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LD780A5C16
780nm 5mW 60°C CW Laser Diode in ⌀5.6mm TO-18 Can Package

Description

The Lasermate LD780A5C16 is a 780nm, 5mW laser diode in a ⌀5.6mm, TO-18 can package and with operating temperature of 60°C. The laser diode is suitable as laser light source for many applications.

Features

- 780nm AlGaAs Infrared Laser Diode
- Optical output power: 5mW CW
- High operating temperature: +60°C
- Low operating current
- High efficiency
- Better power budget for optical design
- Package: TO-18, ⌀5.6mm

Applications

- Laser light source

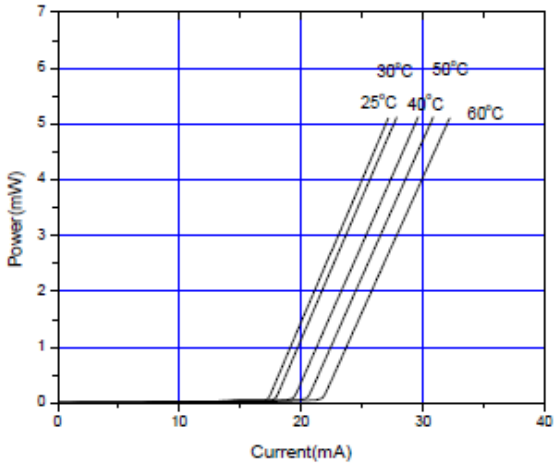
Absolute Maximum Ratings

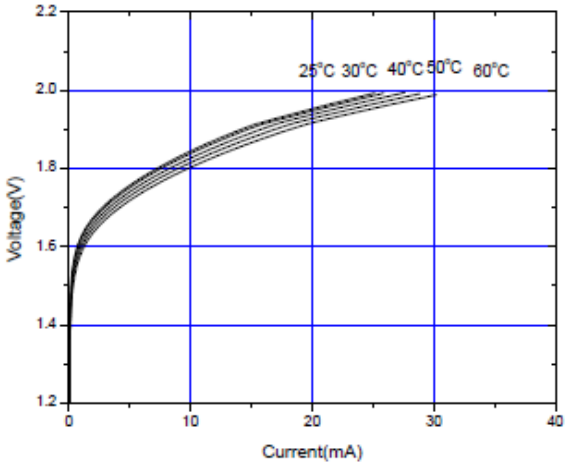
Parameter	Symbol	Condition	Rating	Unit
Optical output power	P_O	CW	5	mW
Reverse voltage (LD)	V_{RL}	-	2	V
Reverse voltage (PD)	V_{RD}	-	30	V
Forward current (PD)	I_{FP}	-	10	mA
Operating temperature	T_{opr}	-	-10 to +60	°C
Storage temperature	T_{stg}	-	-40 to +80	°C

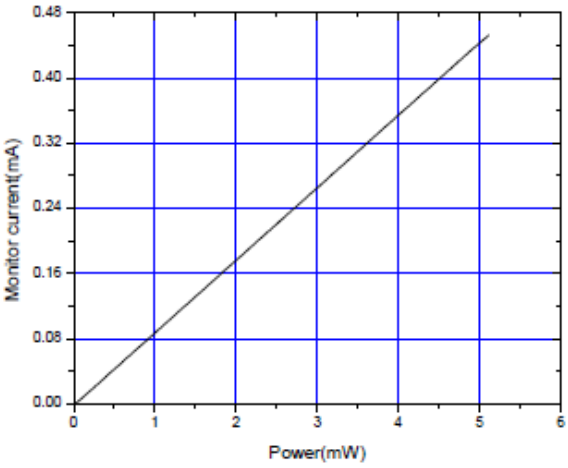
Electrical and Optical Characteristics (T_C = 25 °C)

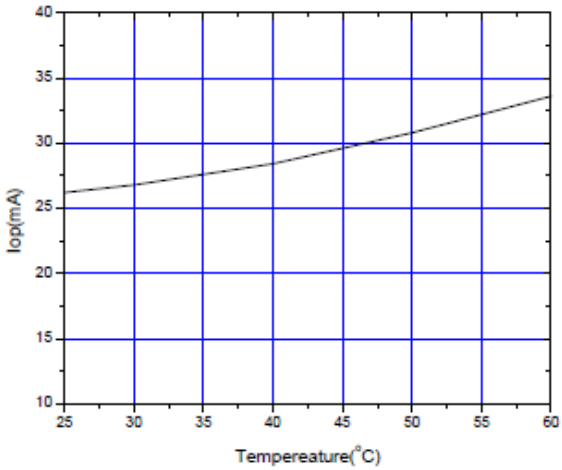
Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Lasing wavelength	λ_p	770	785	800	nm	P_O = 5mW
Threshold current	I_{th}	10	20	30	mA	-
Operating current	I_{op}	-	30	40	mA	P_O = 5mW
Differential Efficiency	η	0.3	0.5	0.7	mW/mA	P_O = 3-5mW
Operating voltage	V_{op}	-	1.8	2.2	V	P_O = 5mW
Monitor current	I_m	0.1	0.35	1.0	mA	P_O = 5mW, V_{RD} = 5V
Parallel divergence angle	$\Theta_{//}$	8	11	15	deg	P_O = 5mW
Perpendicular divergence angle	$\Theta_{\perp}$	25	32	40	deg	P_O = 5mW
Parallel FFP deviation angle	$\Delta\Theta_{//}$	-3	0	+3	deg	P_O = 5mW
Perpendicular FFP deviation angle	$\Delta\Theta_{\perp}$	-3	0	+3	deg	P_O = 5mW
Emission point accuracy	$\Delta x\ \Delta y\ \Delta z$	-80	0	+80	um	P_O = 5mW

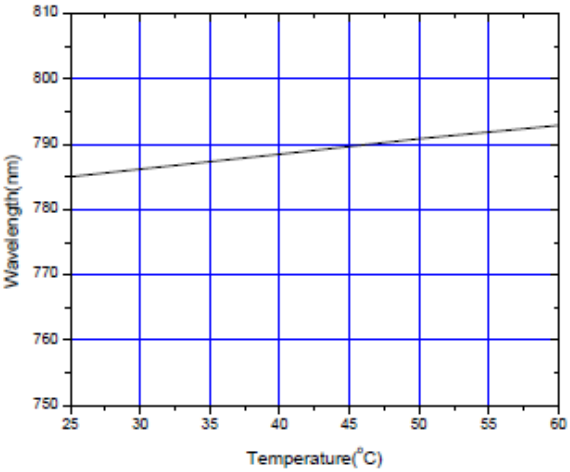
Typical Characteristics

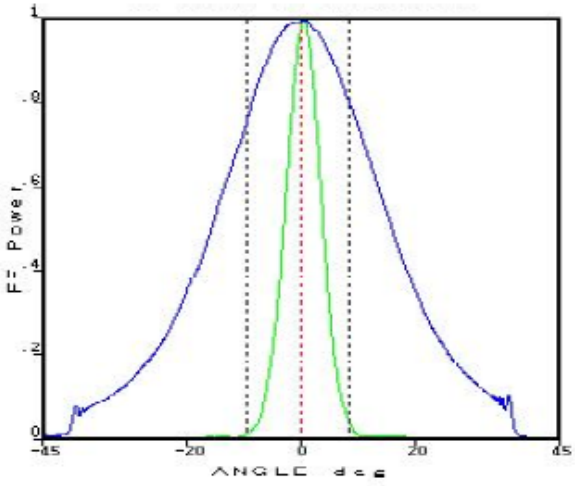




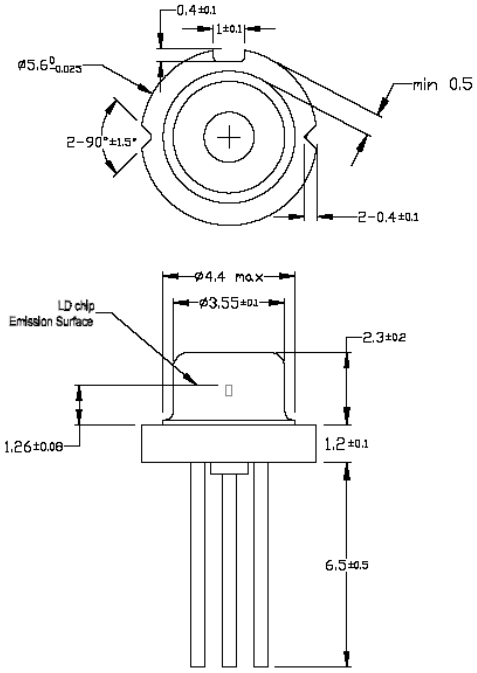


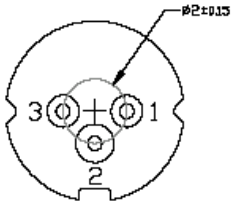




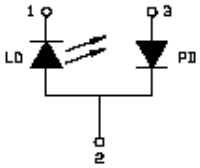


Mechanical Outline (unit: mm)





PIN CONFIGURATION



*Other pin configurations may be available upon request.

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.