LASERMATE GROUP, INC.
The Friend of Lasers

Model No. LD780A10C16 (LD-780-10A)
780nm 10mW 60°C Laser Diode in TO-18 Φ5.6mm Package

FEATURES

- 780m 10mW AlGaAs Infrared Laser Diode
- High efficiency
- Better power budget for optical design
- Low operating current
- Package: TO-18 (dia. 5.6mm)

APPLICATIONS

- Industrial tools
- Laser printer light source

ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	CONDITION	RATING	UNIT
LIGHT 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
CASE TEMPERATURE	T_C	-	-10 to +60	°C
STORAGE TEMPERATURE	T_S	-	-40 to +85	°C

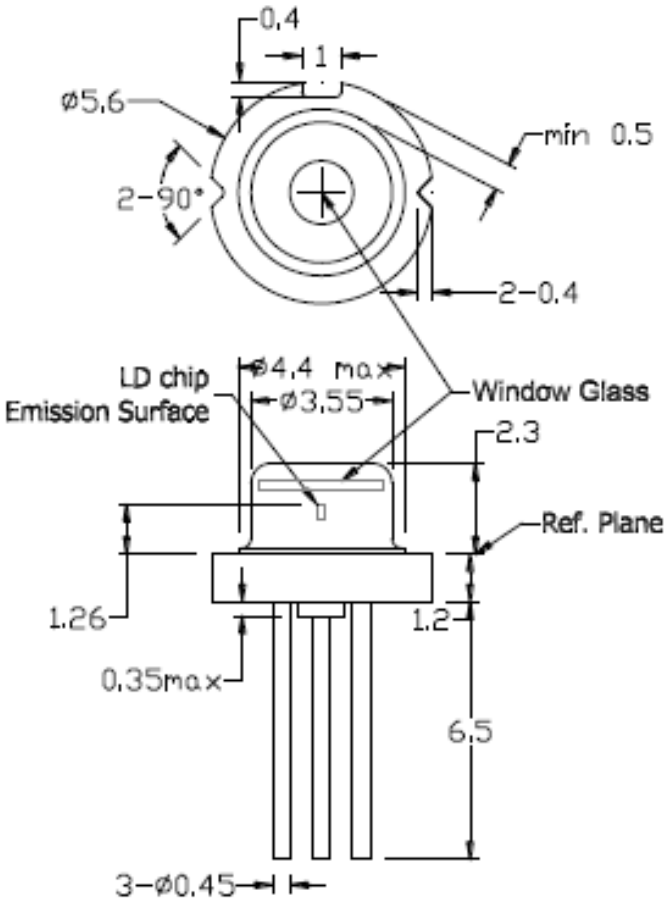
ELECTRICAL AND OPTICAL CHARACTERISTICS (T_C = 25 °C)

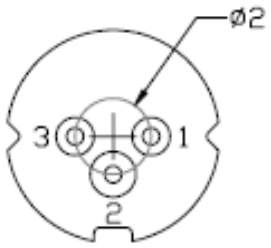
PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS
PEAK WAVELENGTH	λ	770	780	790	nm	P_O = 10mW
THRESHOLD CURRENT	I_{th}	-	15	25	mA	
OPERATING CURRENT	I_{op}	-	30	40	mA	P_O = 10mW
OPERATING VOLTAGE	V_{op}	-	1.9	2.2	V	P_O = 10mW
DIFFERENTIAL EFFICIENCY	η	0.4	0.6	0.8	mW/mA	P_O = 7-10mW
MONITOR CURRENT	I_m	0.2	0.6	1.2	mA	P_O = 10mW, V_{RD} = 5V
PARALLEL DIVERGENCE ANGLE	$\Theta_{//}$	7	11	15	deg	
PERPENDICULAR DIVERGENCE ANGLE	$\Theta_{\perp}$	24	28	32	deg	
PARALLEL FFP DEVIATION ANGLE	$\Delta\Theta_{//}$	-2	0	+2	deg	P_O = 10mW
PERPENDICULAR FFP DEVIATION ANGLE	$\Delta\Theta_{\perp}$	-3	0	+3	deg	
EMISSION POINT ACCURACY	Δx Δy Δz	-80	0	+80	um	

Note: The above specifications are subject to change without notice.

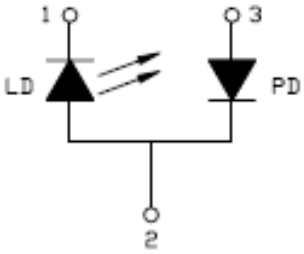
19608 Camino De Rosa, Walnut, CA 91789, USA | Tel: (909)718-0999 | Fax: (909)718-0998 |
E-mail: info@lasermate.com | URL: http://www.lasermate.com

MECHANICAL OUTLINE (unit: mm)





Pin Configuration



PRECAUTIONS

- 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.

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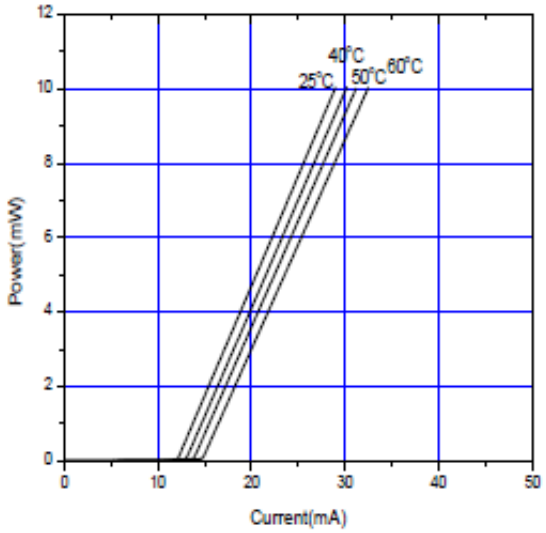
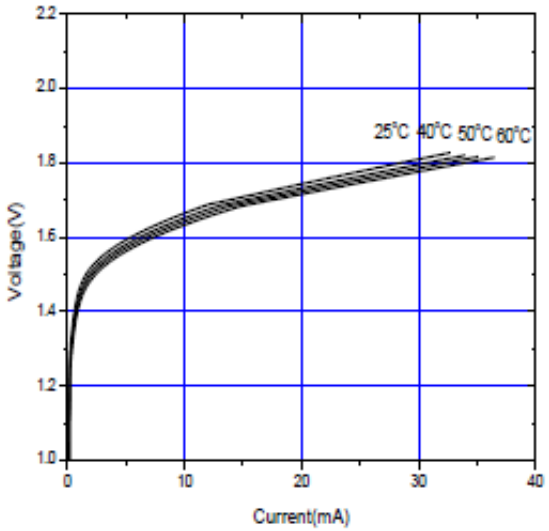
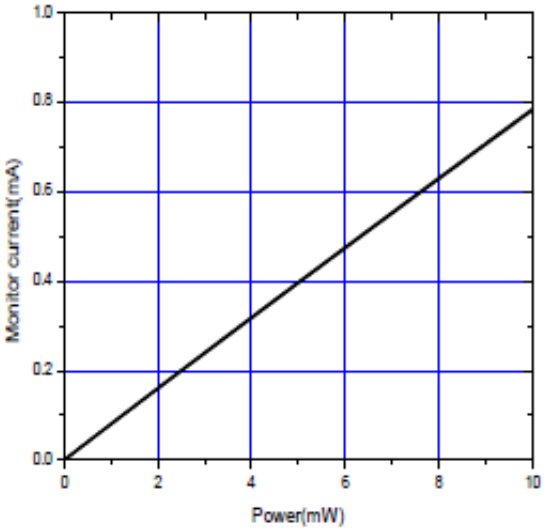
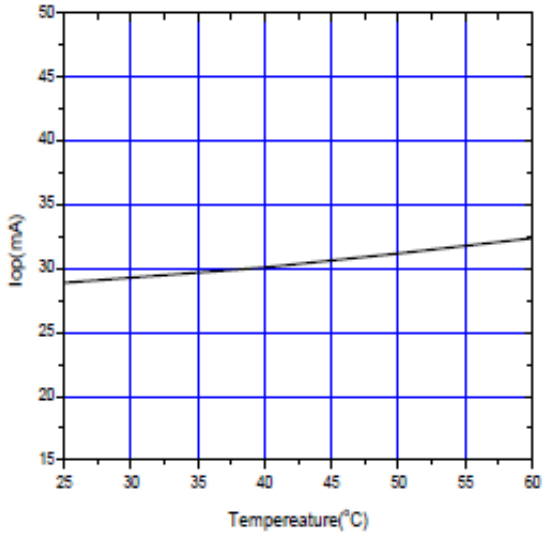
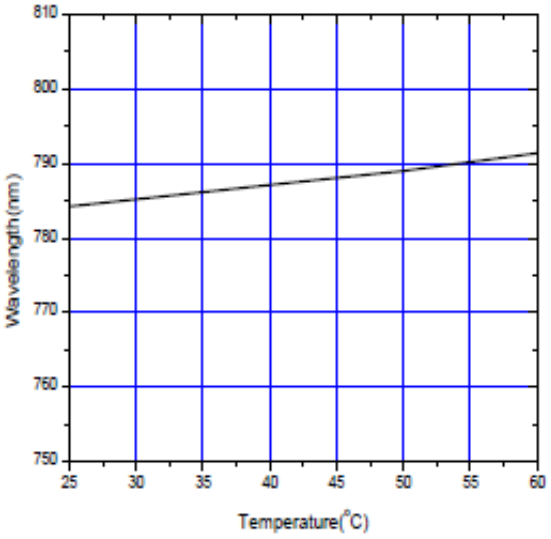
TYPICAL CHARACTERISTICS

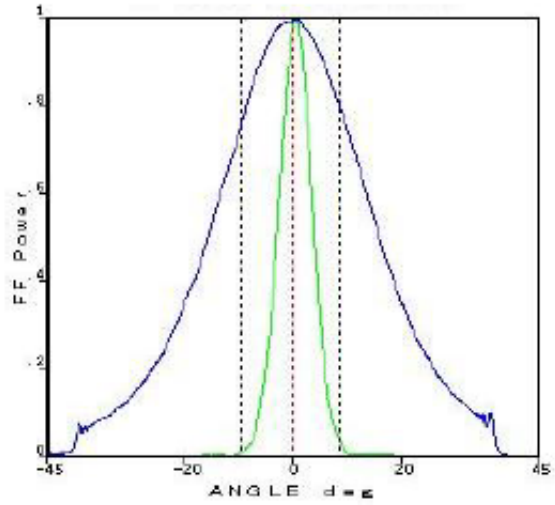












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