



Lead (Pb) Free Product – RoHS Compliant

LED970-xx

Infrared LED Lamp

LED970-xx is an GaAs LED mounted on a lead frame and encapsulated in various types of epoxy lens which offer different design settings.

On forward bias, it emits a high power radiation of typical 8mW with a peak wavelength at 970nm.

• Specifications

- | | |
|--------------------|-------------------|
| 1) Chip material | GaAs |
| 2) Peak wavelength | 970nm |
| 3) Package | Clear epoxy resin |
| 4) Lead frame | Soldered |



• Absolute Maximum Ratings

| Item | Symbol | Maximum Rated Value | Unit | Ambient Temperature |
|-----------------------|------------------|---------------------|------|----------------------|
| Power Dissipation | P _D | 140 | mW | T _a =25°C |
| Forward Current | I _F | 100 | mA | T _a =25°C |
| Pulse Forward Current | I _{FP} | 1000 | mA | T _a =25°C |
| Reverse Voltage | V _R | 5 | V | T _a =25°C |
| Operating Temperature | T _{OPR} | -30 ~ +85 | °C | |
| Storage Temperature | T _{STG} | -30 ~ +100 | °C | |
| Soldering Temperature | T _{SOL} | 260 | °C | |

• Electro-Optical Characteristics [T_a=25°C]

| Item | Symbol | Condition | Minimum | Typical | Maximum | Unit |
|-----------------|----------------|----------------------|---------|---------|---------|------|
| Forward Voltage | V _F | I _F =50mA | | 1.30 | 1.45 | V |
| Reverse Current | I _R | V _R =5V | | | 10 | uA |
| Radiated Power | P _O | I _F =50mA | 4.0 | 8.0 | | mW |
| Peak Wavelength | λ _P | I _F =50mA | | 970 | | nm |
| Half Width | Δλ | I _F =50mA | | 55 | | nm |
| Rise Time | t _r | I _F =50mA | | 1000 | | ns |
| Fall Time | t _f | I _F =50mA | | 500 | | ns |



• **Characteristics of Radiant Intensity [Ta=25°C]**

| Type | Viewing Half Angle | Radiant Intensity IF= 50mA [mW/sr] | | | Outer Dimension | |
|-----------|--------------------|------------------------------------|---------|---------|-----------------|--------|
| | | Minimum | Typical | Maximum | Dimension | Figure |
| LED970-01 | ± 10° | | 13 | | Ø 5 | 1 |
| LED970-02 | ± 5° | | 16 | | Ø 5 | 2 |
| LED970-03 | ± 15° | | 11 | | Ø 5 | 3 |
| LED970-04 | ± 20° | | 5 | | Ø 5 | 4 |
| LED970-05 | ± 40° | | 1 | | Ø 5 | 5 |
| LED970-06 | ± 7° | | 20 | | Ø 5 | 6 |
| LED970-09 | ± 25° (Long) | | 8 | | Ø 5 | 7 |
| | ± 15° (Short) | | | Oval | | |
| LED970-31 | | | | | Ø 3 | 8 |
| LED970-33 | ± 15° | | 5 | | Ø 3 | 9 |
| LED970-34 | | | | | Ø 3 | 10 |
| LED970-36 | ± 30° | | 2.5 | | Ø 3 | 11 |
| LED970-41 | | | | | Ø 4 | 12 |
| LED970-42 | | | | | Ø 4 | 12 |

- ▶ Radiated Intensity is measured by Tektronix J-16.
- ▶ Total Radiated Power is measured by #500.