

## 635nm 5mW 40°C Laser Diode in TO-18 $\phi$ 5.6mm Package

Part No. LD635A5C14

### FEATURES

- 635nm 5mW Laser Diode
- Long reliability, MTTF >5,000hrs
- High visibility
- Small perpendicular divergence angle
- Package: TO-18 ( $\Phi$ 5.6mm)

### APPLICATIONS

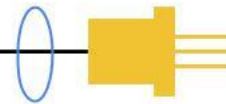
- Industrial laser markers
- Laser pointer
- High visibility LD display
- Survey and engineering instruments

### ABSOLUTE MAXIMUM RATINGS

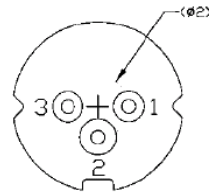
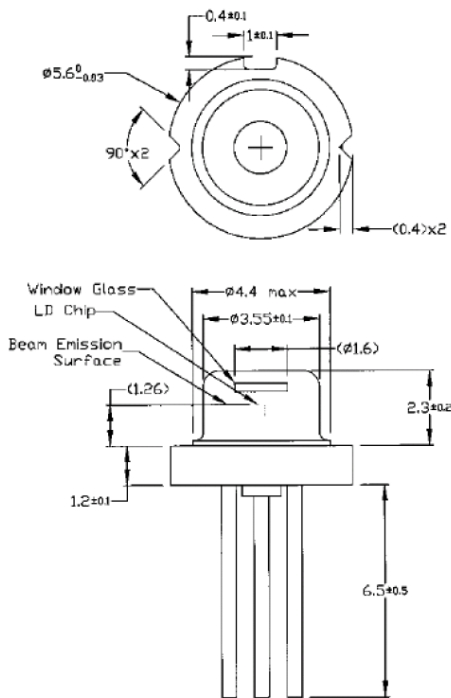
Parameter	Symbol	Condition	Rating	Unit
Light output power	$P_O$	CW	7	mW
Reverse voltage (LD)	$V_{RL}$	-	2	V
Reverse voltage (PD)	$V_{RD}$	-	30	V
Forward current (PD)	$I_{FD}$	-	10	mA
Case temperature	$T_C$	-	-10 to +40	°C
Storage temperature	$T_S$	-	-40 to +75	°C

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

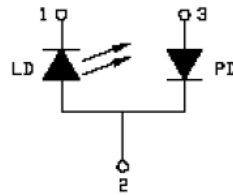
Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Peak wavelength	$\lambda$	630	635	640	nm	$P_O = 5\text{mW}$
Threshold current	$I_{th}$	20	25	30	mA	
Operating current	$I_{op}$	25	35	40	mA	$P_O = 5\text{mW}$
Operating voltage	$V_{op}$	2	2.2	2.5	V	$P_O = 5\text{mW}$
Differential efficiency	$\eta$	0.4	0.55	0.7	mW/mA	$P_O = 3\text{-}5\text{mW}$
Monitor current	$I_m$	0.05	0.1	0.3	mA	$P_O = 5\text{mW}$ , $V_{RD} = 5\text{V}$
Parallel divergence angle	$\Theta_{//}$	6	7.5	11	deg	$P_O = 5\text{mW}$
Perpendicular divergence angle	$\Theta_{\perp}$	30	33	40	deg	
Parallel FFP deviation angle	$\Delta \Theta_{//}$	-	-	$\pm 3.0$	deg	
Perpendicular FFP deviation angle	$\Delta \Theta_{\perp}$	-	-	$\pm 3.0$	deg	
Emission point accuracy	$\Delta x \Delta y \Delta z$	-	-	$\pm 80$	um	



**MECHANICAL OUTLINE (unit: mm)**

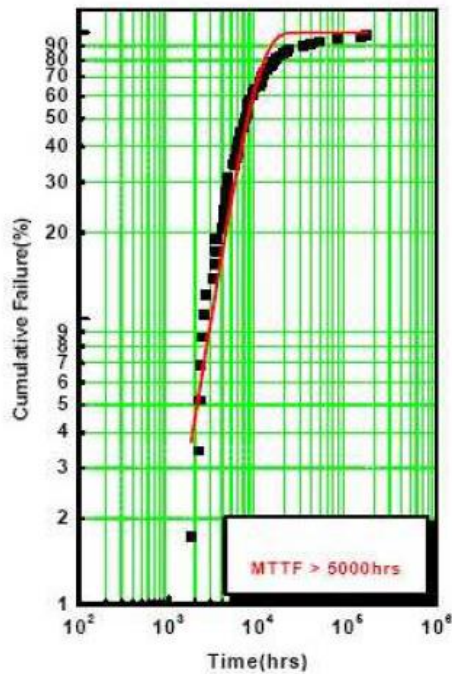
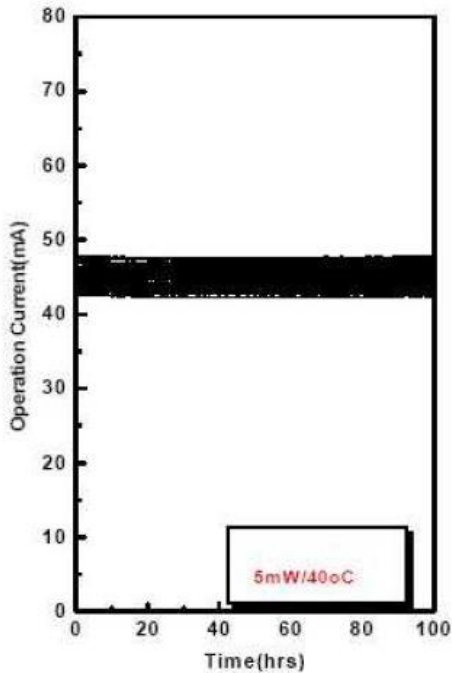


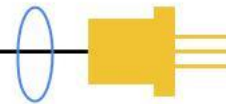
**Pin Configuration**



**TYPICAL CHARACTERISTICS**  
**MTTF Test Data:**

MTTF > 5,000 hrs





#### **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.