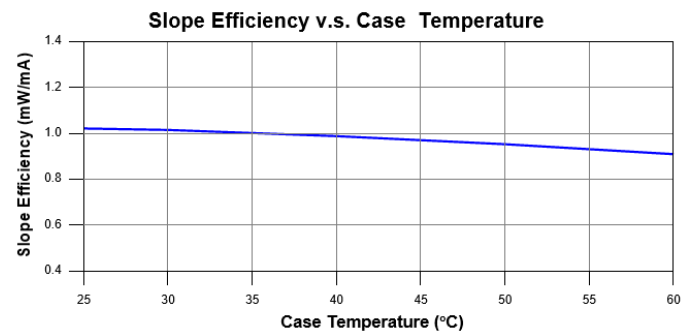
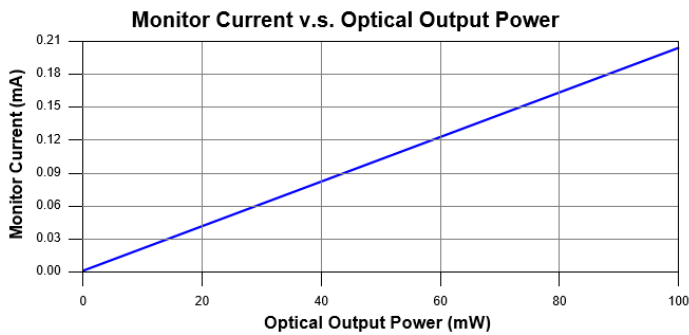
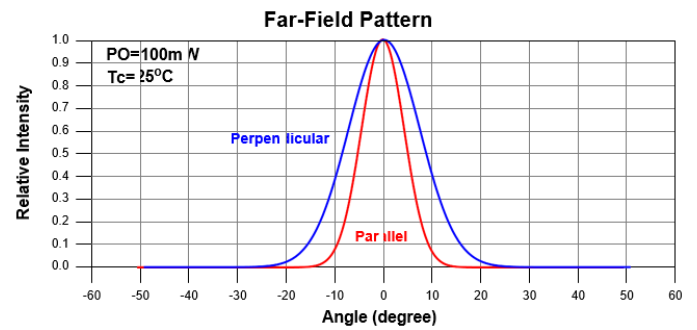
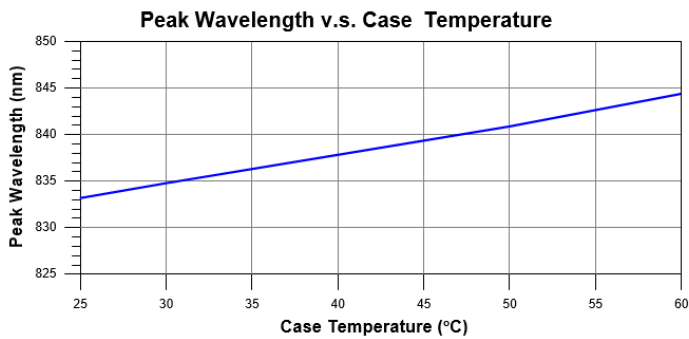
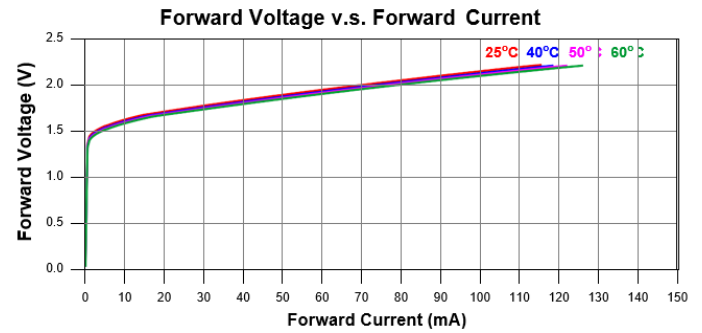
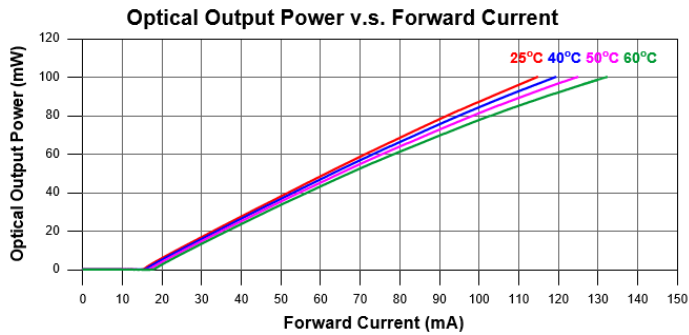
PARAMETER	SYMBOL	RATING	UNIT
Optical output power	P_O	100	mW
Reverse voltage (LD)	V_r	2	V
Operating temperature	T_{op}	-10 to +60	°C
Storage temperature	T_{stg}	-40 to +85	°C

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

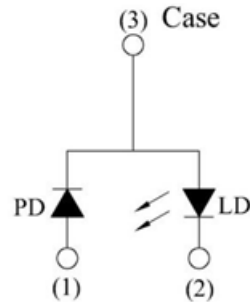
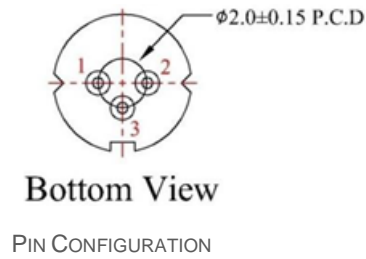
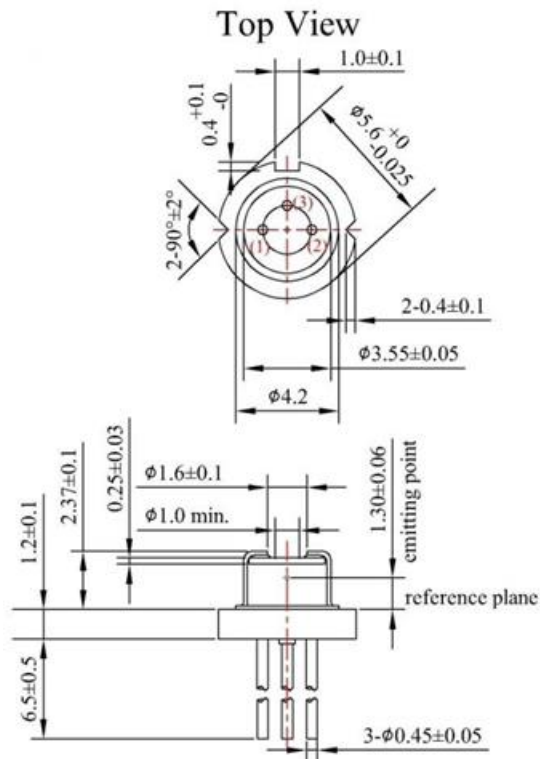
PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS
Lasing wavelength	λ_p	820	830	840	nm	$P_O = 100\text{mW}$
Threshold current	I_{th}	-	14	20	mA	$P_O = 100\text{mW}$
Operating current	I_{op}	-	120	140	mA	$P_O = 100\text{mW}$
Slope Efficiency	η	-	1.0	-	mW/mA	$P_O = 25\text{-}75\text{mW}$
Operating voltage	V_{op}	-	2.3	2.6	V	$P_O = 100\text{mW}$
Monitor current	I_m	0.05	0.2	1	mA	$P_O = 100\text{mW}$
Parallel divergence angle	$\Theta_{//}$	-	10	15	deg	$P_O = 100\text{mW}$
Perpendicular divergence angle	Θ_{\perp}	-	17	22	deg	$P_O = 100\text{mW}$

Note: $\Theta_{//}$ and Θ_{\perp} are defined as the angle within which the intensity is 50% of the peak value.

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.