



## RLT980-250GS

### TECHNICAL DATA



## High Power Infrared Laser Diode

Lasing mode structure: **single mode**

Lasing wavelength: **typ. 980 nm**

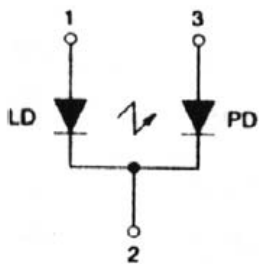
Max. optical power: **250 mW**

Package: **9 mm (SOT-148)**

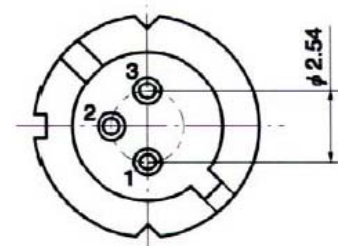
**NOTE!**  
**LASERDIODE**  
**MUST BE COOLED!**

**ATTENTION**  
OBSERVE PRECAUTIONS  
FOR HANDLING  
ELECTROSTATIC SENSITIVE DEVICE

### PIN CONNECTION:



- 1) Laserdiode anode
- 2) Laserdiode cathode and photodiode cathode
- 3) Photodiode anode



### Optical-Electrical Characteristics (Tc = 25°C)

CHARACTERISTIC	SYMBOL	MIN	TYP	MAX	UNIT
Lasing Wavelength	$\lambda_p$	975	980	985	nm
Spectrum FWHM	$\lambda_f$	-	0.5	2	nm
Optical Output Power	$P_o$	-	250	-	mW
Kink-free Power	$P_K$	-	275	-	mW
Threshold Current	$I_{th}$	-	30	80	mA
Operation Current	$I_{op}$	-	310	395	mA
Operation Voltage	$V_{op}$	-	1.7	2.0	V
Beam Divergence	$\Theta_{//}$	-	8	10	°
Beam Divergence	$\Theta$	-	30	35	°
Lifetime	t	100,000	-	-	hour
Slope Efficiency	$\eta$	0.8	0.9	-	W/A



## Absolute Maximum Ratings (Tc = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Operating Temperature	T <sub>op</sub>	-20 .. +50	°C
Storage Temperature	T <sub>stg</sub>	-40 .. +80	°C
Lead Soldering Temperatur (<5sec)	T <sub>sol</sub>	+250°	°C



## Safety

Caution: Laser light emitted from any diode laser is invisible and may be harmful to human eye. Avoid looking directly into the diode laser aperture when the device is in operation.

**Note:** The use of optical instruments with this product will increase eye hazard.

## ESD Caution

Always handle diode lasers with extreme care to prevent electrostatic discharge, the primary cause of unexpected diode failure. You can prevent ESD by always wearing wrist straps, grounding all applicable work surfaces, and following extremely rigorous anti-static.

## Operating Considerations

Operating the diode laser outside of its maximum ratings may cause device failure or a safety hazard. Power supplies used with the component must be employed such that the maximum peak optical power cannot be exceeded. CW diode lasers may be damaged by excessive drive current or switching transients. When using power supplies, the diode laser should be connected with the main power on and the output voltage at zero. The current should be increased slowly while monitoring the diode laser output power and the driver current. Device degradation accelerates with increased temperature, and therefore careful attention to minimize the case temperature is advised. A proper heat sink for the diode laser on a thermal radiator will greatly enhance laser life.