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LD808A500C15
808nm 500mW 50°C CW Laser Diode in ⌀5.6mm TO-18 Can Package

Description

The Lasermate LD808A500C15 is an 808nm, 500mW laser diode in a ⌀5.6mm, TO-can package and with operating temperature of 50°C. The laser diode is suitable as compact light source for many applications.

Features

- 808nm Infrared laser diode
- Optical output power: 500mW CW
- Operating temperature: +50°C
- High reliability
- Higher power
- Package: TO-18, ⌀5.6mm

Absolute Maximum Ratings

PARAMETER	SYMBOL	RATING	UNIT
Optical output power	P_O	500	mW
Reverse voltage (LD)	V_{RL}	2	V
Operating temperature	T_{opr}	-10 to +50	°C
Storage temperature	T_{stg}	-40 to +85	°C

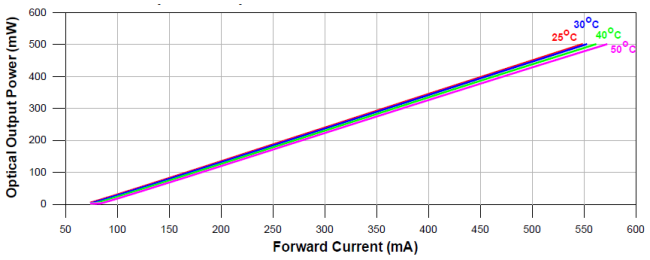
Electrical and Optical Characteristics (T_C = 25 °C)

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS
Lasing wavelength	λ	803	808	811	nm	P_O = 0.5W
Threshold current	I_{th}	-	70	100	mA	P_O = 0.5W
Operating current	I_{op}	-	540	590	mA	P_O = 0.5W
Operating voltage	V_{op}	-	1.9	1.95	V	P_O = 0.5W
Differential efficiency	η	0.8	1.1	-	mW/mA	$\frac{375\text{mW} - 125\text{mW}}{I_{375\text{mW}} - I_{125\text{mW}}}$
Monitor current	I_m	-	0.6	2.5	mA	P_O = 0.5W
Parallel divergence angle	$\Theta_{//}$	-	10	-	deg	P_O = 0.5W
Perpendicular divergence angle	$\Theta_{\perp}$	-	31	-	deg	P_O = 0.5W

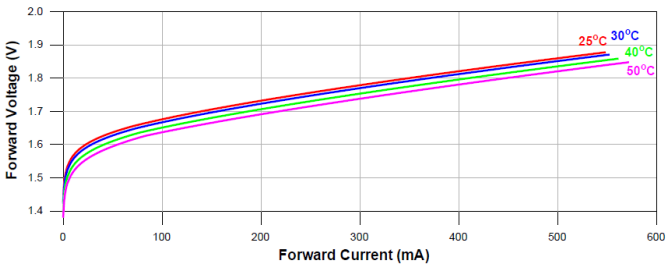
* $\Theta_{//}$ and $\Theta_{\perp}$ are defined as the angle within which the intensity is 50% of the peak value.

Typical Characteristics

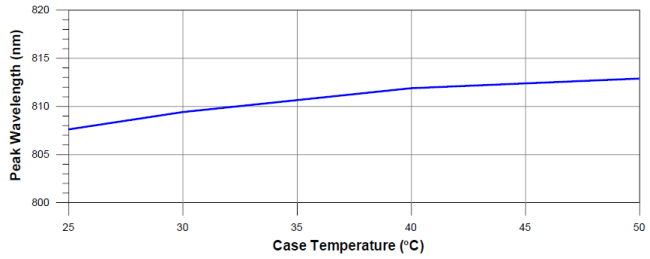
Optical Output Power vs. Forward Current



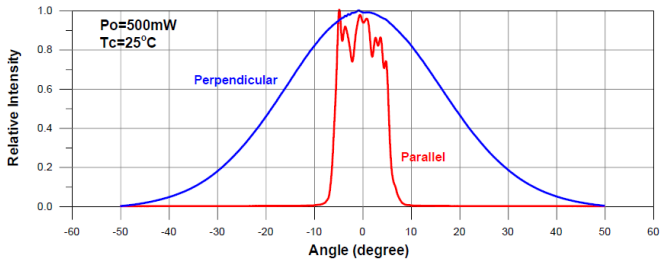
Forward Voltage vs. Forward Current



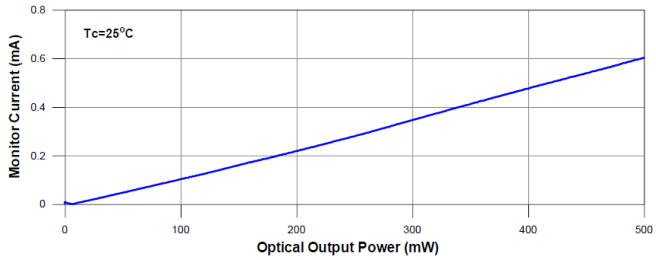
Peak Wavelength vs. Case Temperature



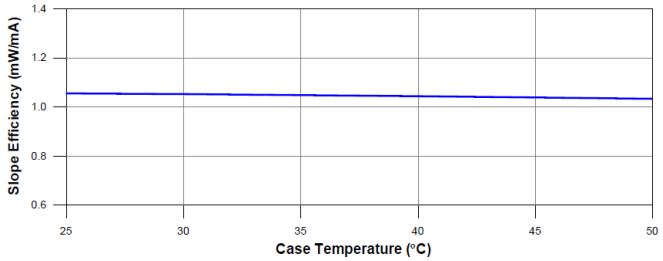
Far-Field Pattern



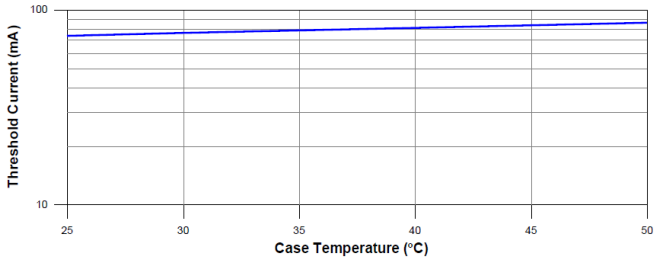
Monitor Current vs. Optical Output Power



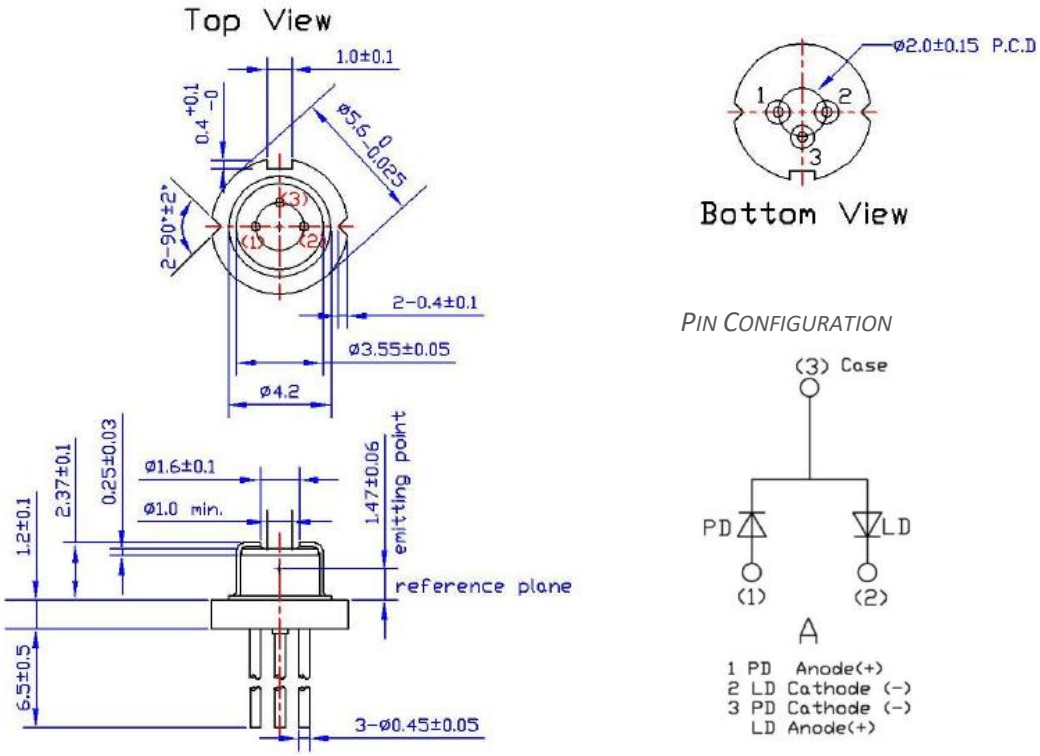
Slope Efficiency vs. Case Temperature



Threshold Current vs. Case Temperature



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.