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LD980A50C14
980nm 50mW 40°C CW Laser Diode in ⌀5.6mm TO-18 Can Package

Description

The Lasermate LD980A50C14 is an 980nm, 50mW laser diode in a ⌀5.6mm, TO-can package and with operating temperature of 40°C. The laser diode is suitable as compact light source for many applications.

Features

- 980nm Infrared laser diode
- Optical output power: 50mW CW
- Operating temperature: +40°C
- Multimode
- Low threshold current
- With monitoring PD
- Package: TO-18 (dia. 5.6mm)

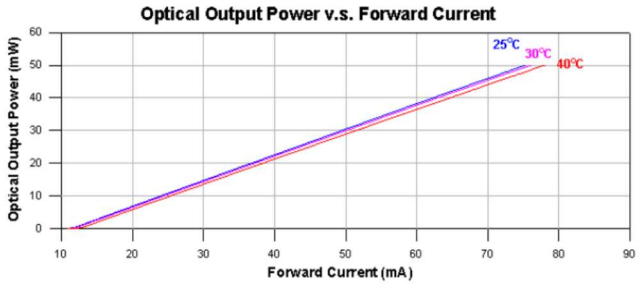
Absolute Maximum Ratings

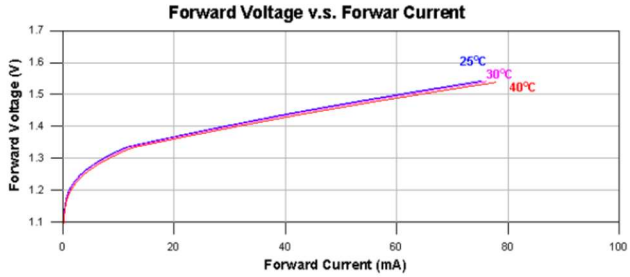
Parameter	Symbol	Rating	Unit
Optical output power	P_O	50	mW
Reverse voltage (LD)	V_{RL}	2	V
Reverse voltage (PD)	V_{RD}	30	V
Operating temperature	T_{opr}	-10 to +40	°C
Storage temperature	T_{stg}	-15 to +85	°C

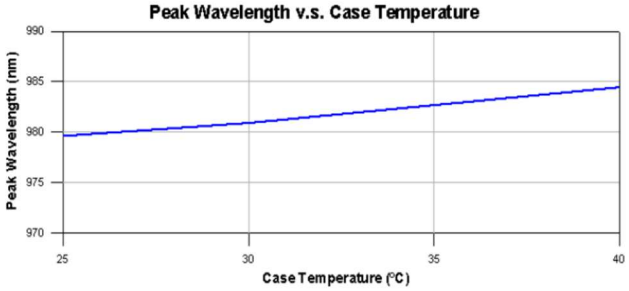
Electrical and Optical Characteristics (T_C = 25 °C)

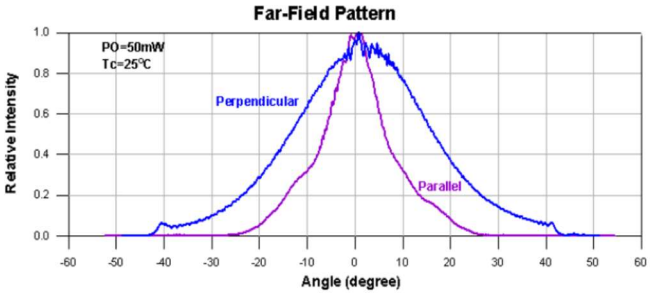
Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Lasing wavelength	λ	970	980	990	nm	P_O = 50mW
Threshold current	I_{th}	-	12	20	mA	-
Operating current	I_{op}	-	75	100	mA	P_O = 50mW
Operating voltage	V_{op}	1	1.5	2.1	V	-
Slope efficiency	η	0.5	0.8	-	mW/mA	(30mW-10mW)/(I_{30mW}-I_{10mW})
Monitor current	I_m	0.1	0.3	0.5	mA	P_O = 50mW
Parallel divergence angle	$\Theta_{//}$	8	13	18	deg	P_O = 50mW
Perpendicular divergence angle	$\Theta_{\perp}$	25	30	35	deg	P_O = 50mW

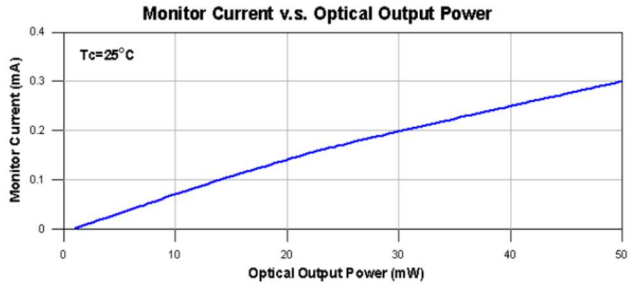
Typical Characteristics

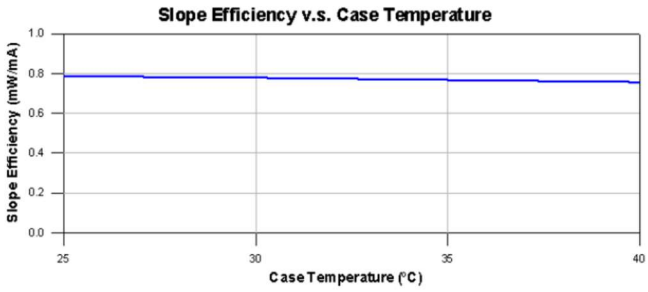


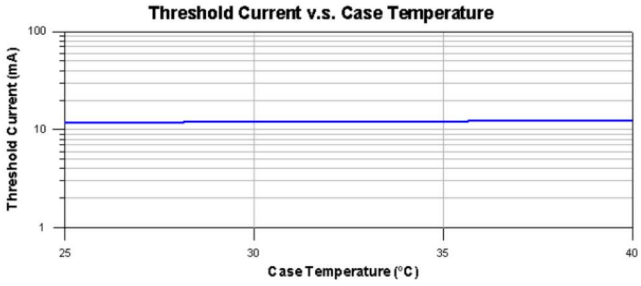




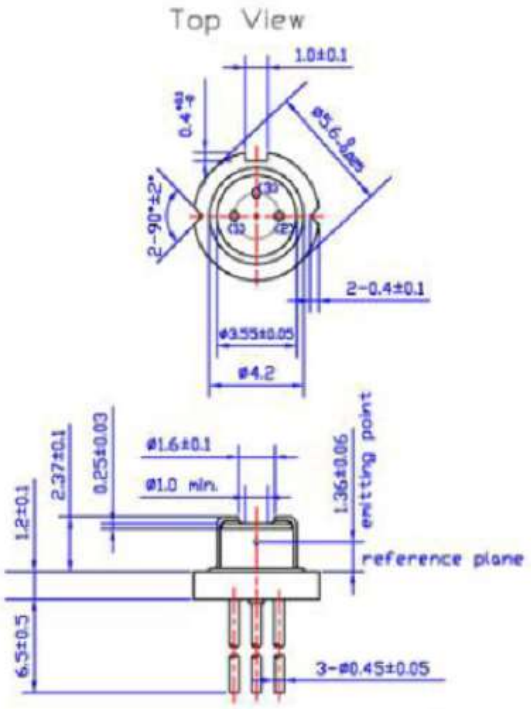


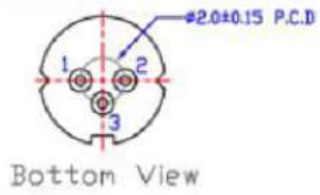




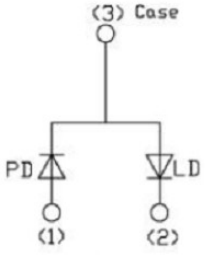


Mechanical Outline (unit: mm)





PIN CONFIGURATION



1 PD Anode(+)
2 LD Cathode (-)
3 PD Cathode (-)
LD Anode(+)

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.