

# L1050G-02

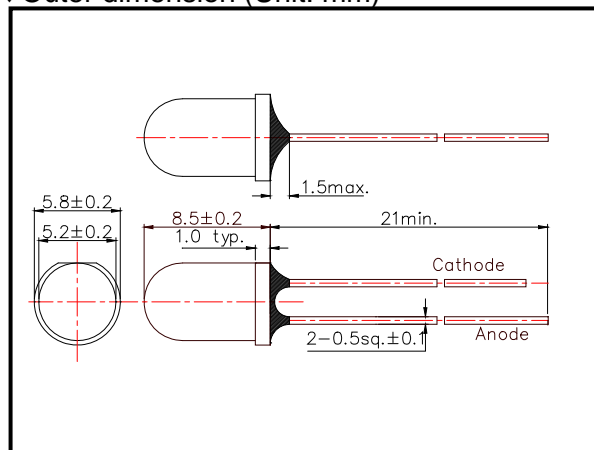
## Infrared LED Lamp

L1050GS-02 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-02
- 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	PD	140	mW
Forward Current	IF	100	mA
Pulse Forward Current	IFP	1000	mA
Reverse Voltage	VR	5	V
Thermal Resistance	Rthja	250	K/W
Junction Temperature	Tj	100	°C
Operating Temperature	TOPR	-40 ~ +85	°C
Storage Temperature	TSTG	-40 ~ +100	°C
Soldering Temperature	TSOL	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

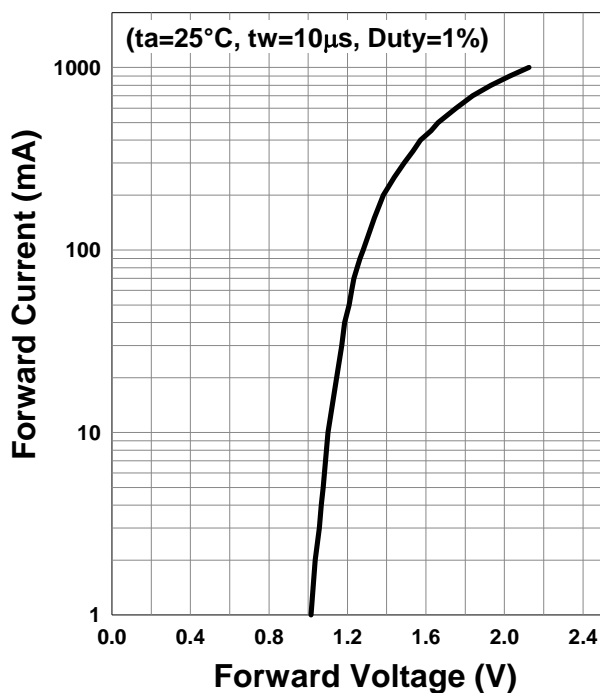
### ◆ Electro-Optical Characteristics [Ta=25°C typ.]

Item	Symbol	Condition	Minimum	Typical	Maximum	Unit
Forward Voltage	VF	IF=50mA		1.2	1.4	V
Radiated Power	PO	IF=50mA		19		mW
Radiant Intensity	IE	IF=50mA		180		mW/sr
Peak Wavelength	$\lambda_P$	IF=50mA		1050		nm
Half Width	$\Delta\lambda$	IF=50mA		33		nm
Viewing Half Angle	$\theta_{1/2}$	IF=50mA		$\pm 10.5$		deg.
Rise Time	tr	IF=50mA		40		ns
Fall Time	tf	IF=50mA		30		ns

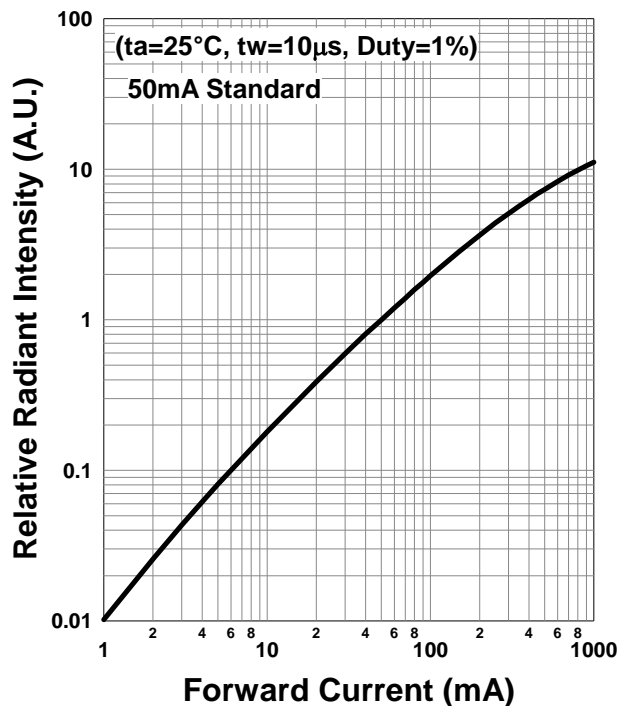
‡Radiated Power is measured by G8370-85.

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

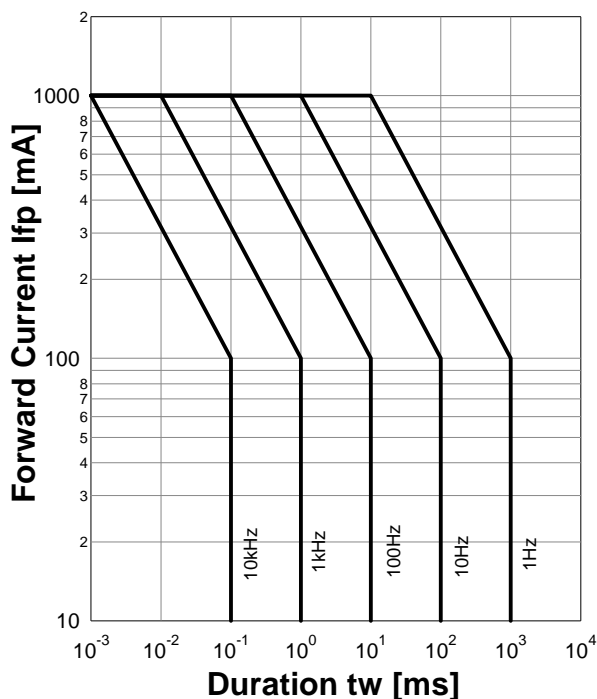
**Forward Current - Forward Voltage**



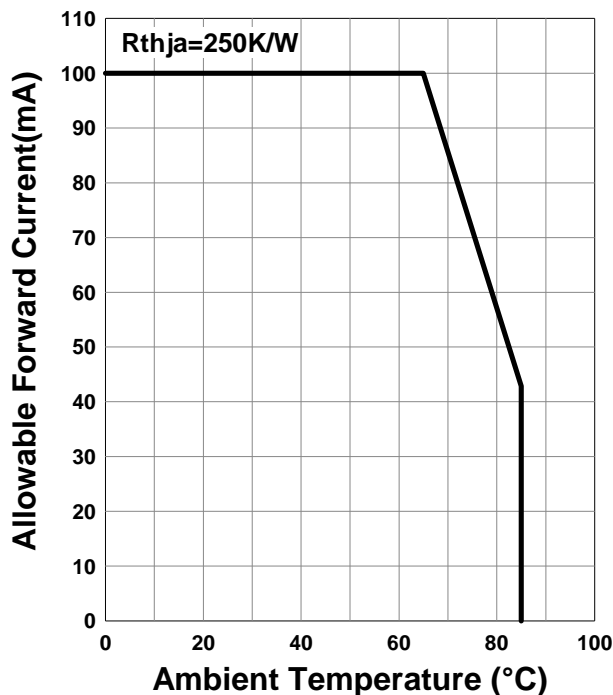
**Relative Radiant Intensity - Forward Current**



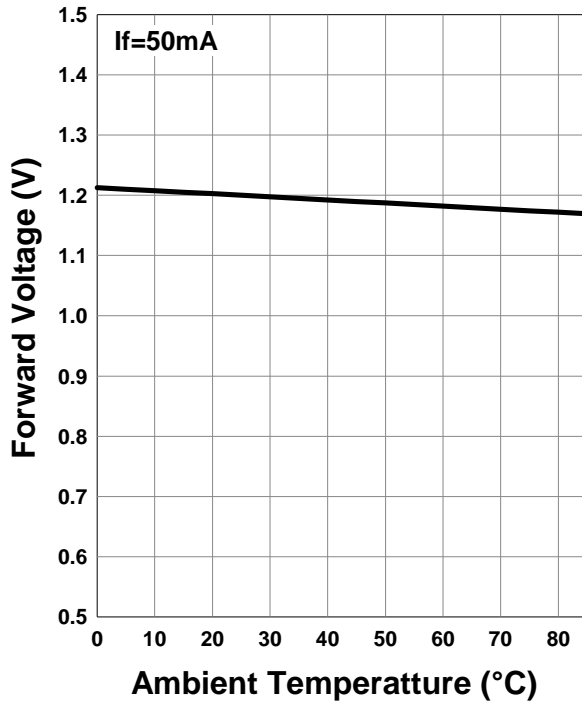
**Forward Current - Pulse Duration**



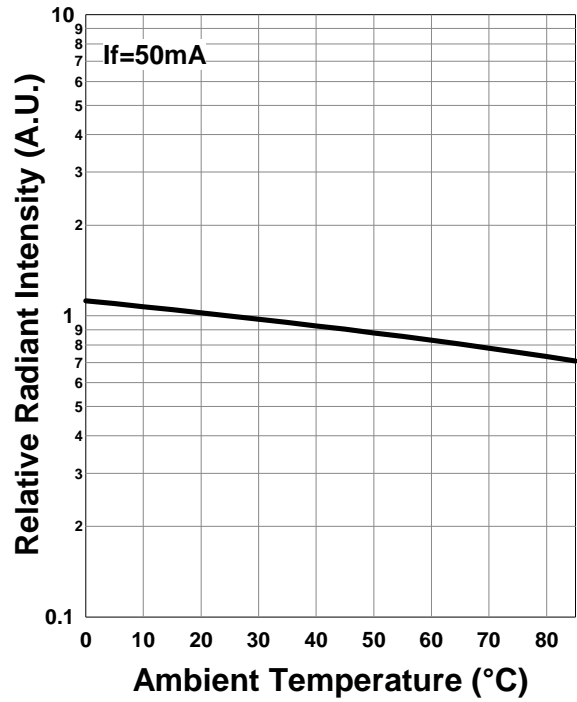
**Allowable Forward Current - Ambient Temperature**



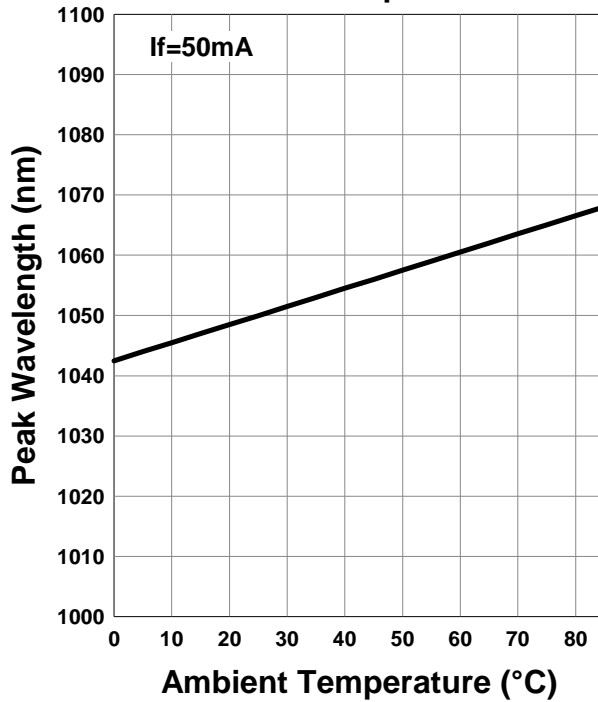
**Forward Voltage - Ambient Temperature**



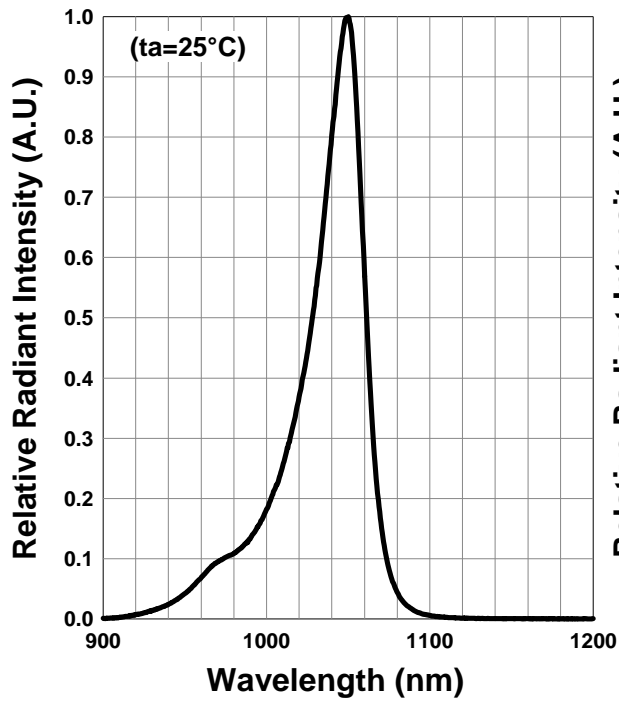
**Relative Radiant Intensity - Ambient Temperature**



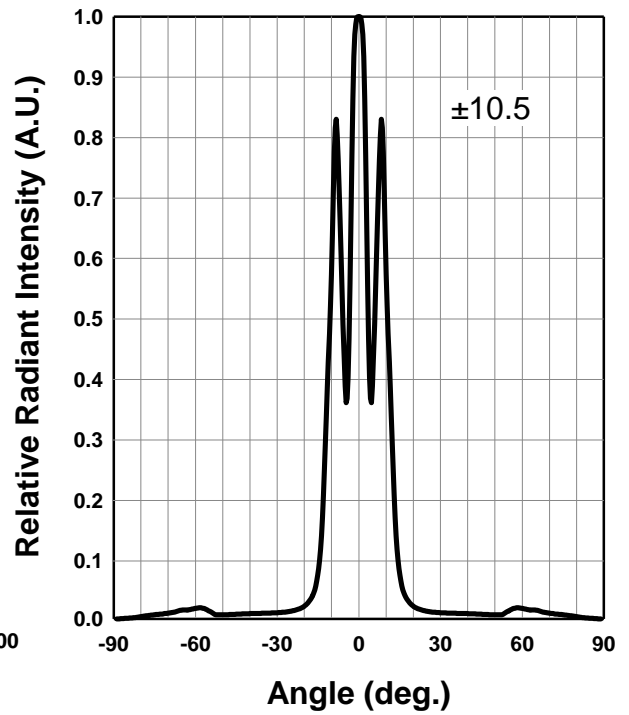
**Peak Wavelength - Ambient Temperature**



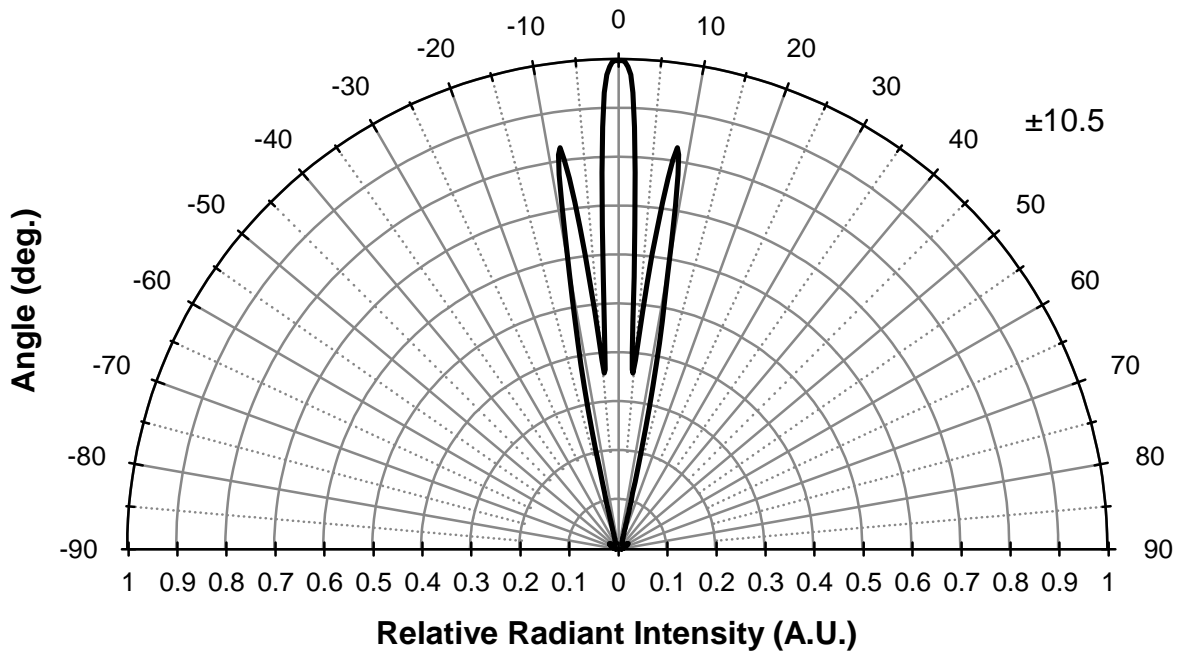
Relative Spectral Emission



Radiation Characteristics



Radiation Characteristics



**Disclaimer**

Product specifications and data shown in this product catalog are subject to change without notice for the purposes of improving product performance, reliability, design, or otherwise.

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.

Products shown in this catalog are intended to be used for general electronic equipment. Products are not guaranteed for applications where product malfunction or failure may cause personal injury or death, including but not limited to life-supporting / saving devices, medical devices, safety devices, airplanes, aerospace equipment, automobiles, traffic control systems, and nuclear reactor control systems.

2014.02