780nm 10mW 60°C Laser Diode in TO-33 ϕ3.3mm Package

Part No. LD780A10A16

FEATURES

- 780nm 10mW CW AlGaInP Laser Diode
- Package: TO-33 (dia. 3.3mm)
- Low operating current
- High efficiency
- Better power budget for optical design

APPLICATIONS

- Industrial tools
- Mini size optical modules

ABSOLUTE MAXIMUM RATINGS

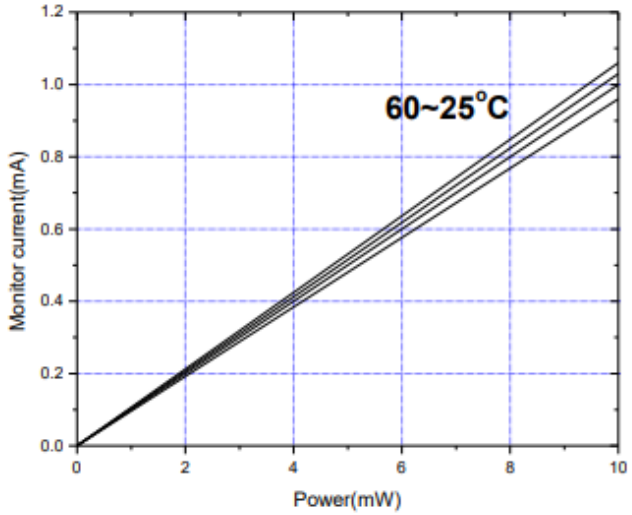
Parameter	Symbol	Condition	Rating	Unit
Optical output power	P_O	CW	12	mW
Reverse voltage (LD)	V_{RL}	-	2	V
Reverse voltage (PD)	V_{RD}	-	30	V
Forward current (PD)	I_{FD}	-	10	mA
Operating temperature	T_{opr}	-	-10 to +60	°C
Storage temperature	T_{stg}	-	-40 to +85	°C

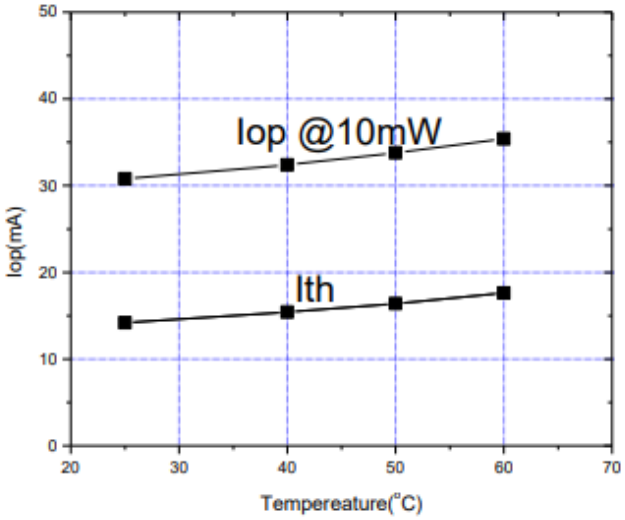
ELECTRICAL AND OPTICAL CHARACTERISTICS (T_C = 25 °C)

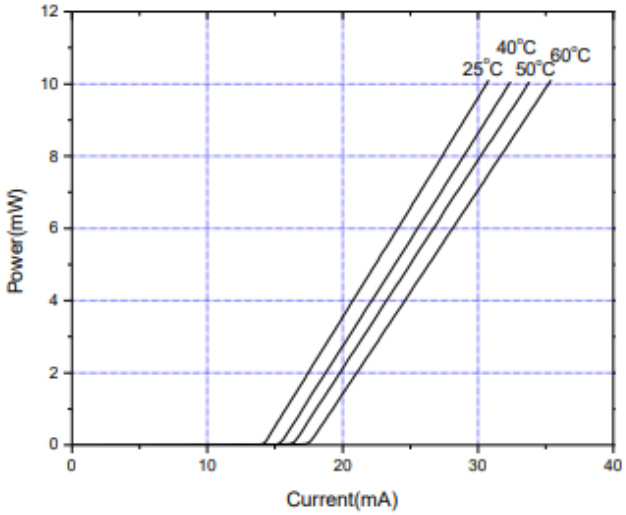
Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Lasing wavelength	λ_p	770	780	790	nm	P_O = 10mW
Threshold current	I_{th}		15	25	mA	
Operating current	I_{op}	-	30	40	mA	P_O = 10mW
Differential Efficiency	η	0.4	0.6	0.8	mW/mA	P_O = 7-10mW
Operating voltage	V_{op}		1.9	2.2	V	P_O = 10mW
Monitor current	I_m	0.5	1.0	1.5	mA	P_O = 10mW, V_{RD} = 5V
Parallel divergence angle	$\Theta_{//}$	7	11	15	deg	P_O = 10mW
Perpendicular divergence angle	$\Theta_{\perp}$	24	28	32	deg	P_O = 10mW
Parallel FFP deviation angle	$\Delta\Theta_{//}$	-2	0	+2	deg	P_O = 10mW
Perpendicular FFP deviation angle	$\Delta\Theta_{\perp}$	-3	0	+3	deg	P_O = 10mW
Emission point accuracy	Δx Δy Δz	-80	0	+80	um	P_O = 10mW

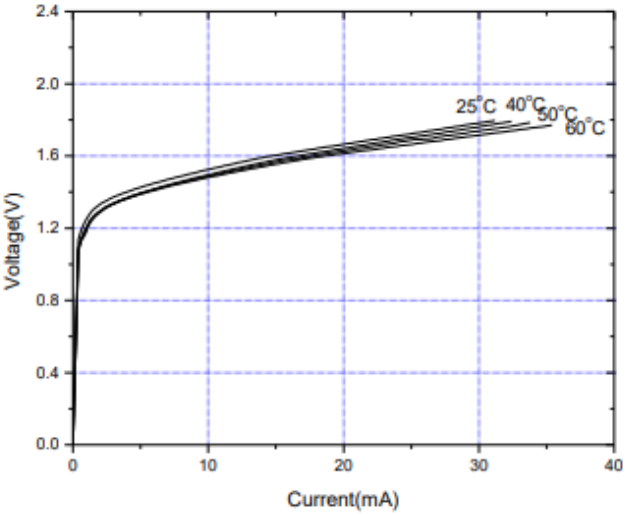
Lasermate Group, Inc.
19608 Camino De Rosa, Walnut, CA 91789, USA
Tel: (909)718-0999 | Fax: (909)718-0998 | E-mail: info@lasermate.com | URL: https://www.lasermate.com

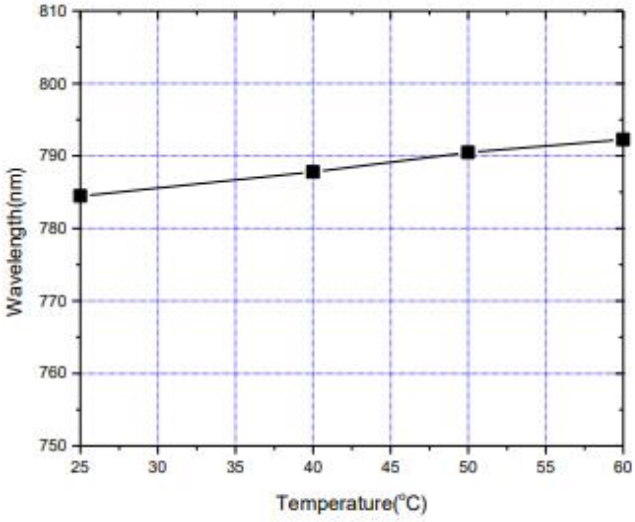
TYPICAL CHARACTERISTICS

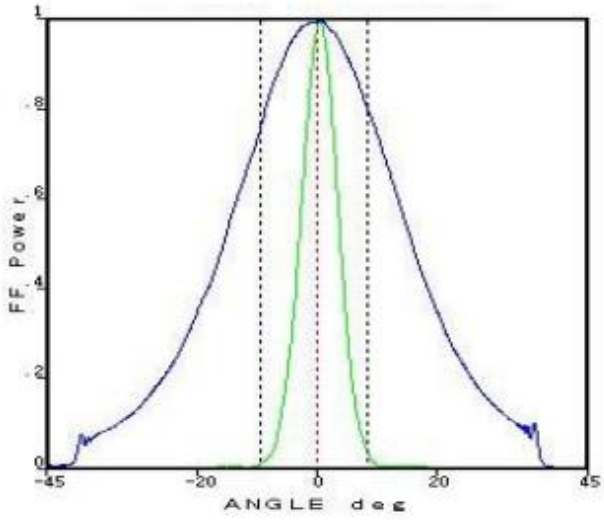






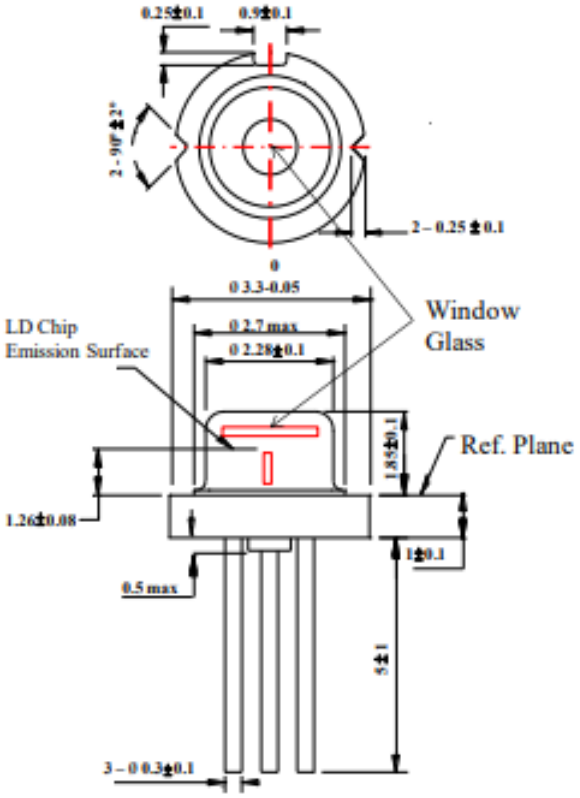


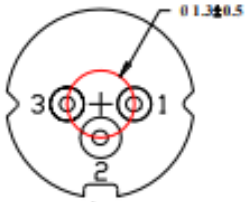




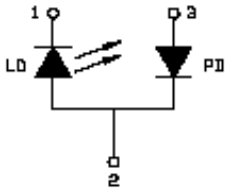
Lasermate Group, Inc.
19608 Camino De Rosa, Walnut, CA 91789, USA
Tel: (909)718-0999 | Fax: (909)718-0998 | E-mail: info@lasermate.com | URL: https://www.lasermate.com

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.

Lasermate Group, Inc.
19608 Camino De Rosa, Walnut, CA 91789, USA
Tel: (909)718-0999 | Fax: (909)718-0998 | E-mail: info@lasermate.com | URL: https://www.lasermate.com