



635nm 10mW Laser Diode, TO-18 (ø5.6mm) Package LD635A10C15

Data Sheet

Features

- 635nm Visible Laser Diode
- Optical output power: 10mW CW
- Operating temperature: +50°C
- High reliability
- Low operating current
- MTTF (Mean Time to Failure): >18000hrs @ 25°C and >4000hrs @ 50°C
- Package: ø5.6mm, TO-18 can

Applications

- Industrial laser markers
- Survey and engineering instruments
- High visibility LD display

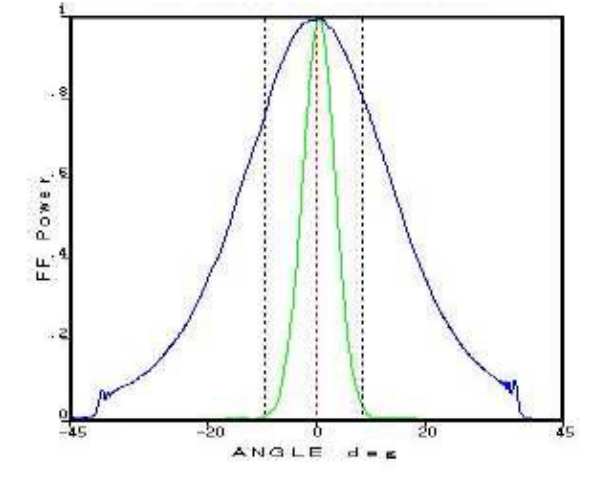
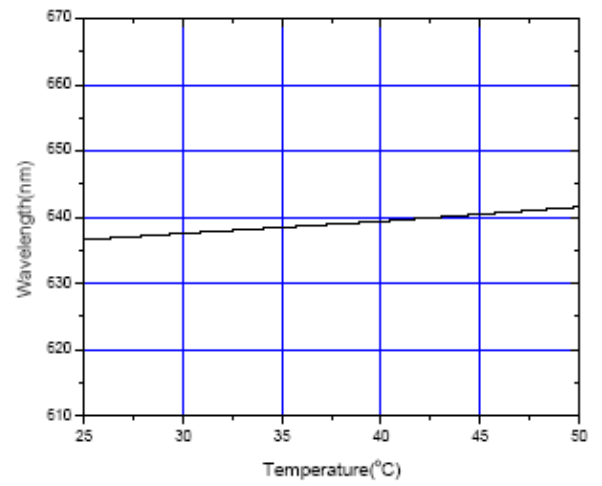
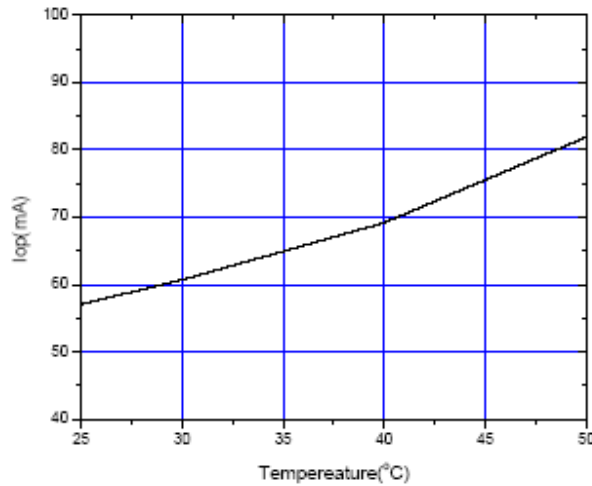
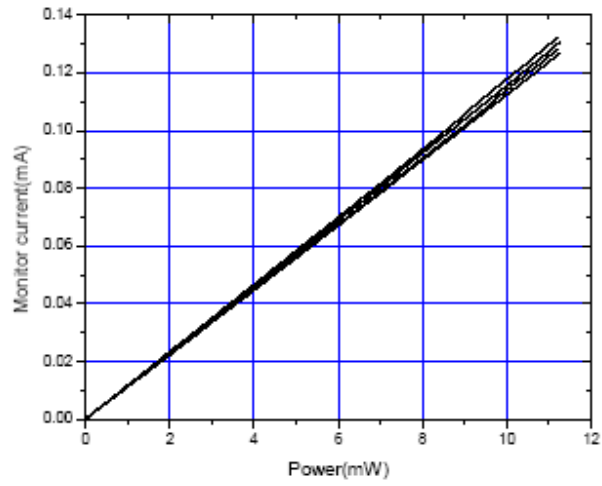
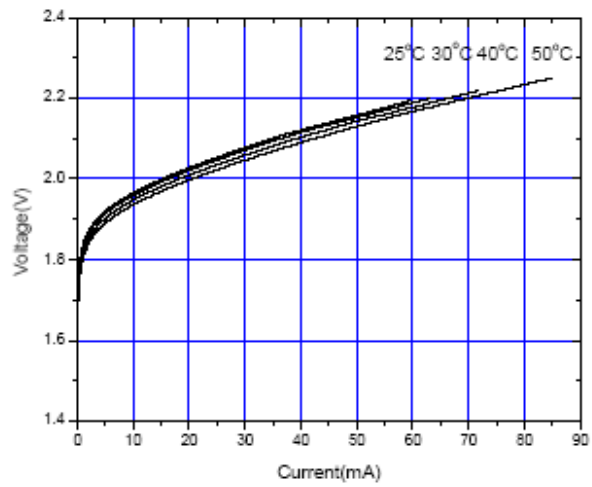
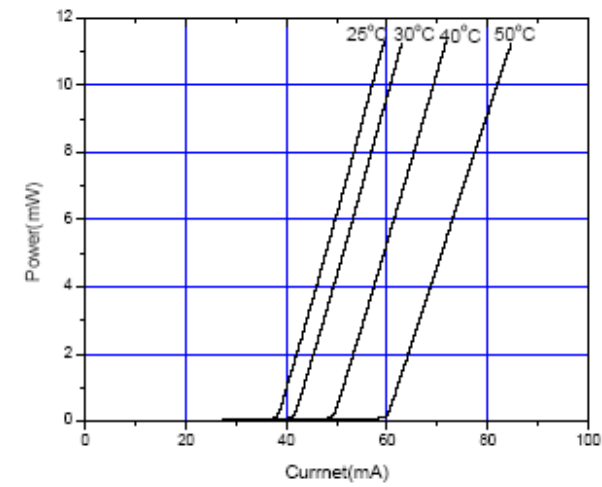
Absolute Maximum Ratings

PARAMETER	SYMBOL	CONDITION	RATING	UNIT
Light output power	P _O	CW	12	mW
Reverse voltage (LD)	V _{RL}	-	2	V
Reverse voltage (PD)	V _{RD}	-	30	V
Forward current (PD)	I _{FD}	-	10	mA
Case temperature	T _C	-	-10 to +50	°C
Storage temperature	T _S	-	-40 to +85	°C

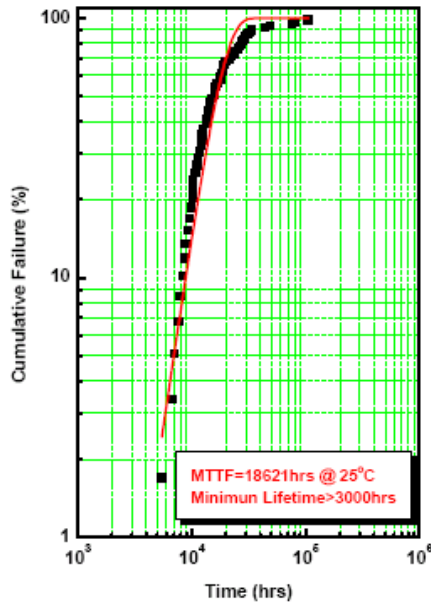
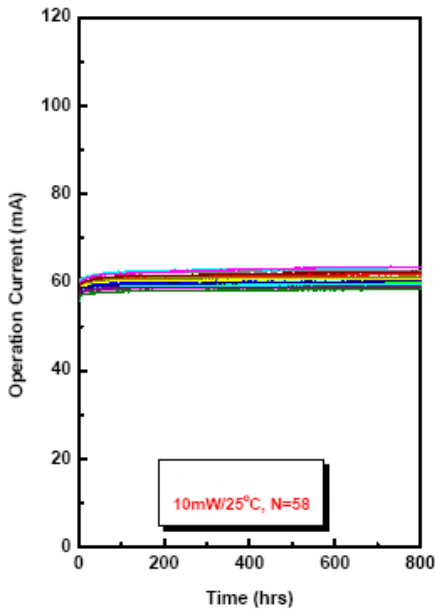
Electrical and Optical Characteristics (T_C = 25 °C)

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS
Peak wavelength	λ	630	637	642	nm	P _O = 10mW
Threshold current	I _{th}	-	35	40	mA	
Operating current	I _{op}	-	55	65	mA	P _O = 10mW
Operating voltage	V _{op}	2	2.2	2.5	V	P _O = 10mW
Differential efficiency	η	0.25	0.6	0.85	mW/mA	P _O = 5-10mW
Monitor current	I _m	0.05	0.12	0.5	mA	P _O = 10mW, V _{RD} = 5V
Parallel divergence angle	Θ _{//}	6	7.5	11	deg	P _O = 10mW
Perpendicular divergence angle	Θ _⊥	30	33	40	deg	
Parallel FFP deviation angle	Δ Θ _{//}	-2	0	+2	deg	
Perpendicular FFP deviation angle	Δ Θ _⊥	-2	0	+2	deg	
Emission point accuracy	Δx Δy Δz	-80	0	+80	um	

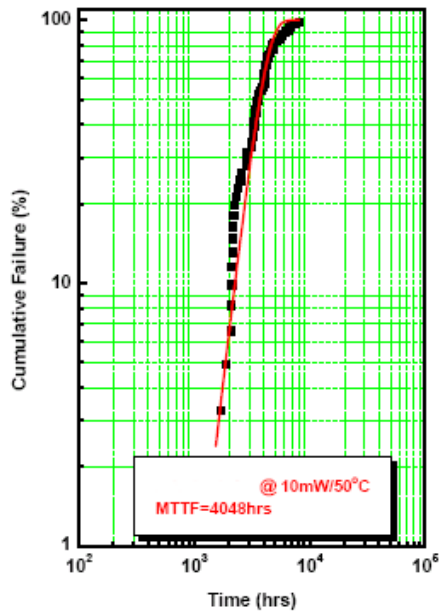
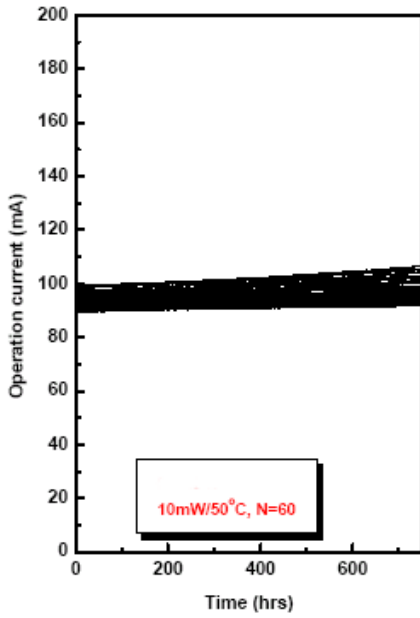
Typical Characteristics



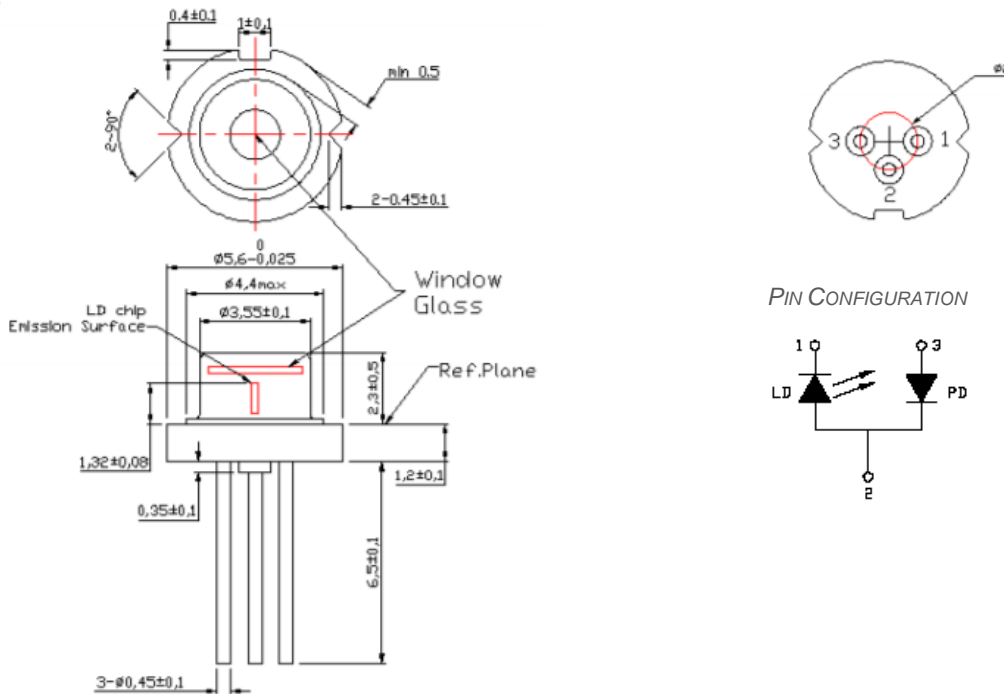
MTTF: 18621HRS @ 25°C



MTTF: 4048HRS @ 50°C



Mechanical Outline (unit: mm)



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.