

**LASERMATE GROUP, INC.****The Friend of Lasers**

Model No. LD780Y10C16
780nm 10mW 60°C Laser Diode in TO-18 Ø5.6mm Package

FEATURES

- 780nm 10mW CW AlGaAs Laser Diode
- Package: TO-18 (dia. 5.6mm)
- Number of Beams: 4
- Dual Beam: 14um pitch (beam to beam)
- Built-in photodiode for monitoring laser diode

APPLICATIONS

- Industrial optical module
- Sensor
- Laser printer
- Digital copier

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
OPERATING TEMPERATURE	T_{opr}	-	-10 to +60	°C
STORAGE TEMPERATURE	T_{stg}	-	-40 to +85	°C

ELECTRICAL AND OPTICAL CHARACTERISTICS ($T_c = 25^\circ\text{C}$)

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	DIFF.	UNIT	CONDITIONS
LASING WAVELENGTH	λ_p	775	788	790	2	nm	$P_O = 10\text{mW}$
THRESHOLD CURRENT	I_{th}	8	18	24	2	mA	-
OPERATING CURRENT	I_{op}	-	33	44	3	mA	$P_O = 10\text{mW}$
DIFFERENTIAL EFFICIENCY	η	0.35	0.5	0.8	0.2	mW/mA	$8\text{mW}/I(10\text{mW})$ $-I(2\text{mW})$
OPERATING VOLTAGE	V_{op}	1.5	2.0	2.5		V	$P_O = 10\text{mW}$
MONITOR CURRENT	I_m	0.4	0.9	1.4	30%	mA	$P_O = 10\text{mW}$
PARALLEL DIVERGENCE ANGLE	$\theta_{//}$	7	9	12	2	deg	$P_O = 10\text{mW}$
PERPENDICULAR DIVERGENCE ANGLE	$\theta_{\perp}$	25	31	35	4	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	$P_O = 10\text{mW}$
CENTER TO CENTER SPACING BETWEEN ADJACENT BEAMS		13.7	14	14.3		um	SEM measurement
BEAM SPACING		41.7	42	42.3		um	LD1 to LD4

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



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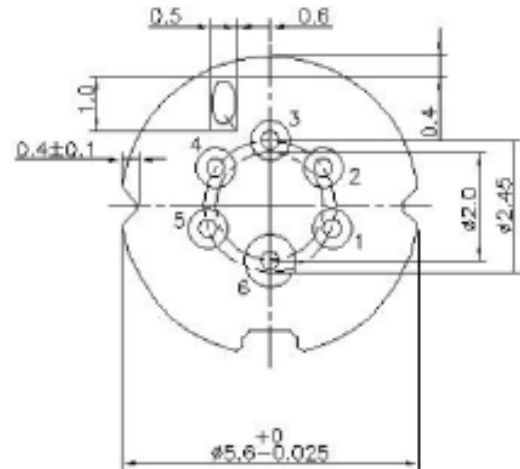
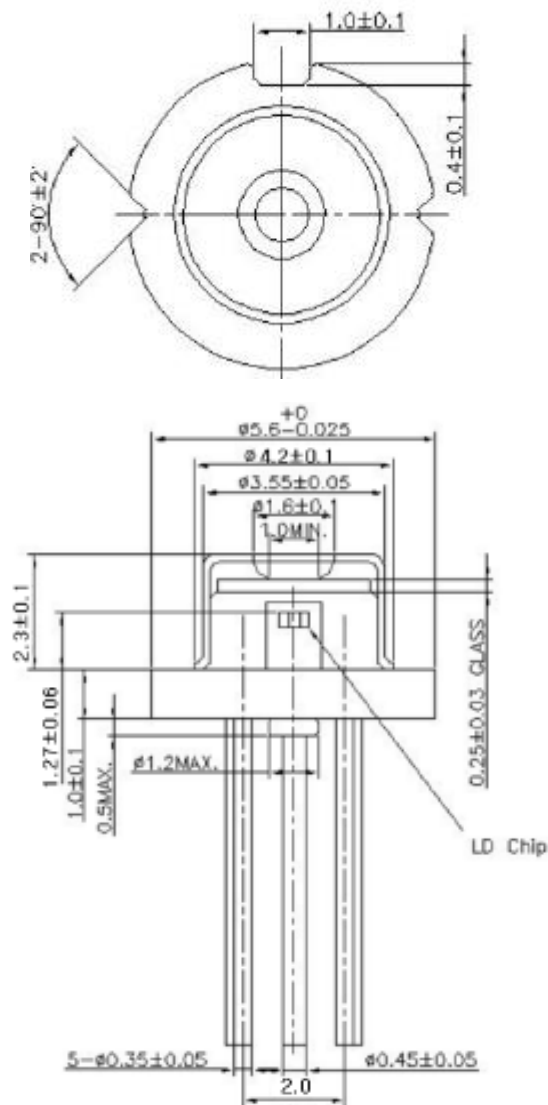
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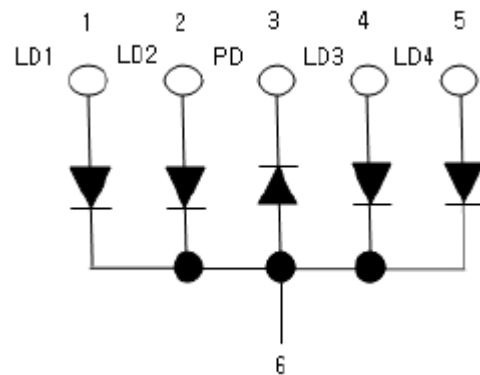
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MECHANICAL OUTLINE (unit: mm)



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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