



LASERMATE GROUP, INC.

The Friend of Lasers

Model No. LD850A5A16
850nm 5mW 60°C Laser Diode in TO-33 Ø3.3mm Package

FEATURES

- 850nm 5mW CW AlGaAs Laser Diode
- Package: TO-33 (dia. 3.3mm)
- Built-in photodiode for monitoring laser diode
- Attractive light source

APPLICATIONS

- Motion recognition sensor
- Industrial optical module

ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	CONDITION	RATING	UNIT
OPTICAL OUTPUT POWER	P_O	CW	7	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.	UNIT	CONDITIONS
LASING WAVELENGTH	λ_p	845	852	855	nm	$P_O = 5\text{mW}$
THRESHOLD CURRENT	I_{th}	5	11	20	mA	
OPERATING CURRENT	I_{op}	12	17	30	mA	$P_O = 5\text{mW}$
DIFFERENTIAL EFFICIENCY	η	0.4	0.7	0.9	mW/mA	$P_O = 2\text{-}5\text{mW}$
OPERATING VOLTAGE	V_{op}	-	1.8	2.5	V	$P_O = 5\text{mW}$
MONITOR CURRENT	I_m	0.05	0.15	0.4	mA	$P_O = 5\text{mW}$
PARALLEL DIVERGENCE ANGLE	$\Theta_{//}$	7	9	12	deg	$P_O = 5\text{mW}$
PERPENDICULAR DIVERGENCE ANGLE	$\Theta_{\perp}$	25	32	40	deg	$P_O = 5\text{mW}$
PARALLEL FFP DEVIATION ANGLE	$\Delta \Theta_{//}$	-3	0	+3	deg	$P_O = 5\text{mW}$
PERPENDICULAR FFP DEVIATION ANGLE	$\Delta \Theta_{\perp}$	-3	0	+3	deg	$P_O = 5\text{mW}$
ASTIGMATISM	A_s			15	um	
EMISSION POINT ACCURACY	$\Delta x \Delta y \Delta z$	-60	0	+60	um	

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



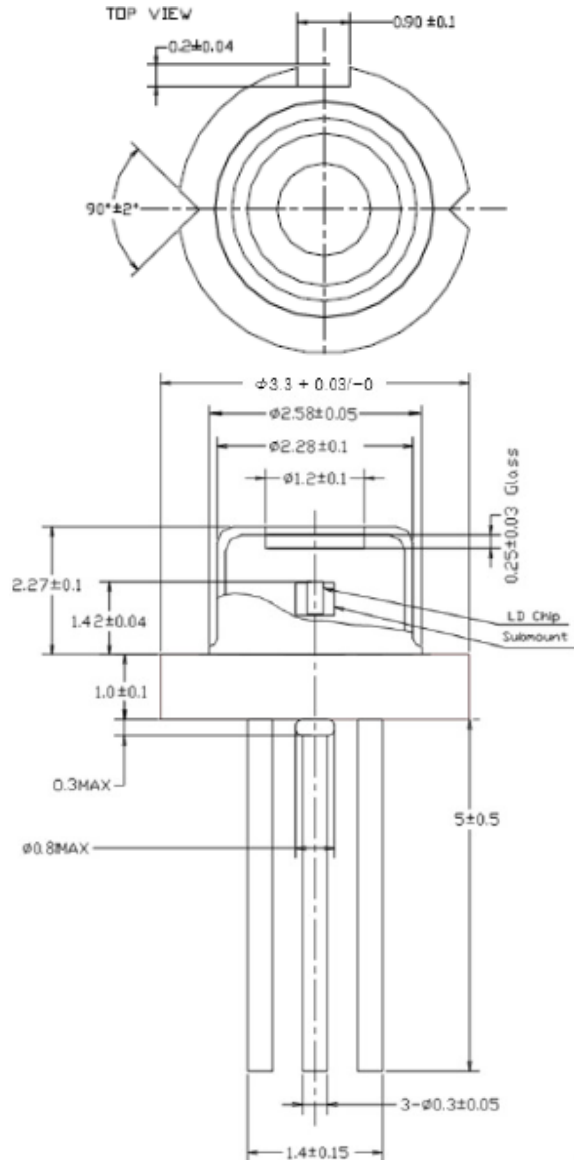
19608 Camino De Rosa, Walnut, CA 91789, USA | Tel: (909)718-0999 | Fax: (909)718-0998 |
E-mail: info@lasermate.com | URL: <http://www.lasermate.com>



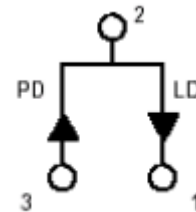
LASERMATE GROUP, INC.

The Friend of Lasers

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.

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>