LASERMATE GROUP, INC.
The Friend of Lasers

Model No. LD780C3C16
780nm 3mW 60°C Laser Diode in TO-18 Φ5.6mm Package

FEATURES

- 780nm 3mW CW AlGaAs Laser Diode
- Package: TO-18 (dia. 5.6mm)
- Built-in photodiode for monitoring laser diode

APPLICATIONS

- Laser beam printer
- Sensor
- Industrial optical module

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}	-	25	V
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	785	795	nm	P_O = 3mW
THRESHOLD CURRENT	I_{th}	8	13	20	mA	-
OPERATING CURRENT	I_{op}	-	20	33	mA	P_O = 3mW
DIFFERENTIAL EFFICIENCY	η	-	0.4	0.5	mW/mA	2mW/ I(3mW)-I(1mW)
OPERATING VOLTAGE	V_{op}	-	1.9	2.5	V	P_O = 3mW
MONITOR CURRENT	I_m	0.15	0.25	0.45	mA	P_O = 3mW
PARALLEL DIVERGENCE ANGLE	$\Theta_{//}$	8	10	12	deg	P_O = 3mW
PERPENDICULAR DIVERGENCE ANGLE	$\Theta_{\perp}$	26	28	30	deg	P_O = 3mW
PARALLEL FFP DEVIATION ANGLE	$\Delta\Theta_{//}$	-2	0	+2	deg	P_O = 3mW
PERPENDICULAR FFP DEVIATION ANGLE	$\Delta\Theta_{\perp}$	-3	0	+3	deg	P_O = 3mW
ASTIGMATISM	A_S		5	10	um	P_O = 3mW
DROOP	Δ P		5	10	%	P_O = 3mW
EMISSION POINT ACCURACY	Δx Δy Δz	-80	0	+80	um	P_O = 3mW

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

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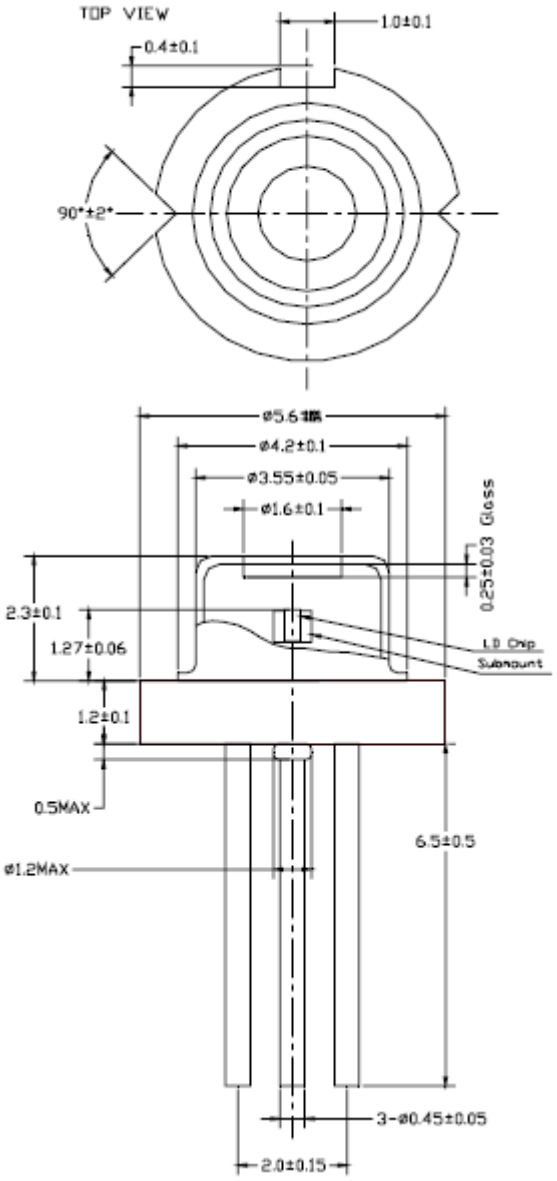
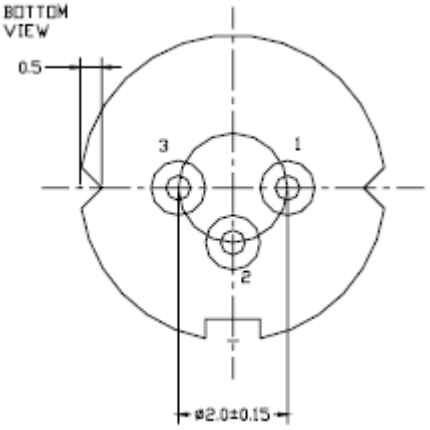
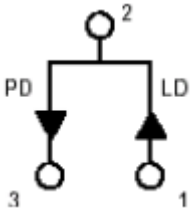
MECHANICAL OUTLINE (unit: mm)





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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