

# L1070-03

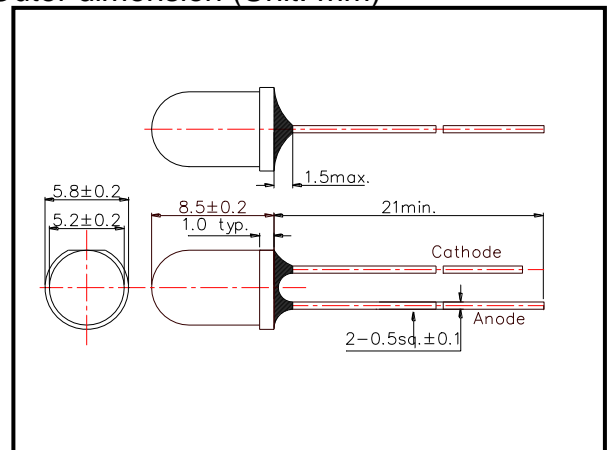
## Infrared LED Lamp

L1070-03 is an InGaAsP LED mounted on a lead frame with a clear epoxy lens. On forward bias it emits a spectral band of radiation, which peaks at 1070nm.

### ◆ Specifications

- |                     |                       |
|---------------------|-----------------------|
| 1) Product Name     | Infrared LED Lamp     |
| 2) Type No.         | L1070-03              |
| 3) Chip             |                       |
| (1) Chip Material   | InGaAsP               |
| (2) Peak Wavelength | 1070nm 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	500	mA
Reverse Voltage	VR	5	V
Thermal Resistance	Rthja	250	K/W
Junction Temperature	Tj	120	°C
Operating Temperature	TOPR	-40 ~ +100	°C
Storage Temperature	TSTG	-40 ~ +100	°C
Soldering Temperature	TSOL	250	°C

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

‡Soldering condition: Soldering condition must be completed within 5 seconds at 250°C

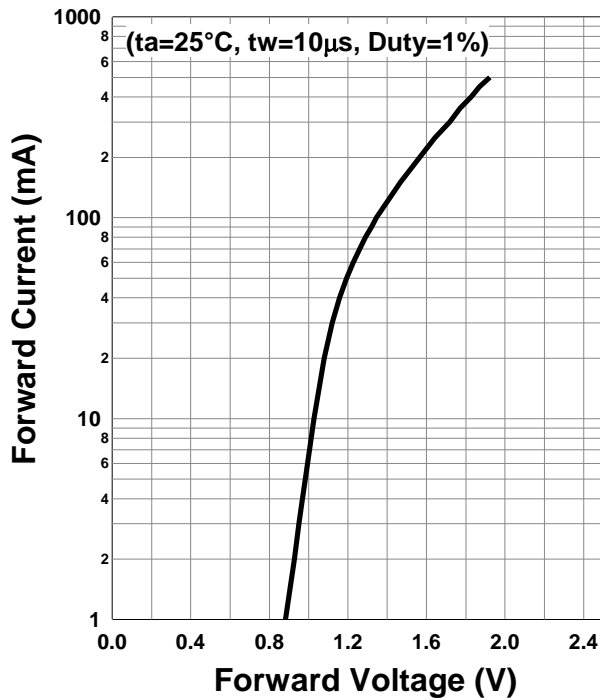
## ◆ Electro-Optical Characteristics [Ta=25°C typ.]

Item	Symbol	Condition	Minimum	Typical	Maximum	Unit
Forward Voltage	VF	IF=50mA		1.2	1.4	V
	VFP	I <sub>FP</sub> =500mA		1.9		
Radiated Power	PO	IF=50mA		9		mW
		I <sub>FP</sub> =500mA		42		
Radiant Intensity	IE	IF=50mA		50		mW/sr
		I <sub>FP</sub> =500mA		230		
Peak Wavelength	λ <sub>P</sub>	IF=50mA	1020	1070	1120	nm
Half Width	Δλ	IF=50mA		53		nm
Viewing Half Angle	θ 1/2	IF=50mA		±12		deg.

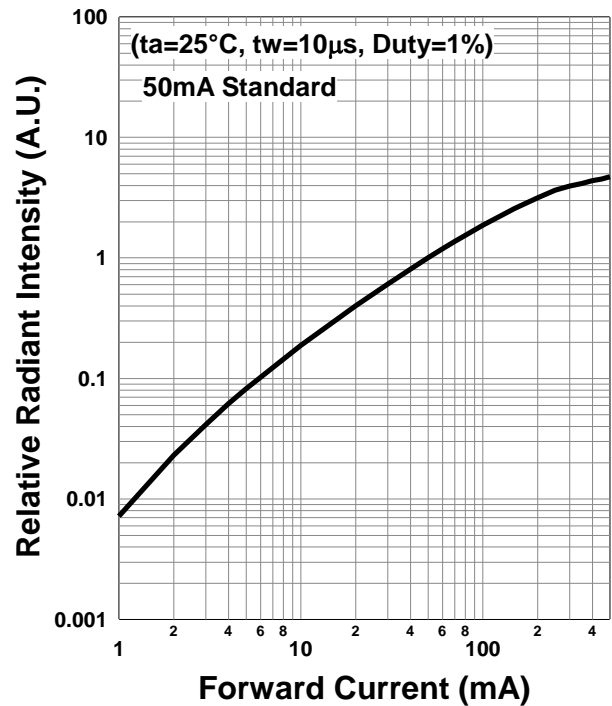
‡Radiated Power is measured by G8370-85.

‡Radiated Power is measured by Ando Optical Multi Meter AQ2140 & AQ2742.

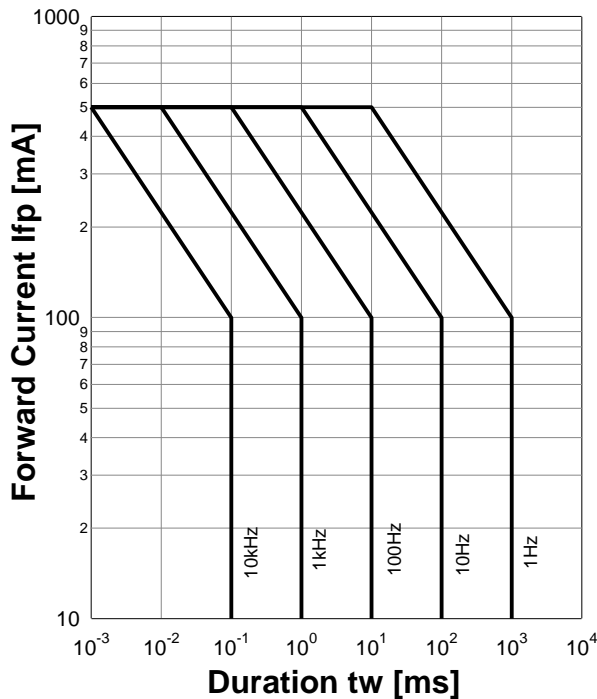
Forward Current - Forward Voltage



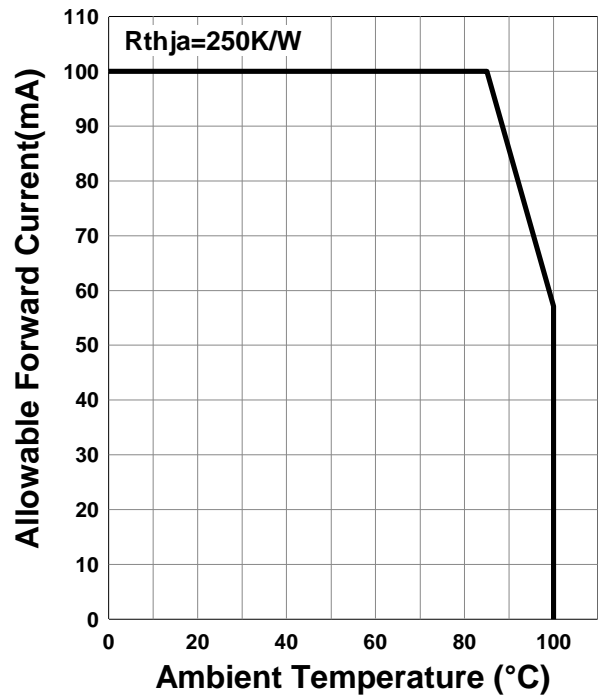
Relative Radiant Intensity - Forward Current



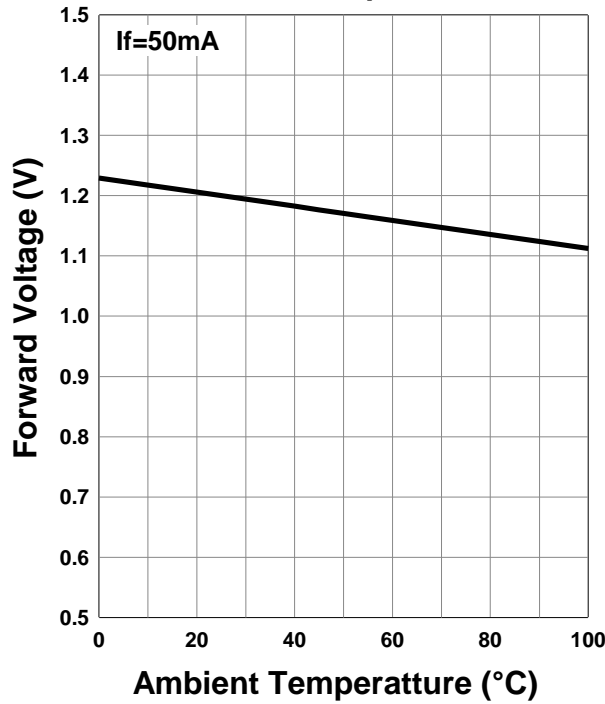
Forward Current - Pulse Duration



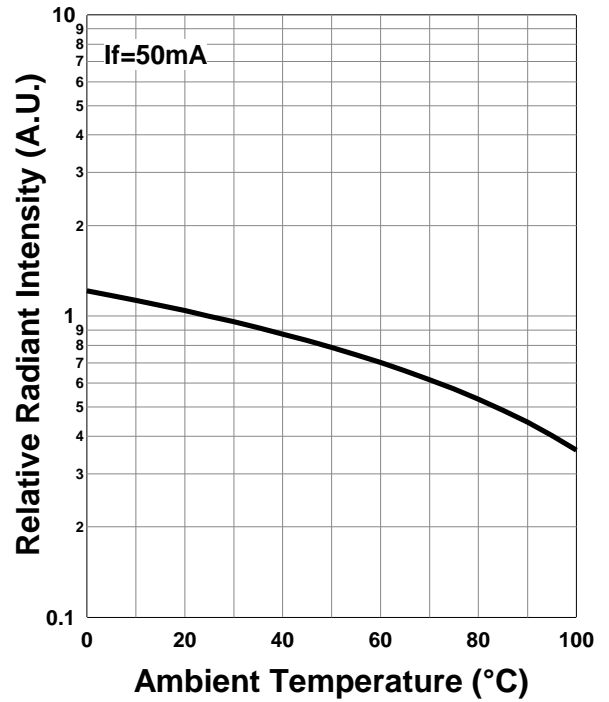
Allowable Forward Current - Ambient Temperature



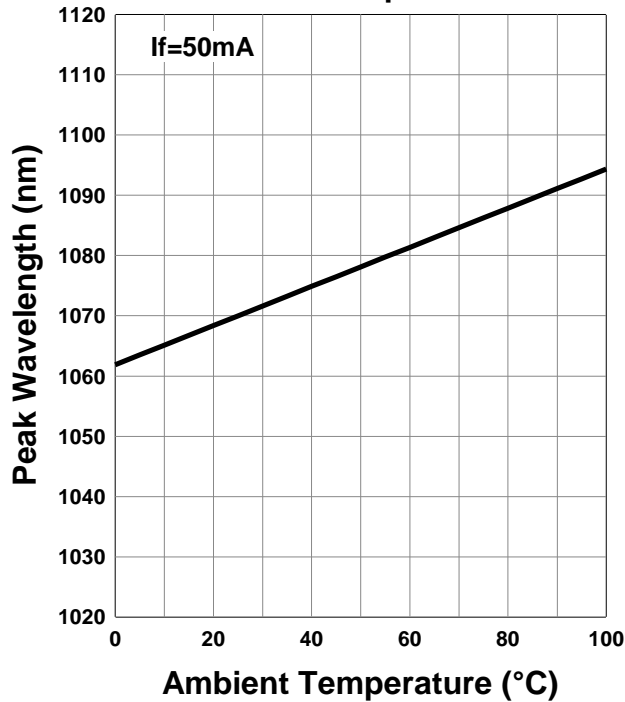
**Forward Voltage - Ambient Temperature**



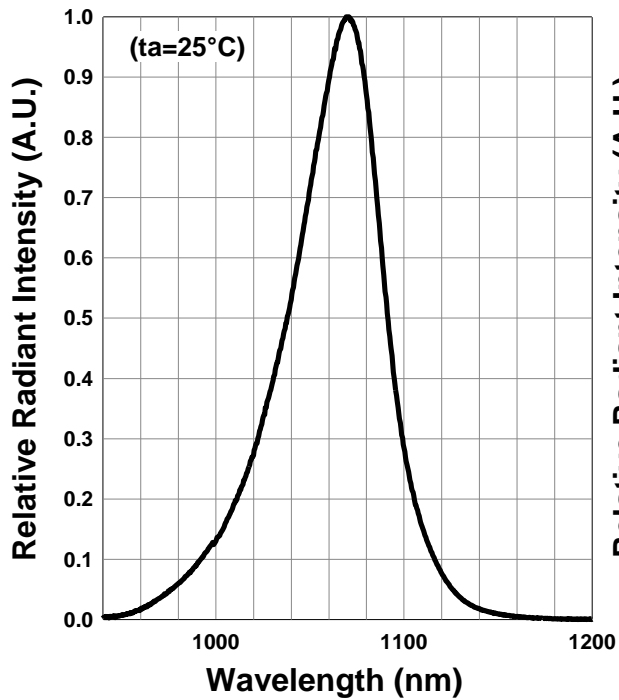
**Relative Radiant Intensity - Ambient Temperature**



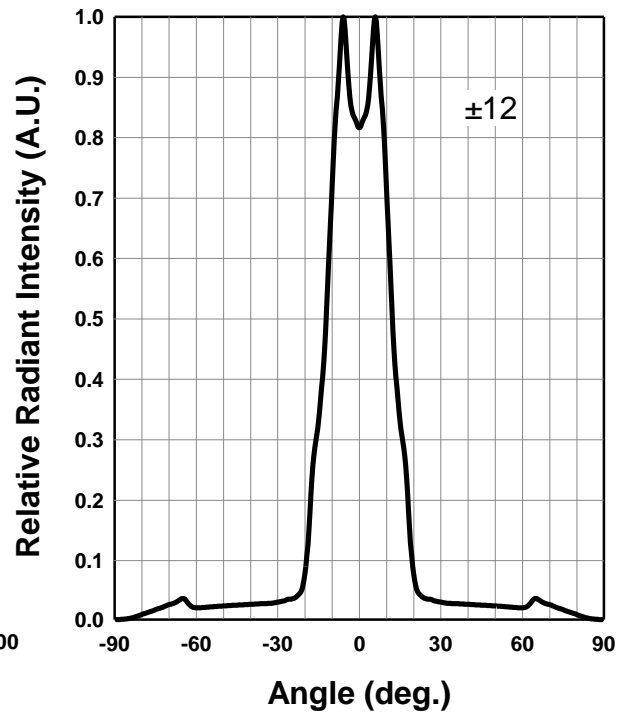
**Peak Wavelength - Ambient Temperature**



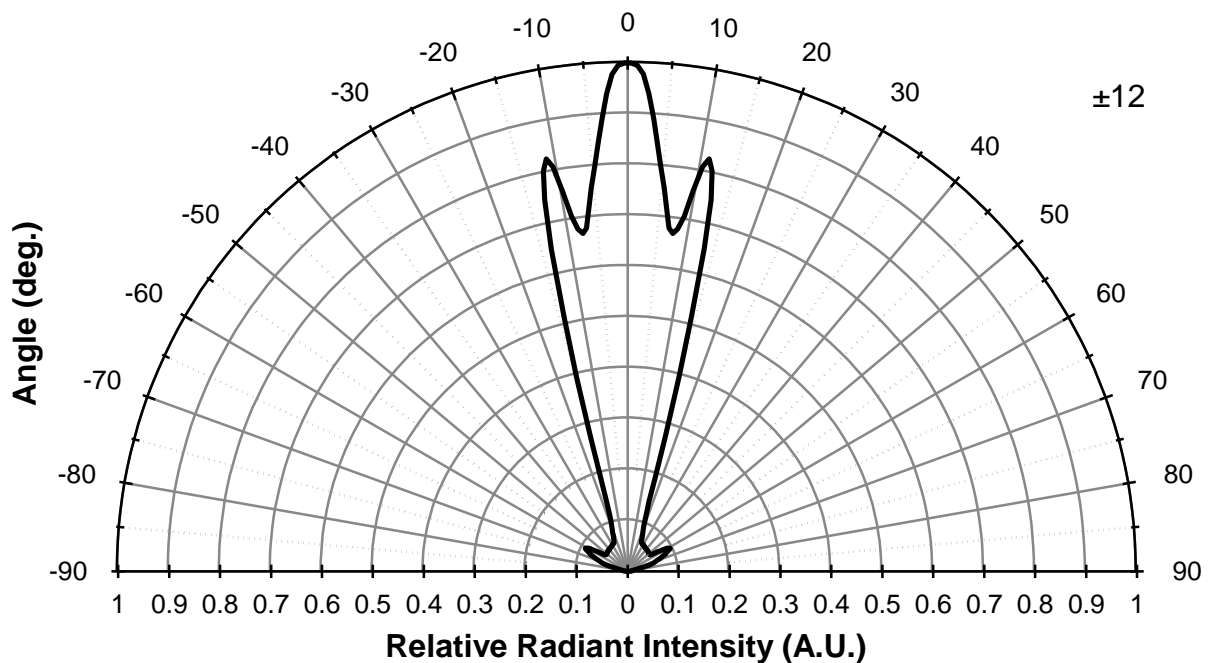
Relative Spectral Emission



Radiation Characteristics



Radiation Characteristics



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2013.12