



LASERMATE GROUP, INC.

The Friend of Lasers

Model No. LD780Y10D16
780nm 10mW 60°C Laser Diode in TO-5 Ø9.0mm Package

FEATURES

- 780nm 10mW CW AlGaAs Laser Diode
- Package: TO-5 (dia. 9.0mm)
- Number of beams: 4
- Nominal beam to beam separation: 14um pitch (beam to beam distance)

APPLICATIONS

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

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 °C)

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	DIFF.	UNIT	CONDITIONS
LASING WAVELENGTH	λ _p	775	788	790	2	nm	P _O = 10mW
THRESHOLD CURRENT	I _{th}	8	18	24	2	mA	
OPERATING CURRENT	I _{op}	-	33	44	3	mA	P _O = 10mW
DIFFERENTIAL EFFICIENCY	η	0.35	0.5	0.8	0.2	mW/mA	8mW/I(10mW)-I(2mW)
OPERATING VOLTAGE	V _{op}	1.5	1.8	2.5		V	P _O = 10mW
MONITOR CURRENT	I _m	0.3	0.6	1.2	30%	mA	P _O = 10mW
PARALLEL DIVERGENCE ANGLE	Θ _{//}	7	9	12	2	deg	P _O = 10mW
PERPENDICULAR DIVERGENCE ANGLE	Θ _⊥	25	31	35	4	deg	P _O = 10mW
PARALLEL FFP DEVIATION ANGLE	Δ Θ _{//}	-2	0	+2		deg	P _O = 10mW
PERPENDICULAR FFP DEVIATION ANGLE	Δ Θ _⊥	-3	0	+3		deg	P _O = 10mW
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
ASTIGMATISM	A _s			10	2	um	P _O = 10mW

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

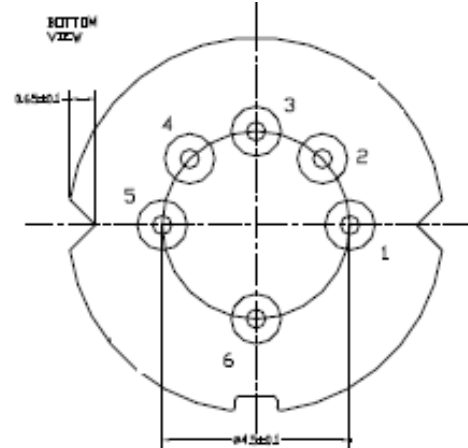
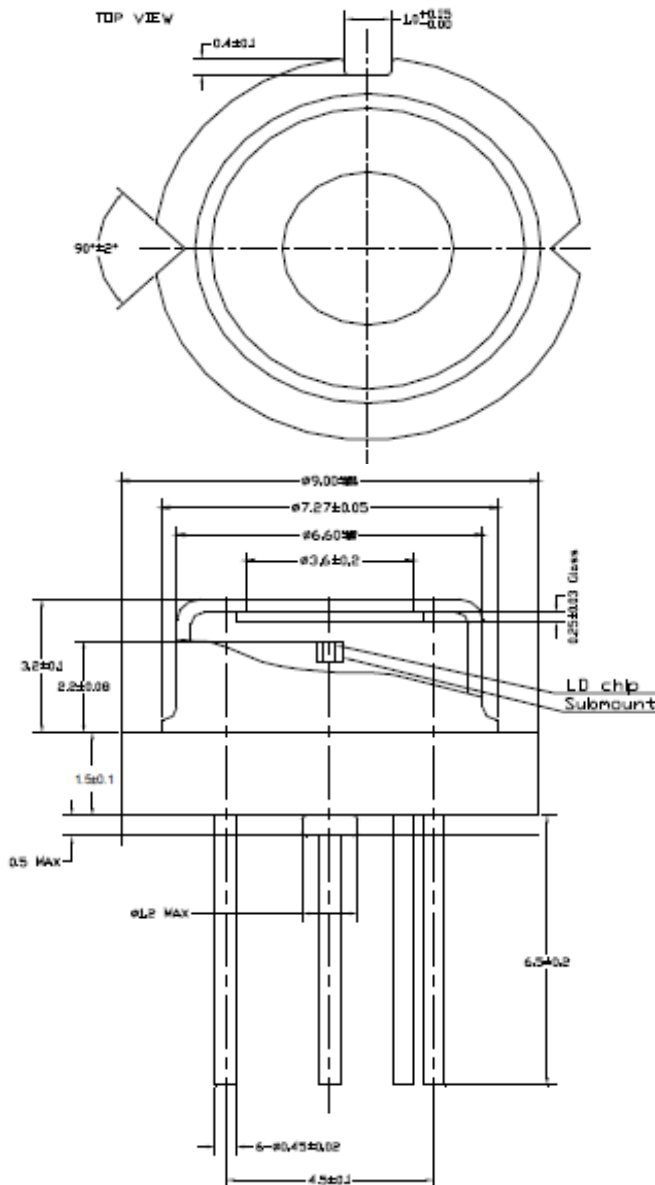


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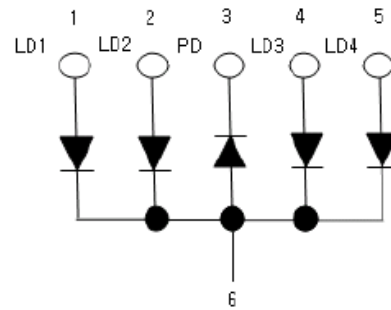
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MECHANICAL OUTLINE (unit: mm)



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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