

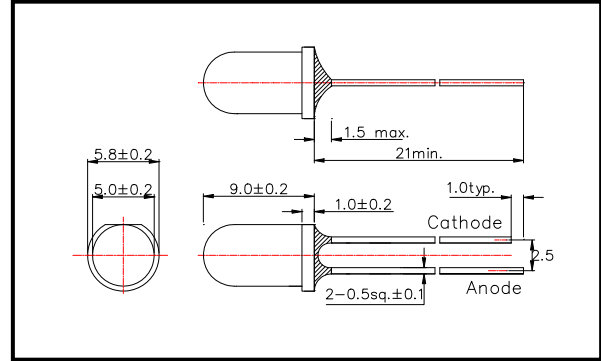
L980-04 Infrared LED Lamp

L980-04 is a GaAs LED mounted on a lead frame with a clear epoxy lens. On forward bias it emits a spectral band of radiation, which peaks at 985nm typ.

◆ Specifications

1) Product Name	Infrared LED Lamp
2) Type No.	L980-04
3) Chip	
(1) Chip Material	GaAs
(2) Chip Dimension	350um*350um
(3) Peak Wavelength	985nm typ.
4) Package	
(1) Type	Φ5mm clear molding
(2) Resin Material	Epoxy Resin
(3) Lead Frame	Lead Free Soldered

◆ Outer dimension (Unit: mm)



◆ Absolute Maximum Ratings

Item	Symbol	Maximum Rated Value	Unit	Ambient Temperature
Power Dissipation	P_D	130	mW	$T_a = 25^\circ\text{C}$
Forward Current	I_F	100	mA	$T_a = 25^\circ\text{C}$
Pulse Forward Current	I_{FP}	1000	mA	$T_a = 25^\circ\text{C}$
Reverse Voltage	V_R	5	V	$T_a = 25^\circ\text{C}$
Junction Temperature	T_J	100	$^\circ\text{C}$	
Thermal Resistance	R_{thja}	250	K/W	
Operating Temperature	T_{OPR}	-30 ~ +85	$^\circ\text{C}$	
Storage Temperature	T_{STG}	-30 ~ +100	$^\circ\text{C}$	
Soldering Temperature	T_{SOL}	265	$^\circ\text{C}$	

‡Pulse Forward Current condition: Duty=1% and Pulse Width=10us.

‡Soldering condition: Soldering condition must be completed within 3 seconds at 265°C

‡Thermal resistance: junction – ambient, leads 7mm, soldered on PCB.

◆ Electro-Optical Characteristics

Item	Symbol	Condition	Minimum	Typical	Maximum	Unit
Forward Voltage	V_F	$I_F = 50\text{mA DC}$		1.25	1.40	V
		$I_F = 100\text{mA}, t_p = 20\text{ms}$		1.30	1.60	
Reverse Current	I_R	$V_R = 5\text{V}$			10	μA
Total Radiated Power	P_O	$I_F = 50\text{mA DC}$	2.0	4.0		mW
		$I_F = 100\text{mA}, t_p = 20\text{ms}$		8.0		
Radiant Intensity	I_E	$I_F = 50\text{mA DC}$		4.5		mW/sr
		$I_F = 100\text{mA}, t_p = 20\text{ms}$		9.0		
Peak Wavelength	λ_P	$I_F = 50\text{mA DC}$	975	985	995	nm
Half Width	$\Delta\lambda$	$I_F = 50\text{mA DC}$		45		nm
Viewing Half Angle	$\theta_{1/2}$	$I_F = 50\text{mA DC}$		± 22		deg.
Rise Time	t_r	$I_F = 50\text{mA DC}$		40		ns
Fall Time	t_f	$I_F = 50\text{mA DC}$		20		ns

‡Total Radiated Power is measured by Photodyne #500

‡Radiant Intensity is measured by Tektronix J-6512