

# L1050G-03

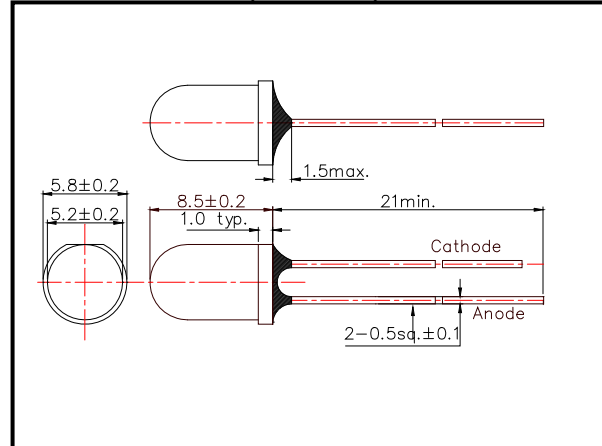
## Infrared LED Lamp

L1050G-03 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 1050nm.

### ◆ Specifications

- 1) Product Name      Infrared LED Lamp
- 2) Type No.          L1050G-03
- 3) Chip
  - (1) Chip Material      GaAs
  - (2) Peak Wavelength   1050nm typ.
- 4) Package
  - (1) Type                  Φ5mm clear molding
  - (2) Resin Material      Epoxy Resin
  - (3) Lead Frame          Soldered (Lead Frame)

### ◆ Outer dimension (Unit: mm)



### ◆ Absolute Maximum Ratings [Ta=25°C]

| Item                  | Symbol            | Maximum Rated Value | Unit |
|-----------------------|-------------------|---------------------|------|
| Power Dissipation     | P <sub>D</sub>    | 140                 | mW   |
| Forward Current       | I <sub>F</sub>    | 100                 | mA   |
| Pulse Forward Current | I <sub>FP</sub>   | 1000                | mA   |
| Reverse Voltage       | V <sub>R</sub>    | 5                   | V    |
| Thermal Resistance    | R <sub>thja</sub> | 250                 | K/W  |
| Junction Temperature  | T <sub>j</sub>    | 100                 | °C   |
| Operating Temperature | T <sub>OPR</sub>  | -40 ~ +85           | °C   |
| Storage Temperature   | T <sub>STG</sub>  | -40 ~ +100          | °C   |
| Soldering Temperature | T <sub>SOL</sub>  | 265                 | °C   |

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

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

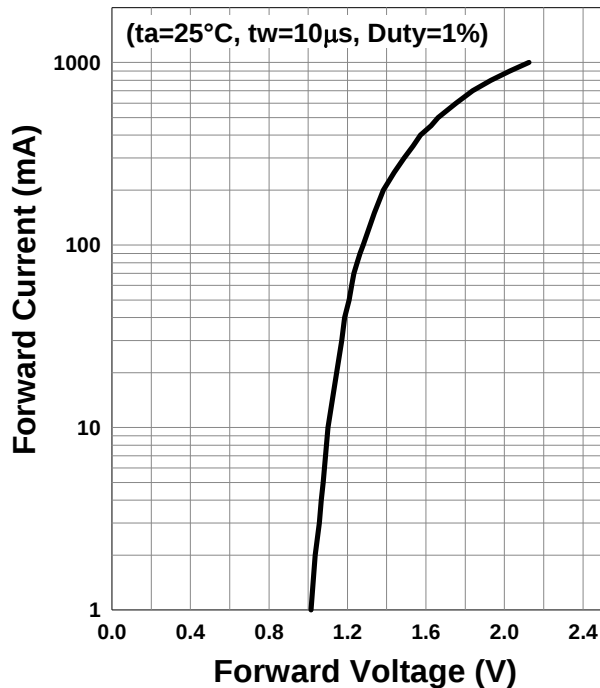
### ◆ Electro-Optical Characteristics [Ta=25°C typ.]

| Item               | Symbol           | Condition            | Minimum | Typical | Maximum | Unit  |
|--------------------|------------------|----------------------|---------|---------|---------|-------|
| Forward Voltage    | V <sub>F</sub>   | I <sub>F</sub> =50mA |         | 1.2     | 1.4     | V     |
| Radiated Power     | P <sub>o</sub>   | I <sub>F</sub> =50mA |         | 17      |         | mW    |
| Radiant Intensity  | I <sub>E</sub>   | I <sub>F</sub> =50mA |         | 100     |         | mW/sr |
| Peak Wavelength    | λ <sub>P</sub>   | I <sub>F</sub> =50mA |         | 1050    |         | nm    |
| Half Width         | Δλ               | I <sub>F</sub> =50mA |         | 33      |         | nm    |
| Viewing Half Angle | θ <sub>1/2</sub> | I <sub>F</sub> =50mA |         | ±12     |         | deg.  |
| Rise Time          | t <sub>r</sub>   | I <sub>F</sub> =50mA |         | 40      |         | ns    |
| Fall Time          | t <sub>f</sub>   | I <sub>F</sub> =50mA |         | 30      |         | ns    |

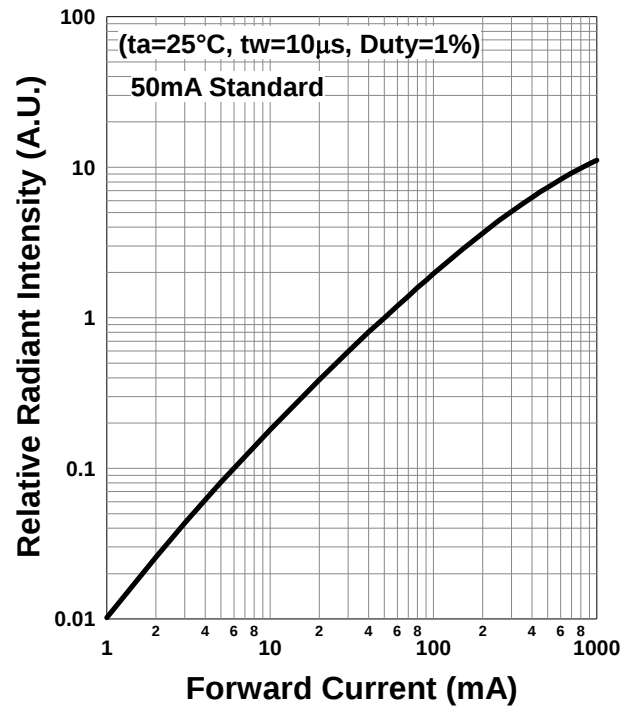
‡Radiated Power is measured by G8370-85.

‡Radiant Intensity is measured by Ando Optical Multi Meter AQ2140 & AQ2742.

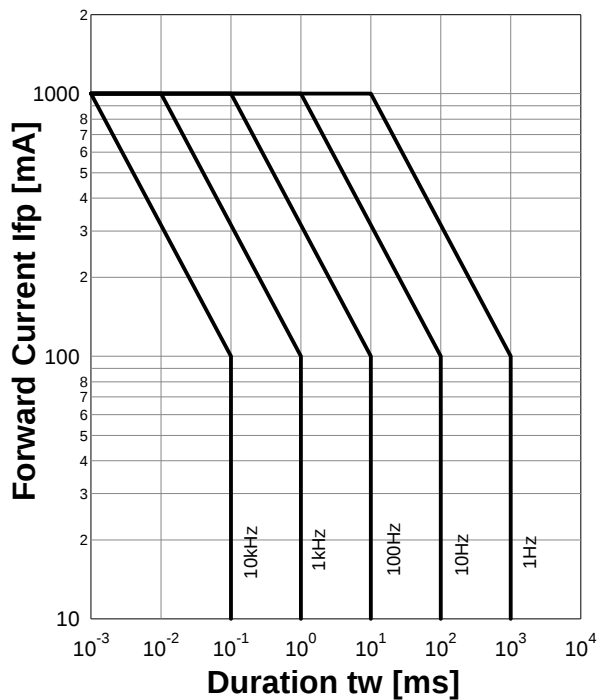
Forward Current - Forward Voltage



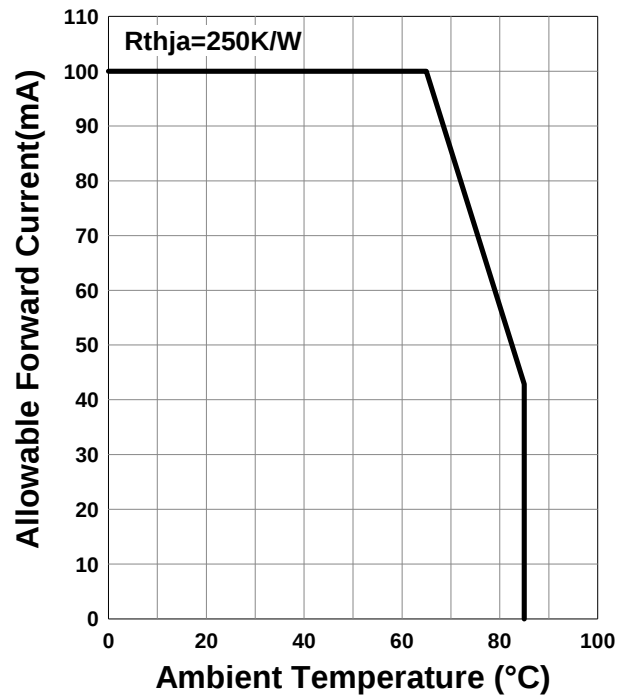
Relative Radiant Intensity - Forward Current

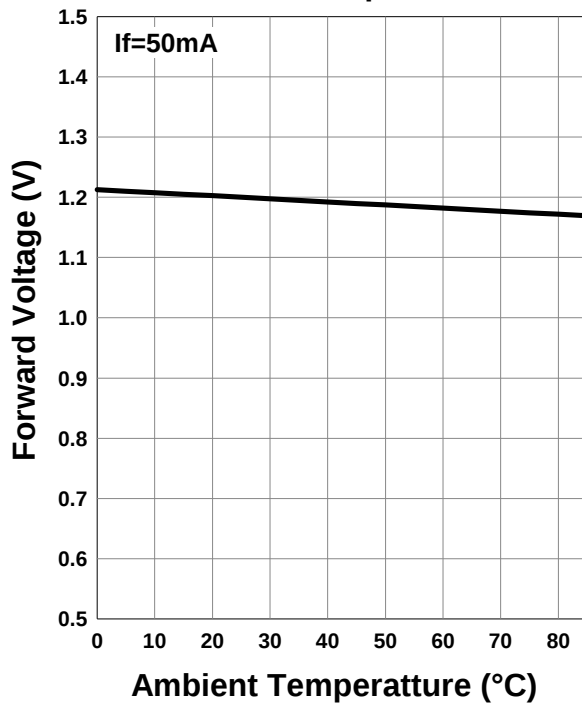
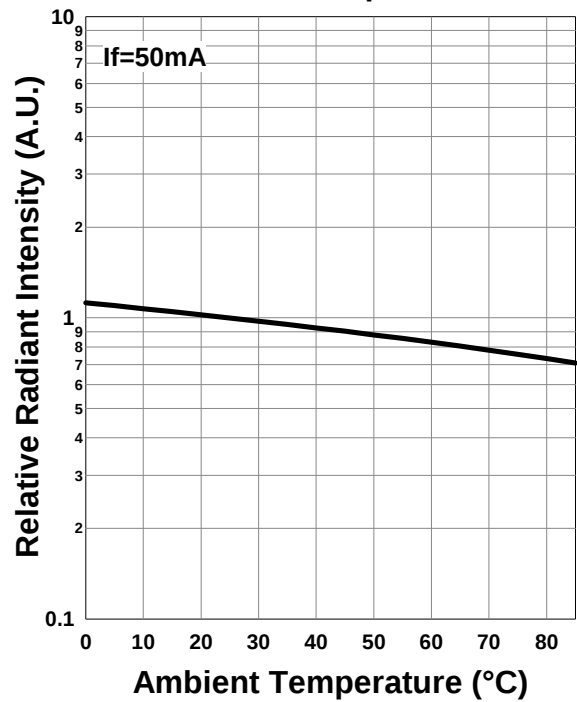
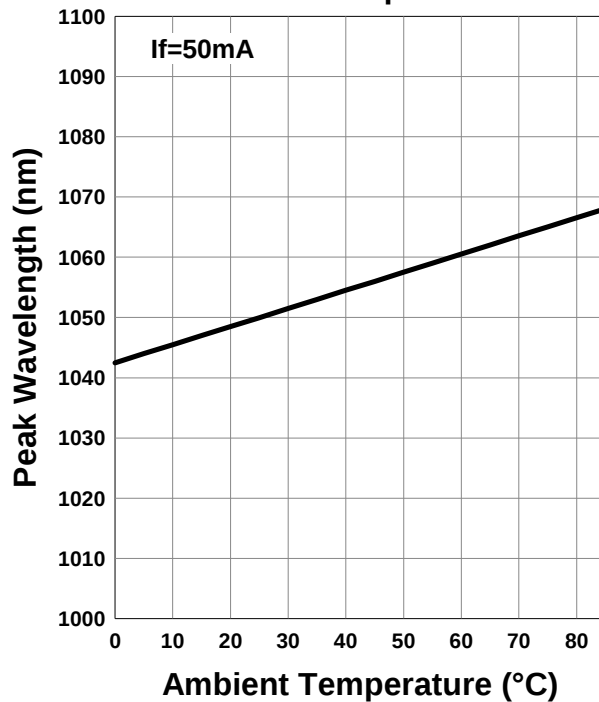


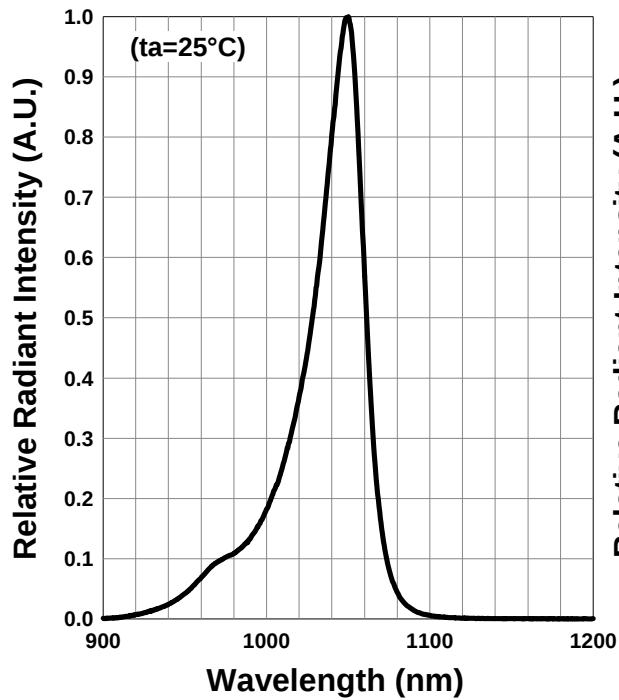
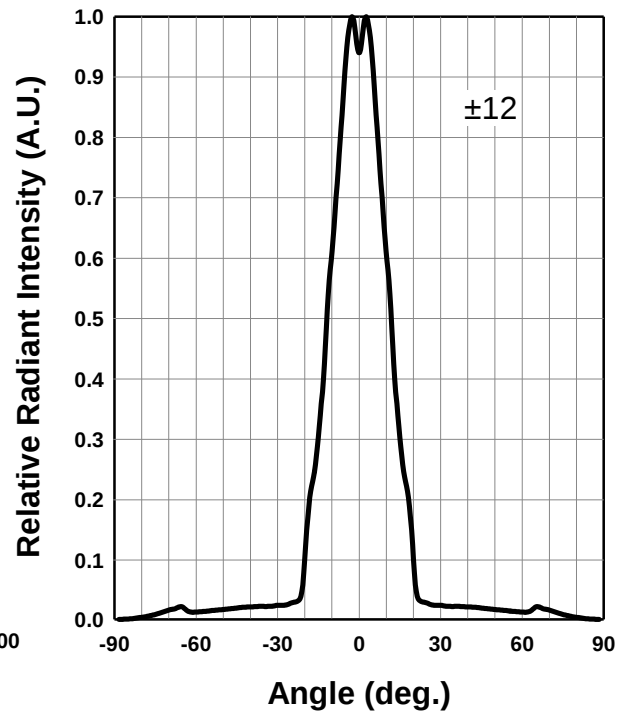
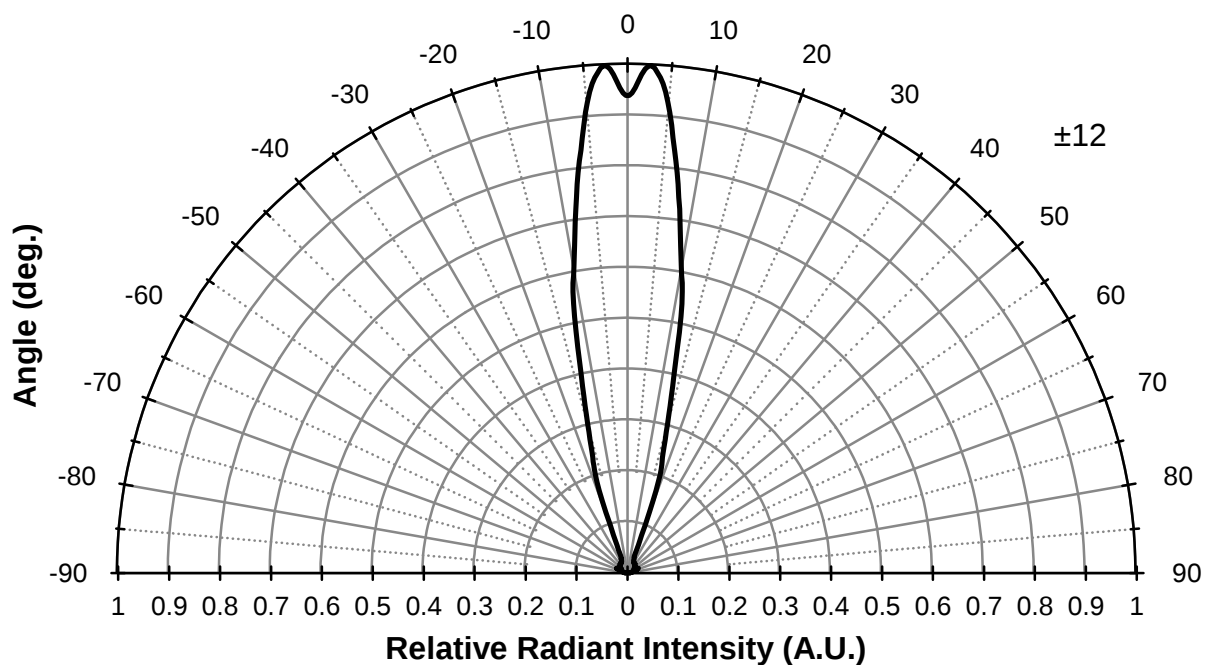
Forward Current - Pulse Duration



Allowable Forward Current - Ambient Temperature



**Forward Voltage -  
Ambient Temperature****Relative Radiant Intensity -  
Ambient Temperature****Peak Wavelength -  
Ambient Temperature**

**Relative Spectral Emission****Radiation Characteristics****Radiation Characteristics**

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Product data and parameters in this catalog are typical values based on reasonably up-to-date measurements. Product data and parameters may vary by user application and over time.

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