

635nm 50mW 50°C Laser Diode in TO-18 ϕ 5.6mm Package

Part No. LD635A50C15

FEATURES

- 635nm 50mW laser diode
- Package: TO-18 (5.6mm)
- TM mode
- Single transverse mode

APPLICATIONS

- Construction tools
- High-definition laser displays
- Medical applications

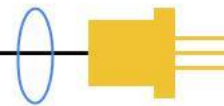
ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Rating	Unit
Optical output power	P_O	50	mW
Reverse voltage (LD)	V_{RL}	2	V
Reverse voltage (PD)	V_{RD}	30	V
Operating temperature	T_{opr}	-10 to +50	°C
Storage temperature	T_{stg}	-40 to +85	°C

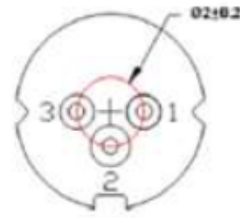
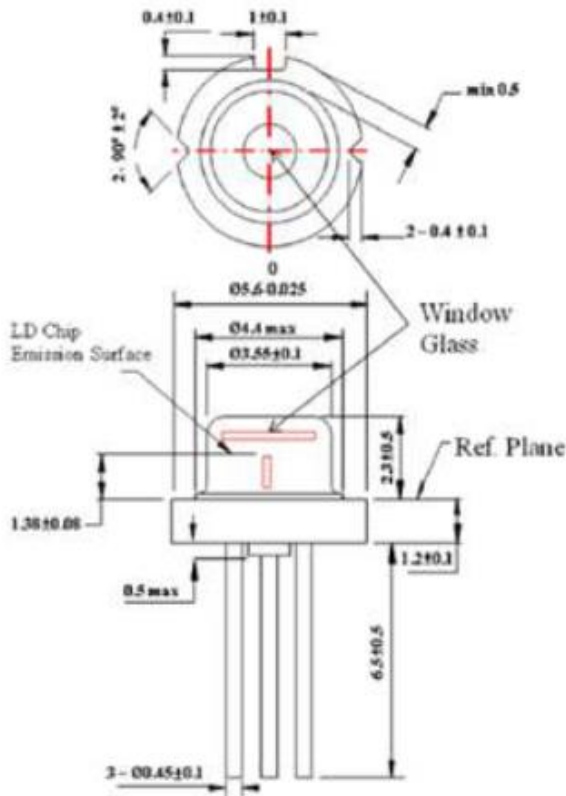
ELECTRICAL AND OPTICAL CHARACTERISTICS ($T_c = 25^\circ\text{C}$)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Peak wavelength	λ	630	640	645	nm	$P_O = 50\text{mW}$
Threshold current	I_{th}	-	50	60	mA	$P_O = 50\text{mW}$
Operating current	I_{op}	-	120	160	mA	$P_O = 50\text{mW}$
Operating voltage	V_{op}	-	2.2	2.7	V	$P_O = 50\text{mW}$
Slope efficiency	η	0.5	0.7	1	mW/mA	$P_O = 45\text{-}50\text{mW}$
Monitor current	I_m	0.1	0.27	0.5	mA	
Parallel divergence angle	$\theta_{//}$	5	8	12	deg	$P_O = 50\text{mW}$
Perpendicular divergence angle	θ_{\perp}	25	30	35	deg	$P_O = 50\text{mW}$
Parallel FFP deviation angle	$\Delta\theta_{//}$	-3	0	+3	deg	$P_O = 50\text{mW}$
Perpendicular FFP deviation angle	$\Delta\theta_{\perp}$	-3	0	+3	deg	$P_O = 50\text{mW}$
Emission point accuracy	$\Delta x \Delta y \Delta z$	-80	0	+80	um	$P_O = 50\text{mW}$

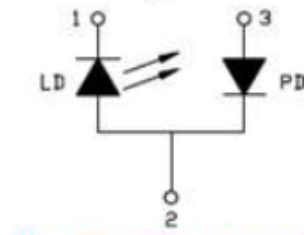
*Sufficient heat dissipation is required for CW operation.



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.