LASERMATE GROUP, INC.

The Friend of Lasers

Model No. LD830B100C16

830nm 100mW 60°C Laser Diode in TO-18 Φ5.6mm Package

FEATURES

- 830nm 100mW CW AlGaAs Laser Diode
- Package: TO-18 (dia. 5.6mm)
- Built-in photodiode for monitoring laser diode

APPLICATIONS

- Sensor
- Industrial optical module

ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	CONDITION	RATING	UNIT
OPTICAL OUTPUT POWER	P_O	CW	110	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

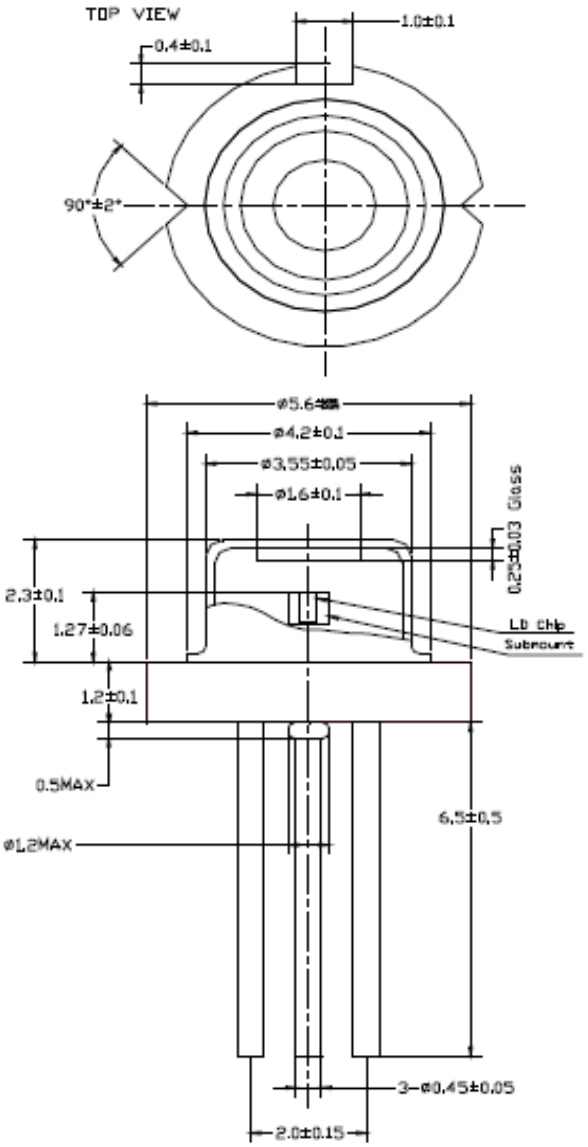
ELECTRICAL AND OPTICAL CHARACTERISTICS (T_C = 25 °C)

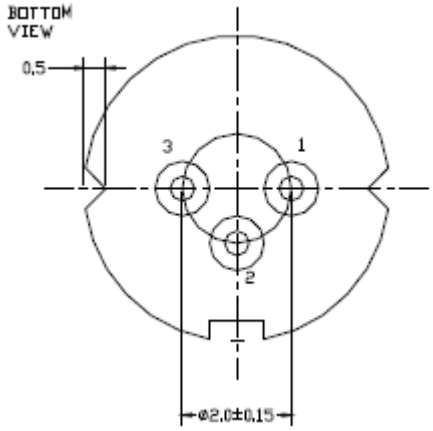
PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS
LASING WAVELENGTH	λ_p	820	830	840	nm	P_O = 100mW
THRESHOLD CURRENT	I_{th}	20	35	75	mA	-
OPERATING CURRENT	I_{op}	120	150	170	mA	P_O = 100mW
DIFFERENTIAL EFFICIENCY	η	0.9	1.1	1.3	mW/mA	100mW/I(80mW)-I(120mW)
OPERATING VOLTAGE	V_{op}	1.7	2.1	2.5	V	P_O = 100mW
MONITOR CURRENT	I_m	0.1	0.3	0.7	mA	P_O = 100mW
PARALLEL DIVERGENCE ANGLE	$\Theta_{//}$	5	8	11	deg	P_O = 100mW
PERPENDICULAR DIVERGENCE ANGLE	$\Theta_{\perp}$	15	20	25	deg	P_O = 100mW
PARALLEL FFP DEVIATION ANGLE	$\Delta\ \Theta_{//}$	-2	0	+2	deg	P_O = 100mW
PERPENDICULAR FFP DEVIATION ANGLE	$\Delta\ \Theta_{\perp}$	-3	0	+3	deg	P_O = 100mW
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.

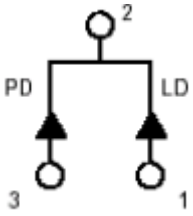
19608 Camino De Rosa, Walnut, CA 91789, USA | Tel: (909)718-0999 | Fax: (909)718-0998 |
E-mail: info@lasermate.com | URL: http://www.lasermate.com

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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