



LD780A10C17

780nm 10mW 70°C CW Laser Diode in ø5.6mm TO-18 Can Package

Description

The Lasermate LD780A10C17 is a 780nm, 10mW laser diode in a ø5.6mm, TO-18 can package and with operating temperature of 70°C. The laser diode is suitable as a compact light source for many applications.

Features

- 780nm Infrared Laser Diode
- Optical output power: 10mW CW
- High operating temperature: +70°C
- Low operating current
- High efficiency
- Package: TO-18, ø5.6mm

Applications

- Laser printer light source
- Industrial tool

Absolute Maximum Ratings

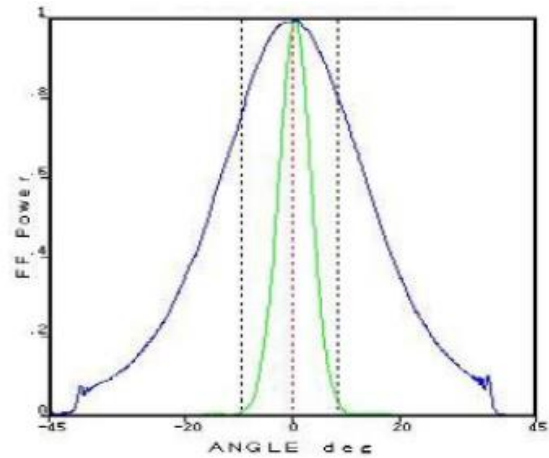
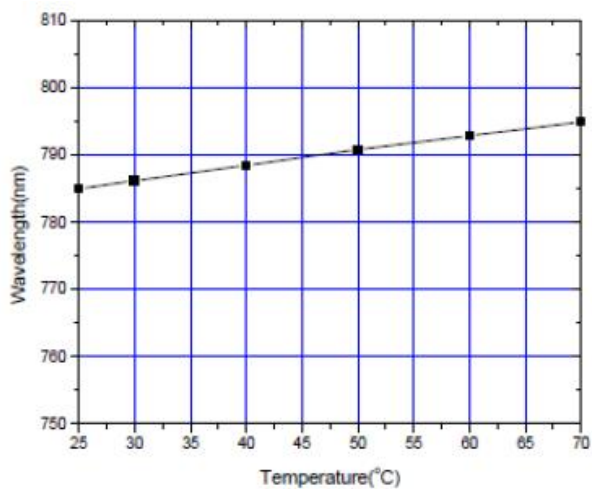
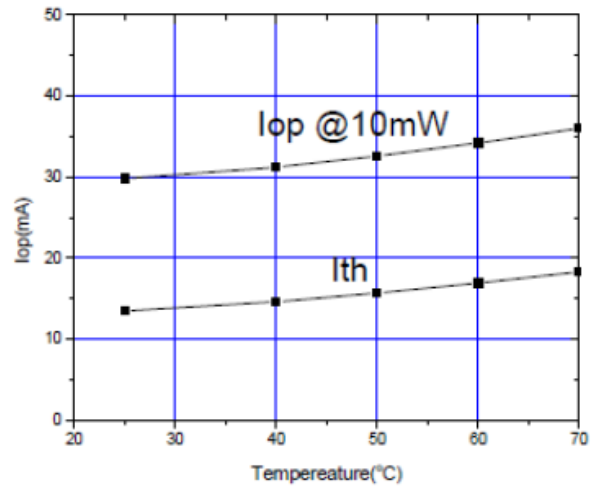
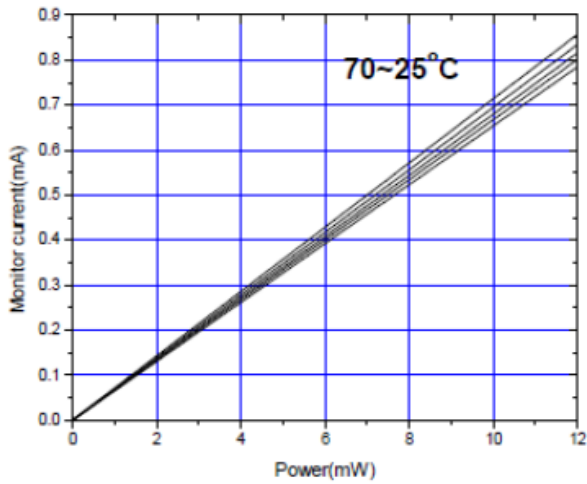
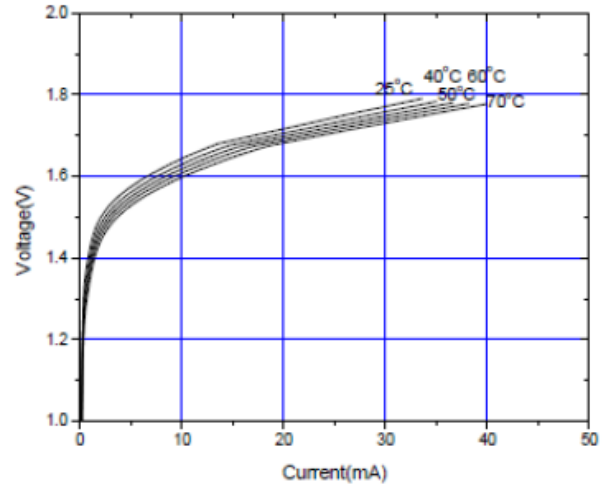
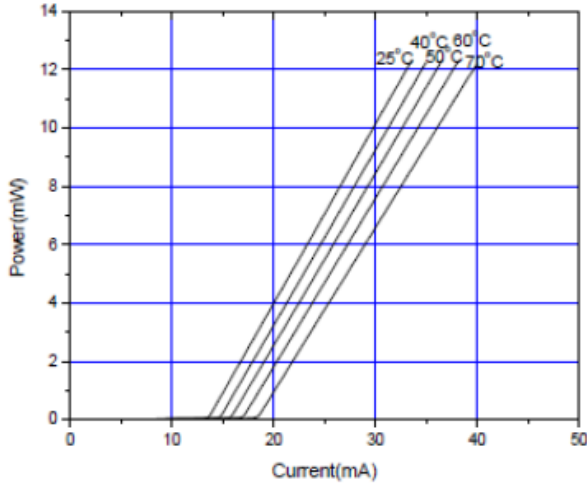
PARAMETER	SYMBOL	CONDITION	RATING	UNIT
Optical output power	P_O	CW	12	mW
Reverse voltage (LD)	V_{RL}	-	2	V
Reverse voltage (PD)	V_{RD}	-	30	V
Forward current (PD)	I_{FD}	-	10	mA
Operating temperature	T_{opr}	-	-10 to +70	°C
Storage temperature	T_{stg}	-	-40 to +85	°C

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

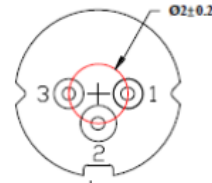
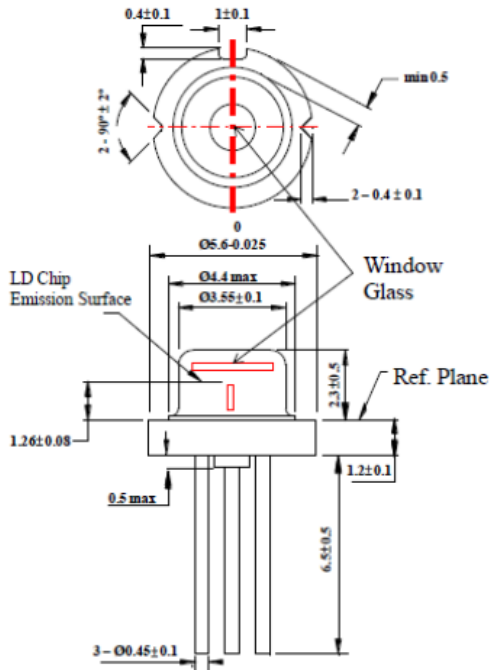
PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS
Lasing wavelength	λ_p	770	780	790	nm	$P_O = 10\text{mW}$
Threshold current	I_{th}	-	15	25	mA	
Operating current	I_{op}	-	30	40	mA	$P_O = 10\text{mW}$
Differential Efficiency	η	0.4	0.6	0.8	mW/mA	$P_O = 7\text{-}10\text{mW}$
Operating voltage	V_{op}	-	1.9	2.2	V	$P_O = 10\text{mW}$
Monitor current	I_m	0.2	0.6	1.2	mA	$P_O = 10\text{mW}$, $V_{RD} = 5\text{V}$
Parallel divergence angle	$\Theta_{//}$	7	11	15	deg	$P_O = 10\text{mW}$
Perpendicular divergence angle	Θ_{\perp}	24	28	32	deg	$P_O = 10\text{mW}$
Parallel FFP deviation angle	$\Delta \Theta_{//}$	-2	0	+2	deg	$P_O = 10\text{mW}$
Perpendicular FFP deviation angle	$\Delta \Theta_{\perp}$	-3	0	+3	deg	$P_O = 10\text{mW}$
Emission point accuracy	$\Delta x \Delta y \Delta z$	-80	0	+80	um	$P_O = 10\text{mW}$



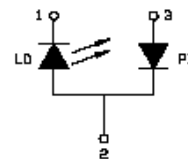
Typical Characteristics



Mechanical Outline (unit: mm)



PIN CONFIGURATION



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.