



# 635nm 50mW Laser Diode, $\varnothing$ 3.3mm Package

## LD635A50A14

### Data Sheet

#### Features

- 635nm Visible Laser Diode
- Optical output power: 50mW CW
- High temperature operation: 40°C
- High visibility
- Package: TO-Can,  $\varnothing$ 3.3mm

#### Applications

- Mini size optical modules
- High-definition laser displays
- Industry

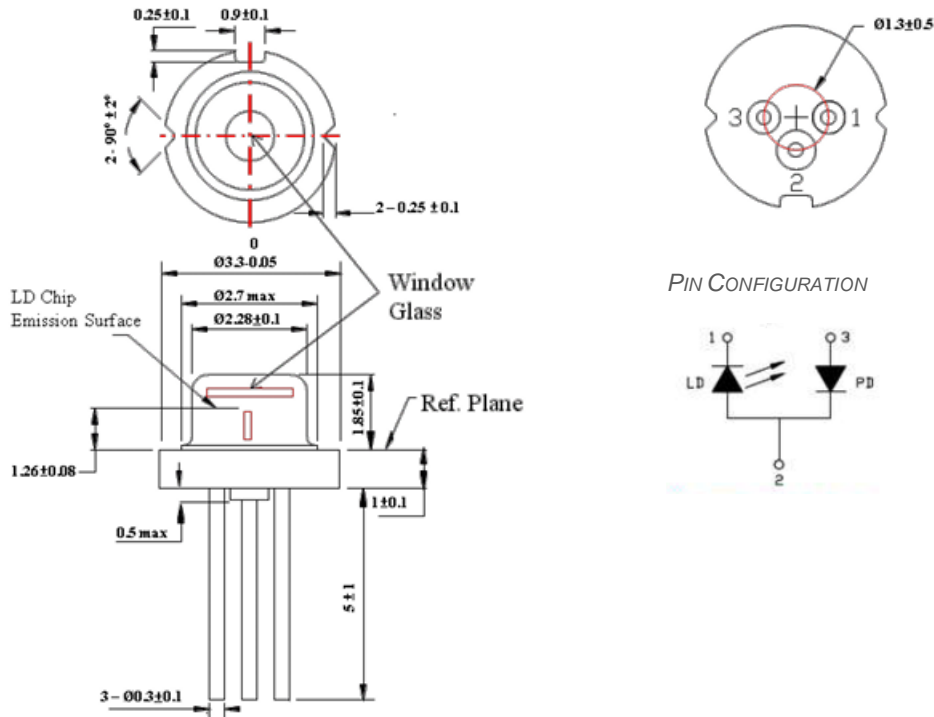
#### Specifications

ABSOLUTE MAXIMUM RATINGS			
PARAMETER	SYMBOL	RATING	UNIT
Optical output power	$P_O$	55	mW
Reverse voltage (LD)	$V_{RL}$	2	V
Operating temperature	$T_{opr}$	-10 to +40	°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	$\lambda$	630	640	645	nm	$P_O = 50\text{mW}$
Threshold current	$I_{th}$	-	55	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	$\eta$	0.5	0.7	1	mW/mA	$P_O = 45\text{-}50\text{mW}$
Monitor current	$I_m$	0.1	0.2	0.5	mA	$P_O = 50\text{mW}$ , $V_{RD} = 5\text{V}$
Parallel divergence angle	$\Theta_{//}$	5	8	12	deg	$P_O = 50\text{mW}$
Perpendicular divergence angle	$\Theta_{\perp}$	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)



#### 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.