



LD850A10C16

850nm 10mW Laser Diode, TO-56 (5.6 mm) Package

Data Sheet

Features

- 850nm Infrared laser diode
- Optical output power: 10mW 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
- Industry
- Medical application

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

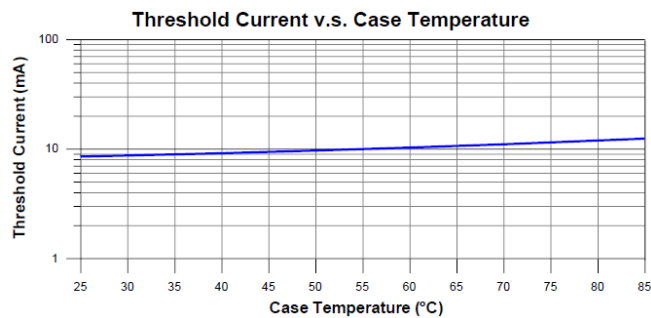
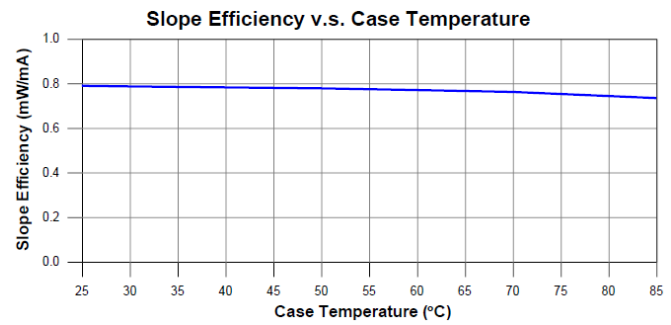
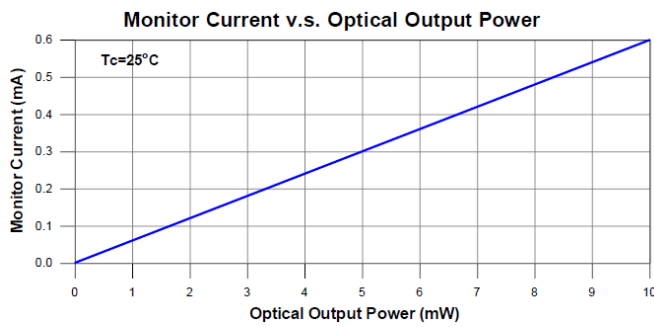
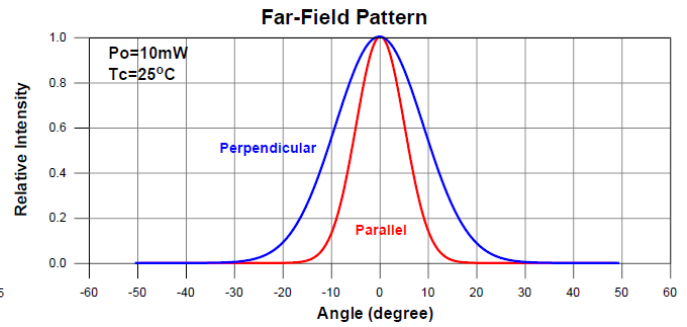
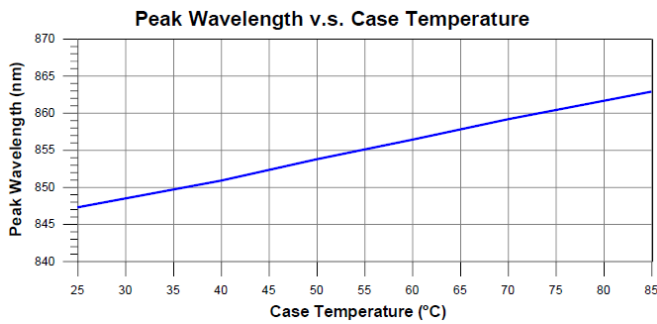
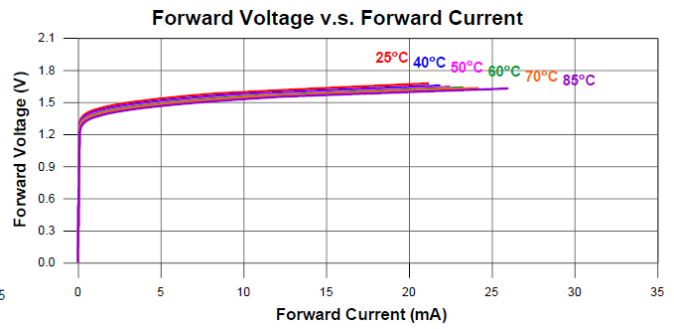
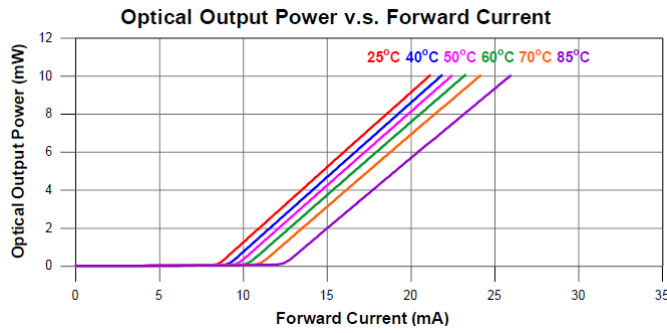
PARAMETER	SYMBOL	RATING	UNIT
Optical output power	P_o	10	mW
Reverse voltage	V_r	2	V
Operating temperature	T_{op}	-10 to +60	°C
Storage temperature	T_{stg}	-40 to +85	°C

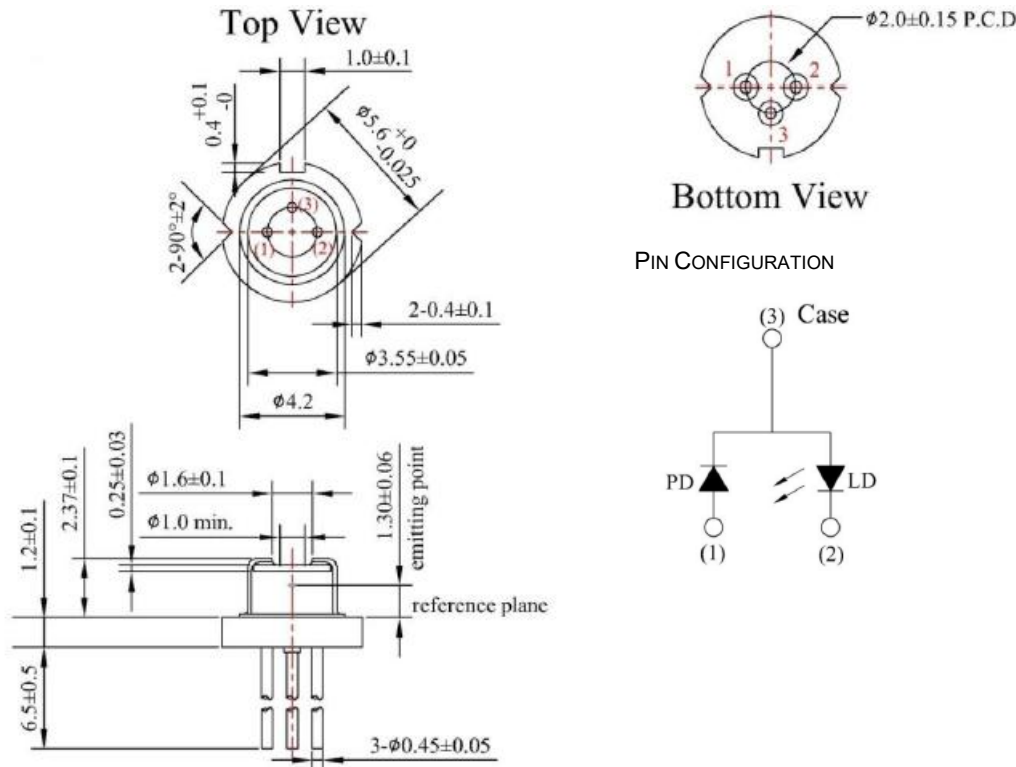
Electrical and Optical Characteristics ($T_c = 25^\circ\text{C}$)

PARAMETER		SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS
Lasing wavelength		λ	840	850	860	nm	$P_o = 10\text{mW}$
Threshold current		I_{th}	-	8	10	mA	$P_o = 10\text{mW}$
Operating current		I_{op}	-	21	25	mA	$P_o = 10\text{mW}$
Slope efficiency		η	-	0.75	-	mW/mA	$P_o = 2.5\text{-}7.5\text{mW}$
Operating voltage		V_{op}	-	1.8	2.1	V	$P_o = 10\text{mW}$
Monitor current		I_m	0.1	0.6	-	mA	$P_o = 10\text{mW}$
Beam divergence (FWHM)	Parallel	$\Theta_{//}$	-	11	16	deg	$P_o = 10\text{mW}$
	Perpendicular	Θ_{\perp}	-	20	25	deg	$P_o = 10\text{mW}$

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.