830nm 250mW 60°C Laser Diode in TO-18 ϕ5.6mm Package

Part No. LD830A250C16

FEATURES

- 830nm 250mW laser diode
- Package: TO-18 (5.6mm)
- Small far field angle

APPLICATIONS

- Light source for sensor
- Industry

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Rating	Unit
Optical output power	P_O	270	mW
Reverse voltage (LD)	V_{RL}	0	V
Reverse voltage (PD)	V_{RD}	30	V
Forward current (PD)	I_{FD}	10	mA
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
Peak wavelength	λ	820	830	840	nm	P_O = 250mW
Threshold current	I_{th}	-	75	100	mA	
Operating current	I_{op}	-	300	350	mA	P_O = 250mW
Operating voltage	V_{op}	-	1.9	2.4	V	P_O = 250mW
Slope efficiency	η	0.9	1.0	-	mW/mA	P_O = 200-250mW
Monitor current	I_m	0.4	1.1	1.9	mA	P_O = 250mW, V_{RD} = 5V
Parallel divergence angle	$\Theta_{//}$	5	7	12	deg	P_O = 250mW
Perpendicular divergence angle	$\Theta_{\perp}$	10	14	20	deg	P_O = 250mW
Parallel FFP deviation angle	$\Delta\Theta_{//}$	-3	0	3	deg	P_O = 250mW
Perpendicular FFP deviation angle	$\Delta\Theta_{\perp}$	-3	0	3	deg	P_O = 250mW
Emission point accuracy	Δx Δy Δz	-50	0	50	um	P_O = 250mW

*Sufficient heat dissipation is required for CW operation.

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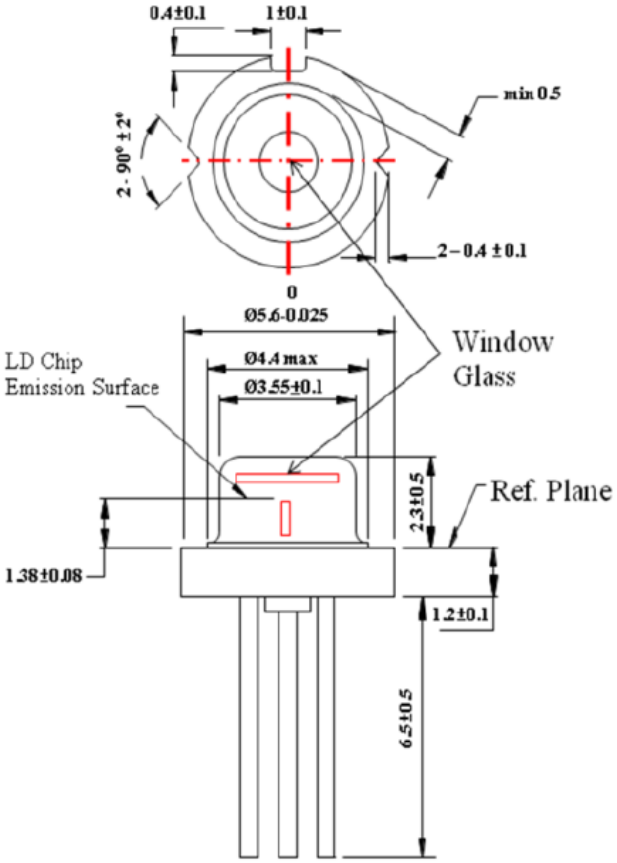
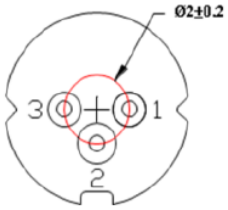
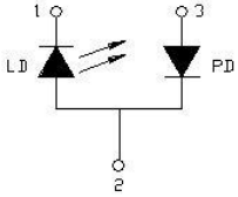
MECHANICAL OUTLINE (unit: mm)





Pin Configuration



ADDITIONAL NOTES

- 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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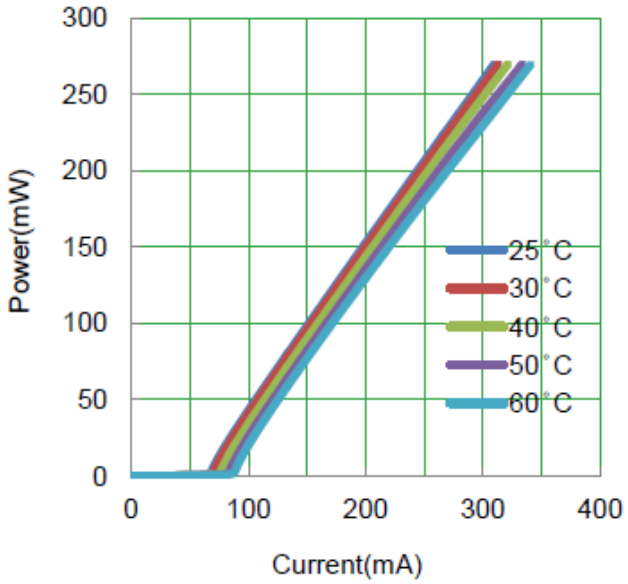
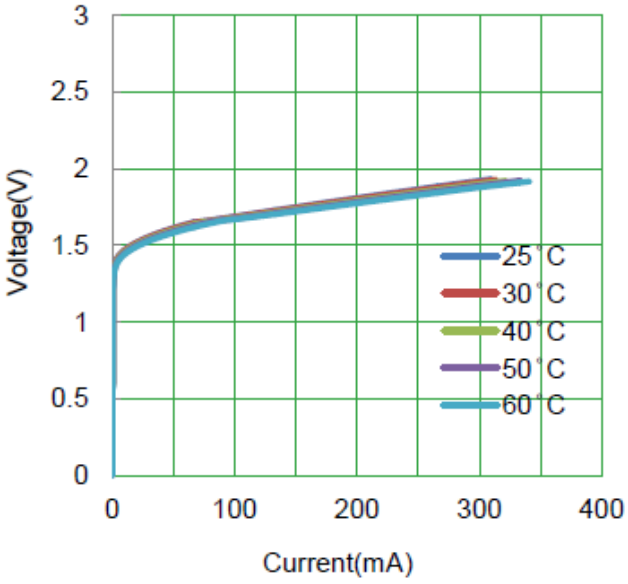
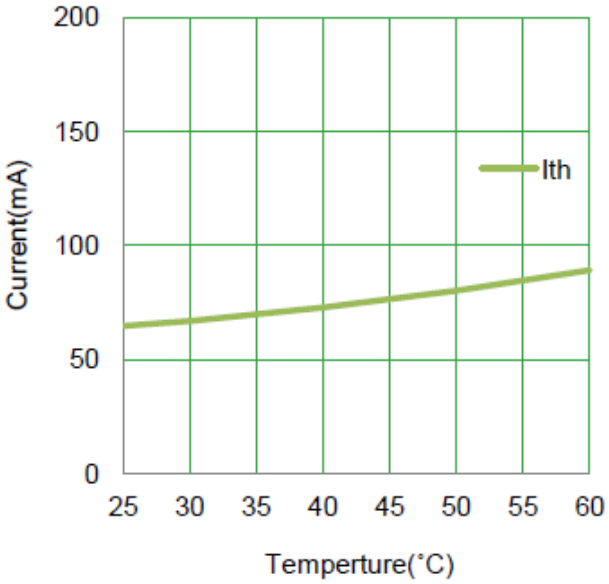
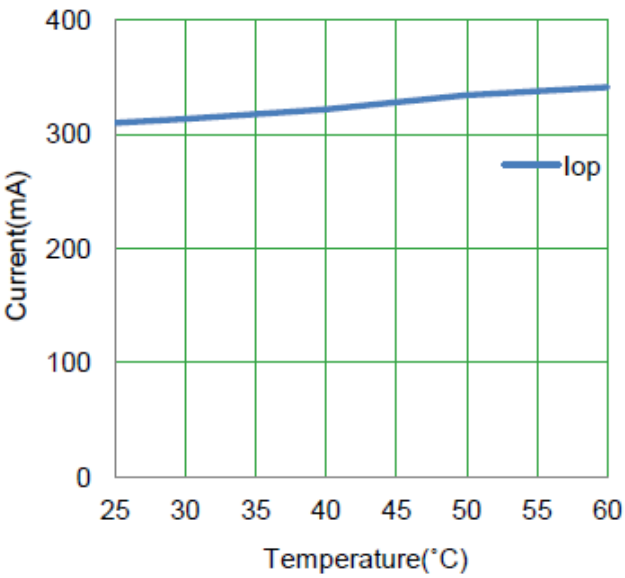
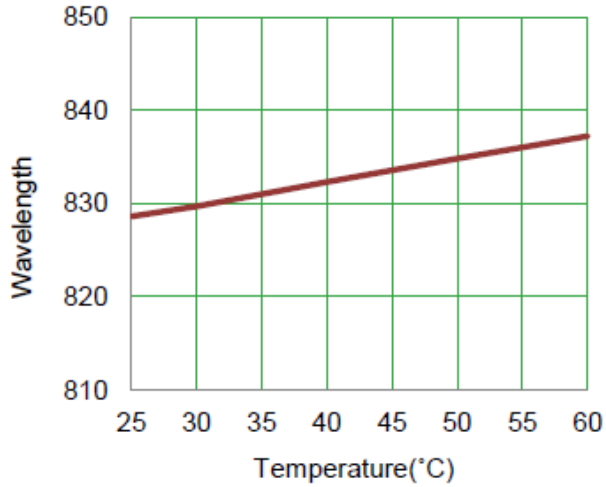
TYPICAL CHARACTERISTICS

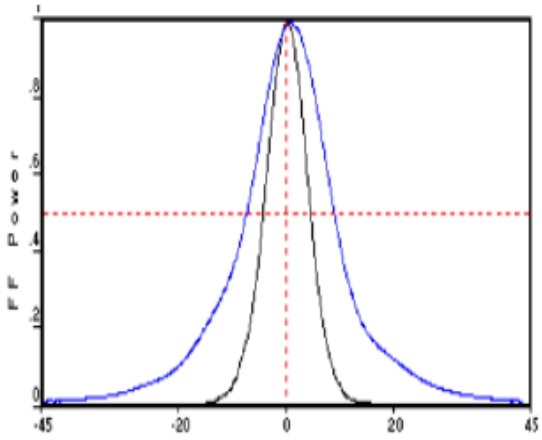












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