

980nm 1000mW 40°C Laser Diode in TO-9 ϕ 9.0mm Package

Part No. LD-980-1W50 (No PD) | LD-980-1W52 (Common Anode)

FEATURES

- 980nm 1W CW laser diode
- High efficiency Quantum Well structure
- Package: TO-9 (Dia. 9.0mm)

APPLICATIONS

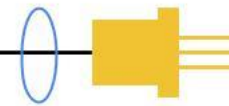
- Solid-state laser pumping
- Medical usage
- Infrared sources for night vision
- Information recognition

SPECIFICATIONS ($T_c = 25^\circ\text{C}$)

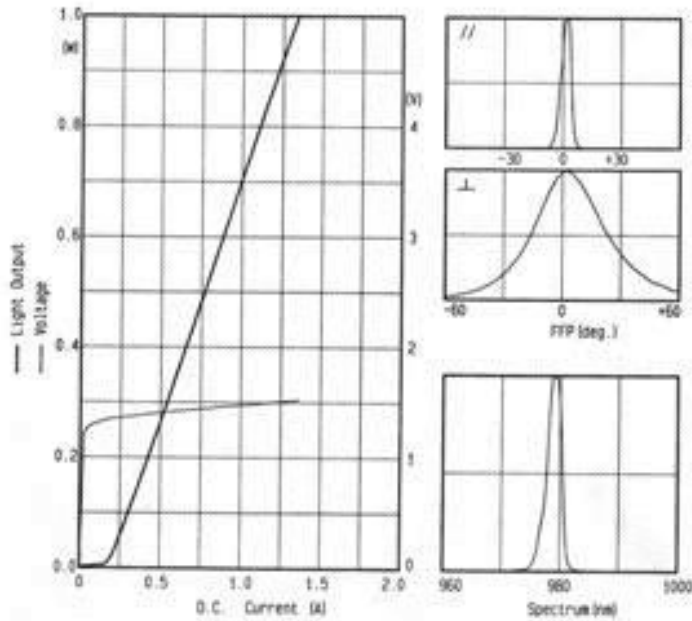
Parameter	Typ.	Unit
CW Output Power	1000	mW
Peak Wavelength λ	980 \pm 10	nm
Spectral Width $\Delta\lambda$	\leq 3.5	nm
Threshold Current	\leq 0.25	A
Operating Current	\leq 1.8	A
Operating Voltage	\leq 2.0	V
Slope Efficiency	\geq 0.88	W/A
Beam Divergence $\theta_{\perp} \times \theta_{\parallel}$	48x10	deg
Wavelength Temperature Coefficient	0.4	nm/ $^\circ\text{C}$
Emitting Area	100x1	μm
Series Resistance	\leq 0.50	Ω
Polarization	TE	
Package Style	TO-9	

ABSOLUTE MAXIMUM RATINGS

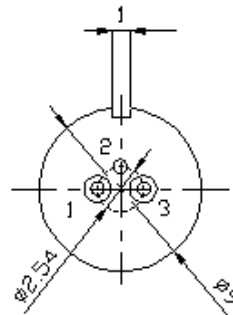
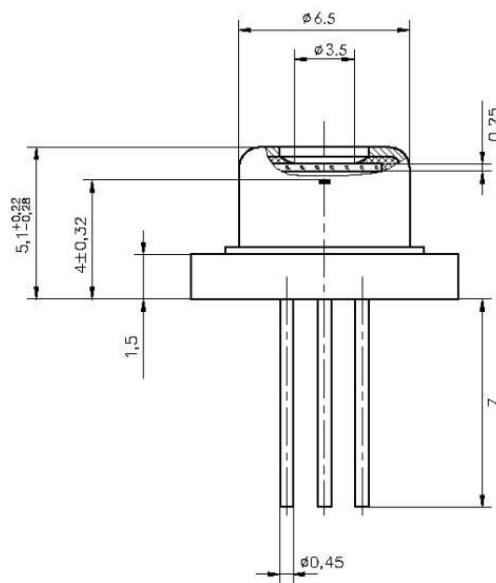
Parameter	Typ.	Unit
Operating Temperature	10 to 40	$^\circ\text{C}$
Storage Temperature	-40 to 85	$^\circ\text{C}$
Reverse Voltage	2.0	V



TYPICAL CHARACTERISTICS



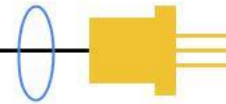
MECHANICAL OUTLINE (unit: mm)



Bottom view

Pin Configuration

LD-980-1W50	LD-980-1W52
Pin 1: LD cathode	Pin 1: LD cathode
Pin 2: LD anode	Pin 2: Common LD anode/PD cathode
Pin 3: NA	Pin 3: PD anode



ADDITIONAL NOTES

- Caution! Do not look at the laser beam directly, because it is harmful to eyes.
- Under normal circumstances, the higher the temperature is, the shorter the life of semiconductor laser will be. It is recommended to use lasers under TEC cooling or in air-conditioned room.
- To use a laser diode in following sequences: Turn on the power supply; connect to the laser diode; and then increase the current gradually to the specified operating value. To shut down the laser diode, please decrease the current to zero gradually, and then turn off the power. Please make sure that the power supply has no current overshoot at any time. The current overshoot can damage the laser diodes permanently.
- The high-power laser diode arrays are very sensitive to electrostatic. Please wear anti-static bracelet during operating with the laser diodes (arrays).
- Be sure that the operating current does not exceed the specified operating current. Otherwise, it will accelerate laser aging, shorten lifetime or even damage devices permanently.
- A clean, dry and ventilated environment should be available when storing and operating laser diodes (arrays). Dust may degrade the laser diodes (arrays).
- Constant-current power supply with voltage regulator should be used to avoid surge.
- 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.