

## 830nm 100mW 60°C Laser Diode in TO-18 $\phi$ 5.6mm Package

Part No. LD830A100C16

### FEATURES

- 830nm 100mW CW AlGaAs Laser Diode
- Package: TO-18 (dia. 5.6mm)
- Built-in photodiode for monitoring laser diode
- High temperature operation
- Small far field angle

### APPLICATIONS

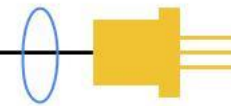
- Light source for sensor
- Industry

### ABSOLUTE MAXIMUM RATINGS

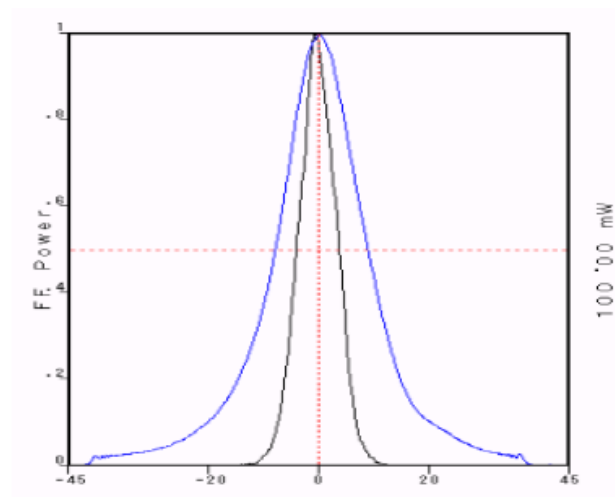
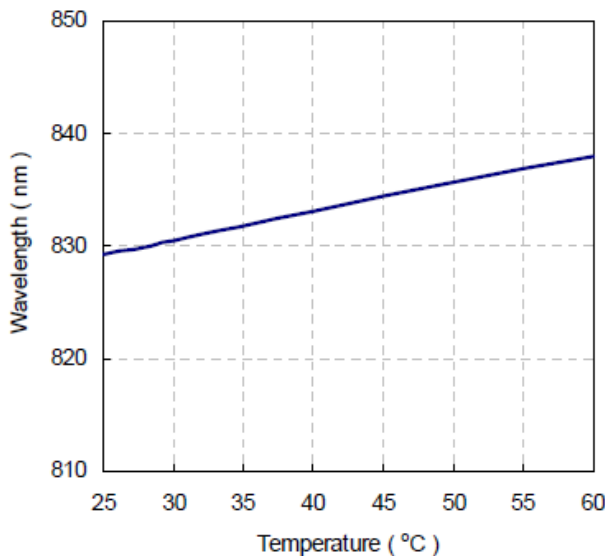
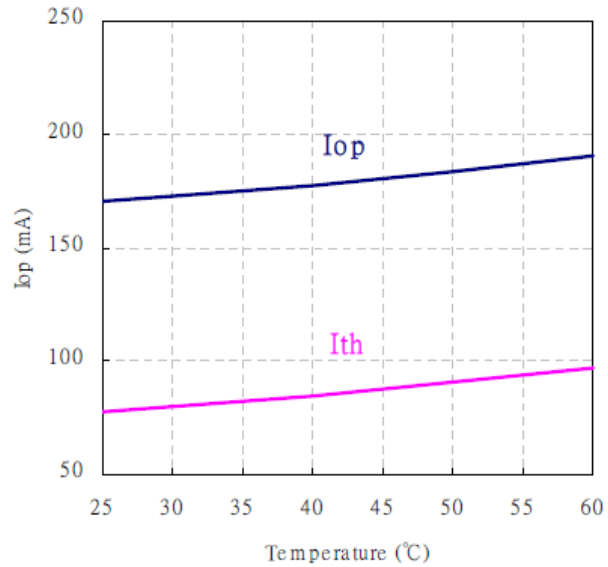
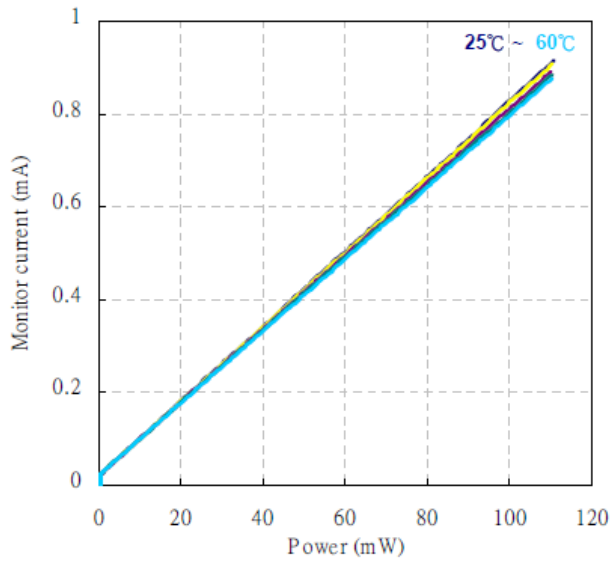
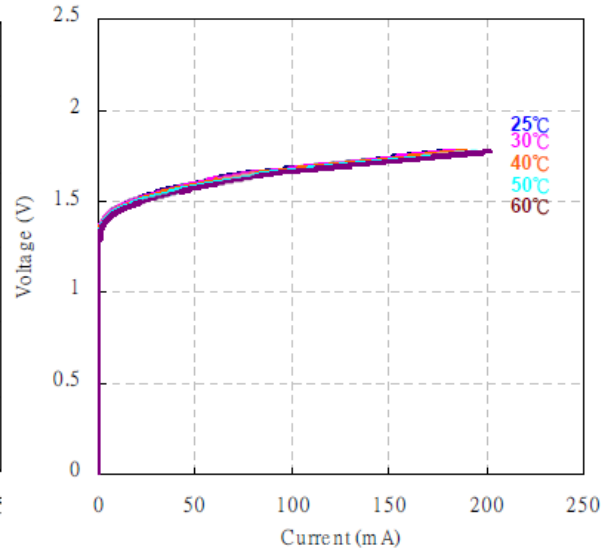
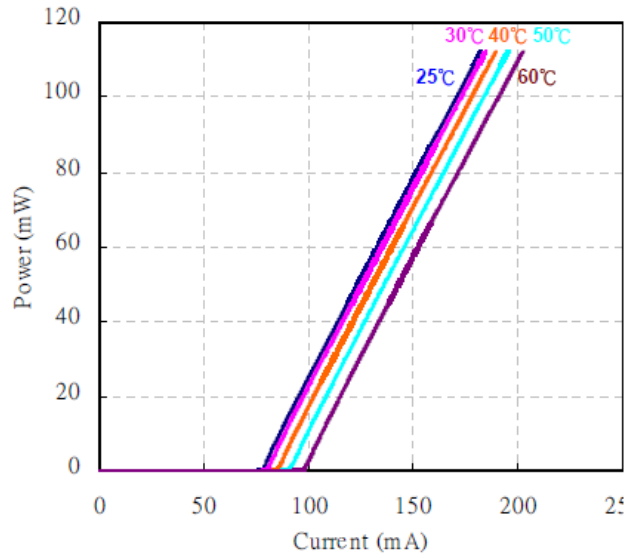
Parameter	Symbol	Condition	Rating	Unit
Optical output power	$P_O$	CW	110	mW
Reverse voltage (LD)	$V_{RL}$	-	2	V
Reverse voltage (PD)	$V_{RD}$	-	30	V
Forward current (PD)	$I_{FD}$	-	10	mA
Operating temperature	$T_{opr}$	-	-10 to +60	°C
Storage temperature	$T_{stg}$	-	-40 to +85	°C

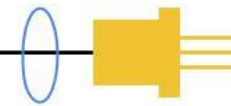
### ELECTRICAL AND OPTICAL CHARACTERISTICS ( $T_C = 25^\circ\text{C}$ )

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Lasing wavelength	$\lambda_p$	820	830	840	nm	$P_O = 100\text{mW}$
Threshold current	$I_{th}$	-	70	90	mA	$P_O = 100\text{mW}$
Operating current	$I_{op}$	-	180	200	mA	$P_O = 100\text{mW}$
Differential Efficiency	$\eta$	0.7	0.9	-	mW/mA	$P_O = 100\text{mW}$
Operating voltage	$V_{op}$	-	1.8	2.4	V	$P_O = 100\text{mW}$
Monitor current	$I_m$	-	0.8	-	mA	$P_O = 100\text{mW}, V_{RD} = 0\text{V}$
Parallel divergence angle	$\Theta_{//}$	5	8	12	deg	$P_O = 100\text{mW}$
Perpendicular divergence angle	$\Theta_{\perp}$	-	15	20	deg	$P_O = 100\text{mW}$
Parallel FFP deviation angle	$\Delta \Theta_{//}$	-3	0	+3	deg	$P_O = 100\text{mW}$
Perpendicular FFP deviation angle	$\Delta \Theta_{\perp}$	-3	0	+3	deg	$P_O = 100\text{mW}$
Emission point accuracy	$\Delta x \Delta y \Delta z$	-80	0	+80	um	

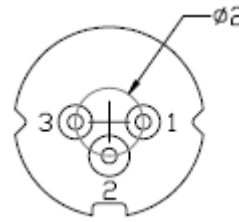
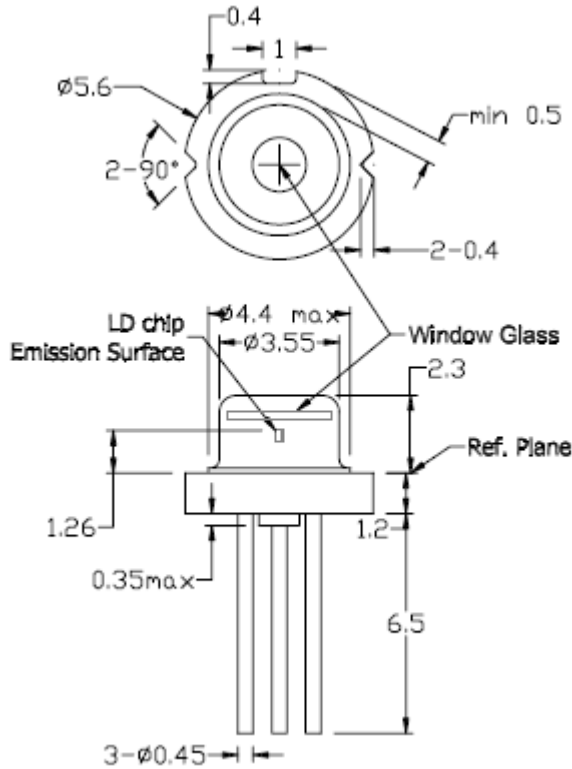


### TYPICAL CHARACTERISTICS

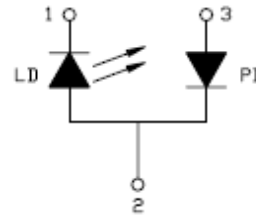




**MECHANICAL OUTLINE (unit: mm)**



**Pin Configuration**



\*Other pin configurations may be available upon request.

**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.