



LASERMATE GROUP, INC.

The Friend of Lasers

Model No. LD845E450C16

845nm 450mW 60°C Laser Diode in TO-18 Ø5.6mm Package

FEATURES

- 845nm 450mW CW Laser Diode
- Package: TO-18 (dia. 5.6mm)
- Built-in photodiode for monitoring laser diode

APPLICATIONS

- Gesture recognition
- 3D sensing
- Optoelectronic devices

ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	CONDITION	RATING	UNIT
OPTICAL OUTPUT POWER	P_O	CW	500	mW
REVERSE VOLTAGE (LD)	V_{RL}	-	2	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.	UNIT	CONDITIONS
LASING WAVELENGTH	λ_p	835	845	855	nm	$P_O = 450\text{mW}$
THRESHOLD CURRENT	I_{th}	-	140	160	mA	-
OPERATING CURRENT	I_{op}	-	530	550	mA	$P_O = 450\text{mW}$
DIFFERENTIAL EFFICIENCY	η	0.95	1.15	1.30	mW/mA	$P_O = 450\text{mW}$
OPERATING VOLTAGE	V_{op}	1.9	2.2	2.5	V	$P_O = 450\text{mW}$
PARALLEL DIVERGENCE ANGLE	$\Theta_{//}$	5	9	13	deg	$P_O = 450\text{mW}$
PERPENDICULAR DIVERGENCE ANGLE	$\Theta_{\perp}$	30	40	45	deg	$P_O = 450\text{mW}$
PARALLEL FFP DEVIATION ANGLE	$\Delta \Theta_{//}$	-2	0	+2	deg	$P_O = 450\text{mW}$
PERPENDICULAR FFP DEVIATION ANGLE	$\Delta \Theta_{\perp}$	-3	0	+3	deg	$P_O = 450\text{mW}$
EMISSION POINT ACCURACY	$\Delta x \Delta y \Delta z$	-60	0	+60	um	

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

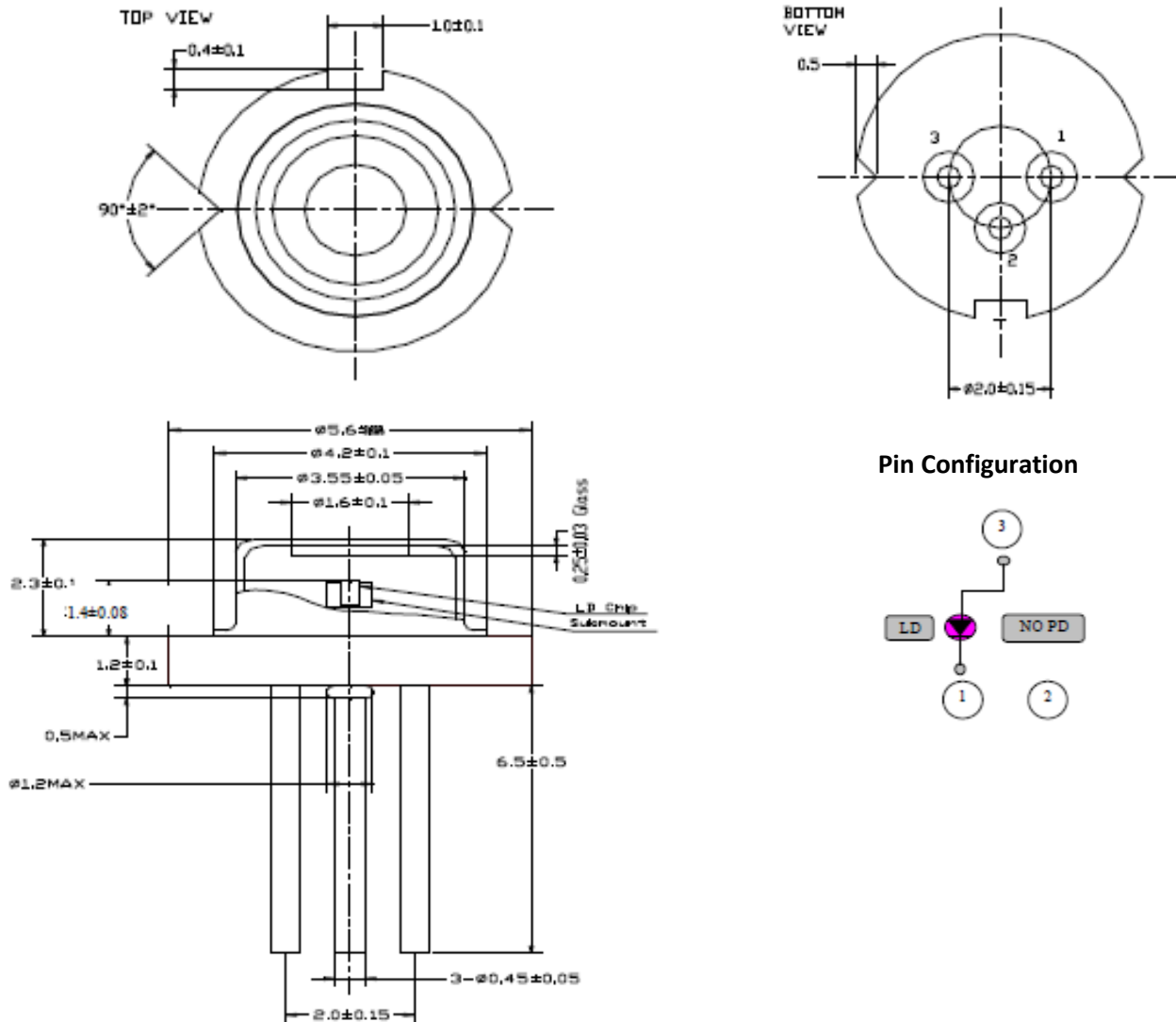


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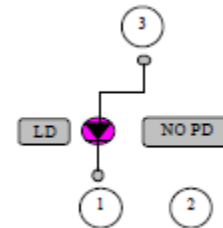
E-mail: info@lasermate.com | URL: <http://www.lasermate.com>



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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