



## LDM-0980-050m-50

### TECHNICAL DATA



## Infrared Laser Diode

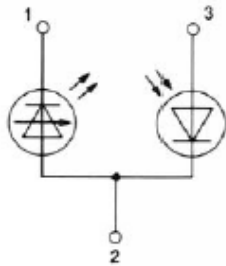
### Features

- CW Output Power: 50 mW
- Typical 975 nm Emission Wavelength
- High-efficiency Quantum Well Structure
- TO18 or TO5 Package

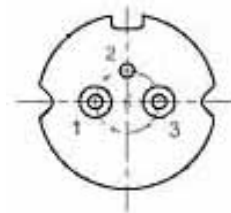
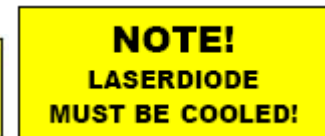
### Applications

- Solid-state Laser Pumping
- Medical Usage
- Infrared Night Vision Light Sources
- Information to identify

### PIN CONNECTION



1. Laserdiode cathode
2. Laserdiode anode and photodiode cathode
3. Photodiode anode



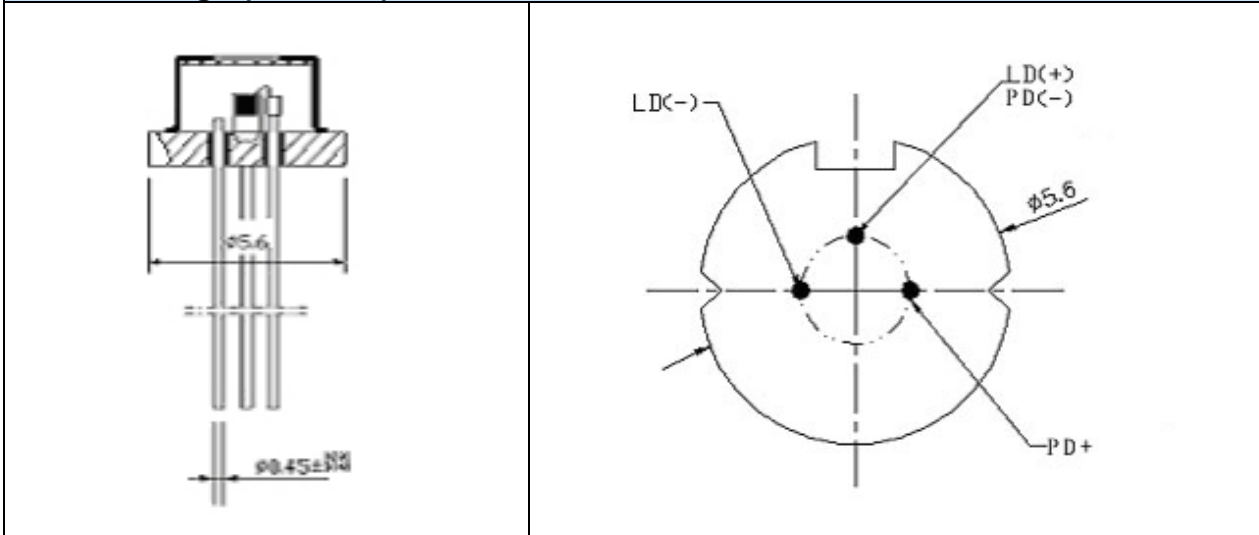
### Specifications (25°C)

Type	LDM-0980-050m-50	Unit
<b>Optical Specification</b>		
CW Output Power $P_O$	50	mW
Peak Wavelength $\Delta$	975±15	nm
Spectral Width $\Delta\lambda$	≤ 3.0	nm
Emitting Area	4x1	µm
Wavelength Temperature Coefficient	0.3	nm/°C
Beam Divergence $\theta_{\perp} \times \theta_{\parallel}$	35x25	Deg
Polarization	TE	
<b>Electrical Specification</b>		
Slope Efficiency $E_S$	≥ 0.6	W/A
Threshold Current $I_{th}$	≤ 0.025	A
Operation Current $I_O$	≤ 0.12	A
Operation Voltage $V_f$	≤ 2	V
Series Resistance $R_d$	≤ 5	Ω
Package Style	TO18 (TO5)	
<b>Absolute Maximum Ratings</b>		
Reverse Voltage $V_r$	2.0	V
Operating Temperature $T_O$	10 ... 40	°C
Storage Temperature $T_{stg}$	-40 ... 85	°C

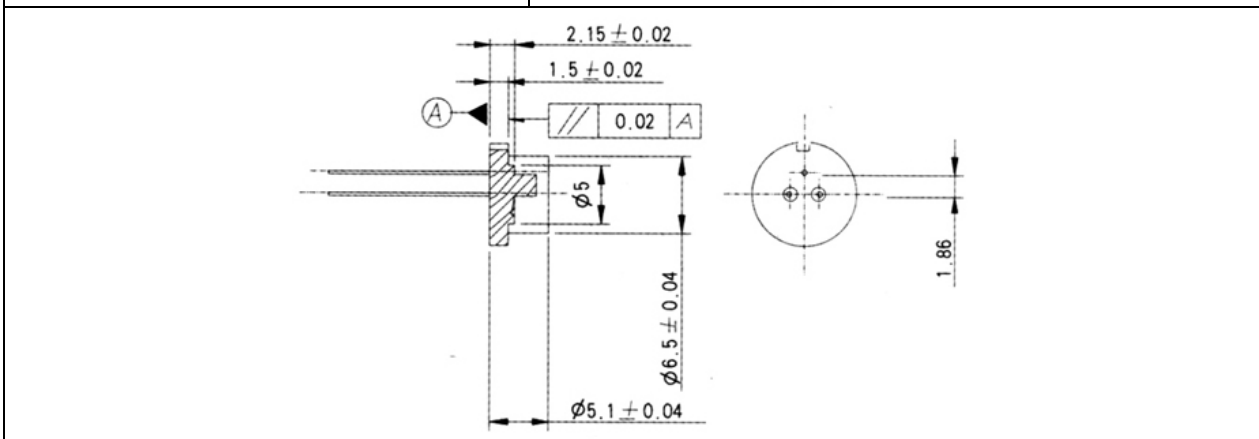
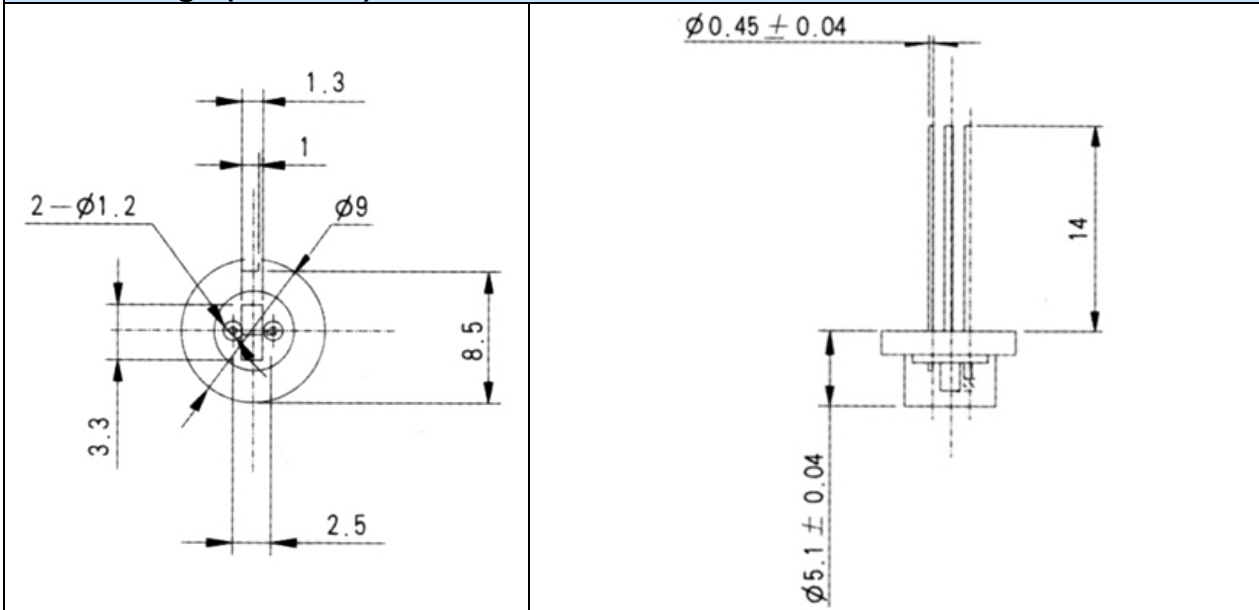


## Package Dimensons

### TO18 Package (Unit:mm)

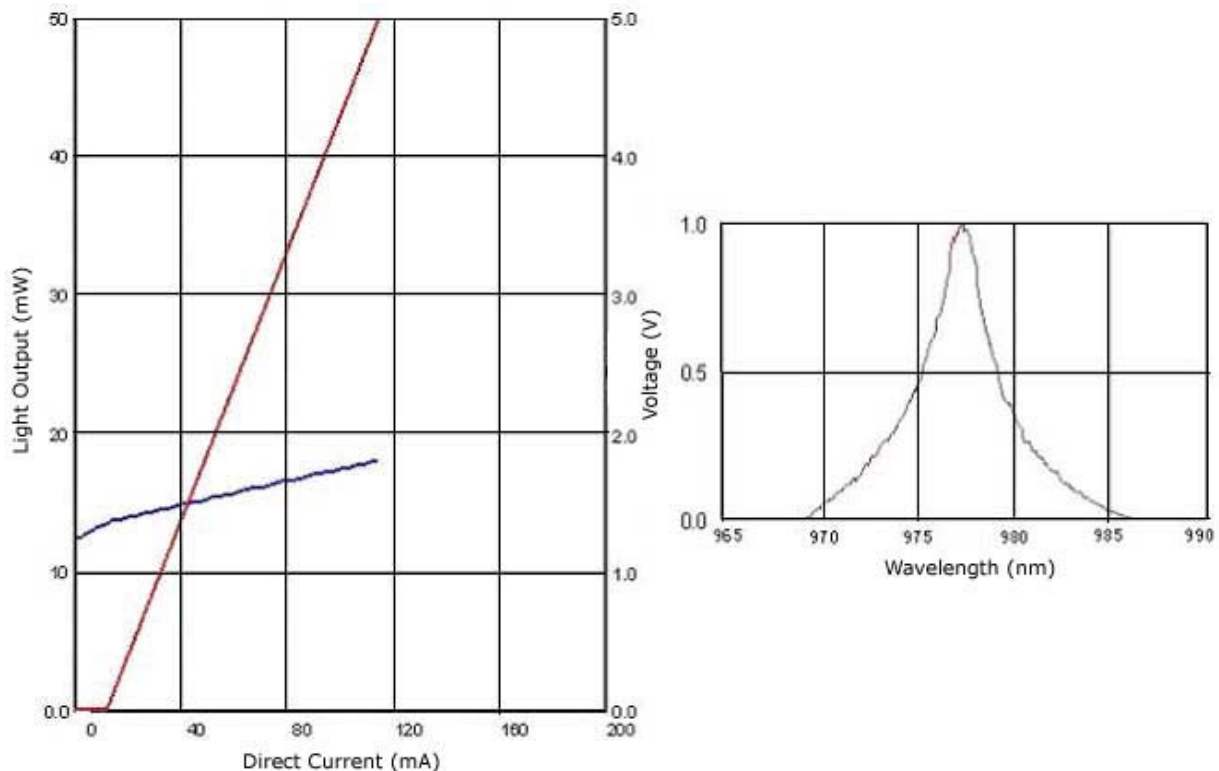


### TO5 Package (Unit:mm)





## Typical Performance Curves



## Notes

1. Caution! Don't look at the laser beam directly, because it's harmful to eyes.
2. The storage temperature is between  $-40$  and  $85$  °C.
3. 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.
4. 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.
5. The high power laser diode arrays are very sensitive to electrostatic. Please wear anti-static bracelet during operating with the laser diodes (arrays).
6. 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.
7. A clean, dry and ventilated environment should be available when storing and operating laser diodes (arrays). Dust may degrade the laser diodes (arrays).
8. Constant-current power supply with voltage regulator should be used to avoid surge.