



LD940A50C16

940nm 50mW 60°C CW Laser Diode in \varnothing 5.6mm TO-18 Can Package

Description

The Lasermate LD940A50C16 is an 940nm, 50mW laser diode in a \varnothing 5.6mm, TO-can package and with operating temperature of 60°C. The laser diode is suitable as compact light source for many applications.

Features

- 940nm InGaAs Infrared laser diode
- Optical output power: 50mW CW
- Operating temperature: +60°C
- Built-in photodiode for monitoring laser diode
- Package: TO-18 (dia. 5.6mm)

Applications

- Sensor
- Industrial optical module

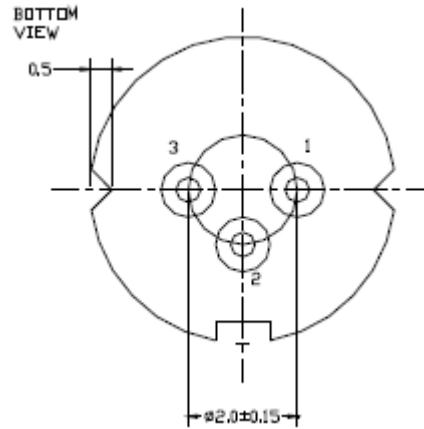
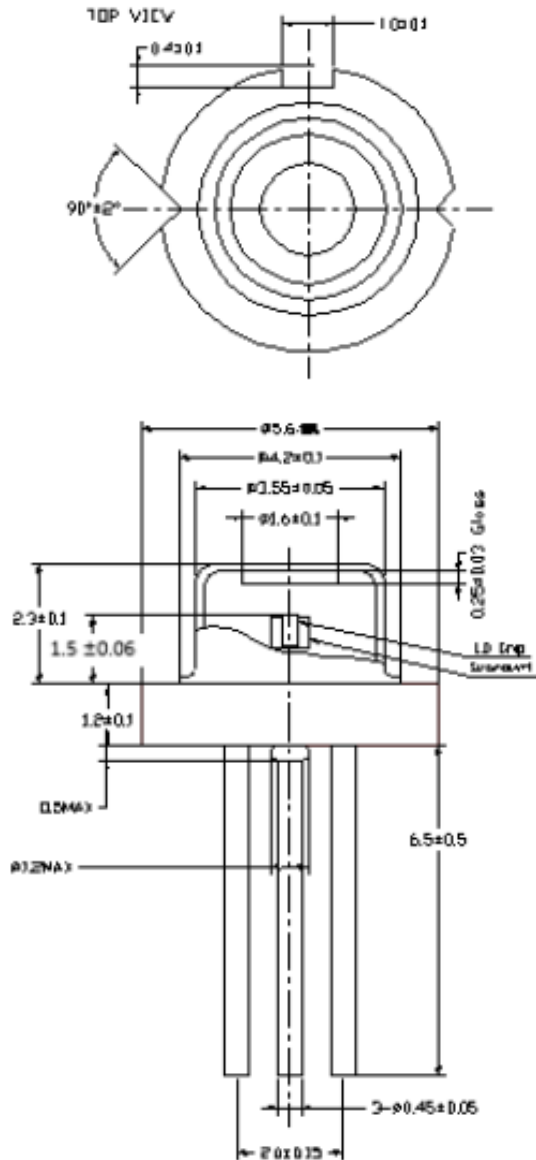
Absolute Maximum Ratings

PARAMETER	SYMBOL	CONDITION	RATING	UNIT
Optical output power	P_O	CW	60	mW
Reverse voltage (LD)	V_{RL}	-	2	V
Reverse Voltage (PD)	V_{RD}	-	30	V
Operating temperature	T_{opr}	-	-10 to +60	°C
Storage temperature	T_{stg}	-	-40 to +85	°C

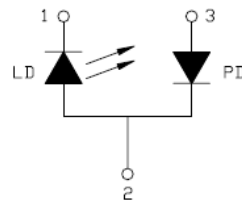
Electrical and Optical Characteristics ($T_c = 25^\circ\text{C}$)

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS
Lasing wavelength	λ_p	930	940	950	nm	$P_O = 50\text{mW}$
Threshold current	I_{th}	-	10	40	mA	-
Operating current	I_{op}	-	60	90	mA	$P_O = 50\text{mW}$
Monitor Current	I_m	0.1	0.2	0.8	mA	$P_O = 50\text{mW}$
Differential Efficiency	η	0.5	0.9	1.2	mW/mA	$P_O = 50\text{mW}$
Operating voltage	V_{op}	1.5	1.8	2.4	V	$P_O = 50\text{mW}$
Parallel divergence angle	$\theta_{//}$	6	8	12	deg	$P_O = 50\text{mW}$
Perpendicular divergence angle	θ_{\perp}	22	25	28	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	$\Delta x \Delta y \Delta z$	-60	0	+60	um	$P_O = 50\text{mW}$

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.