

# L850-03UP

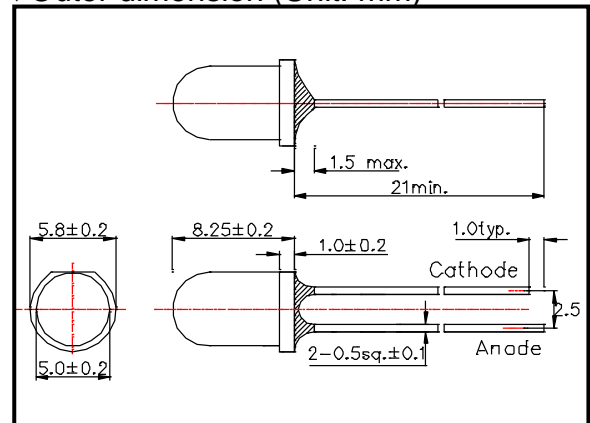
## Infrared LED Lamp

L850-03UP is an AlGaAs LED mounted on a lead frame with a clear epoxy lens. On forward bias it emits a spectral band of radiation, which peaks at 850nm.

### ◆ Specifications

1) Product Name	Infrared LED Lamp
2) Type No.	L850-03UP
3) Chip	
(1) Chip Material	AlGaAs
(2) Peak Wavelength	850nm typ.
4) Package	
(1) Type	Φ5mm clear molding
(2) Resin Material	Epoxy Resin
(3) Lead Frame	Soldered (Lead Free)

### ◆ Outer dimension (Unit: mm)



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

Item	Symbol	Maximum Rated Value	Unit
Power Dissipation	PD	160	mW
Forward Current	IF	100	mA
Pulse Forward Current	IFP	1000	mA
Reverse Voltage	VR	5	V
Thermal Resistance	Rthja	240	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

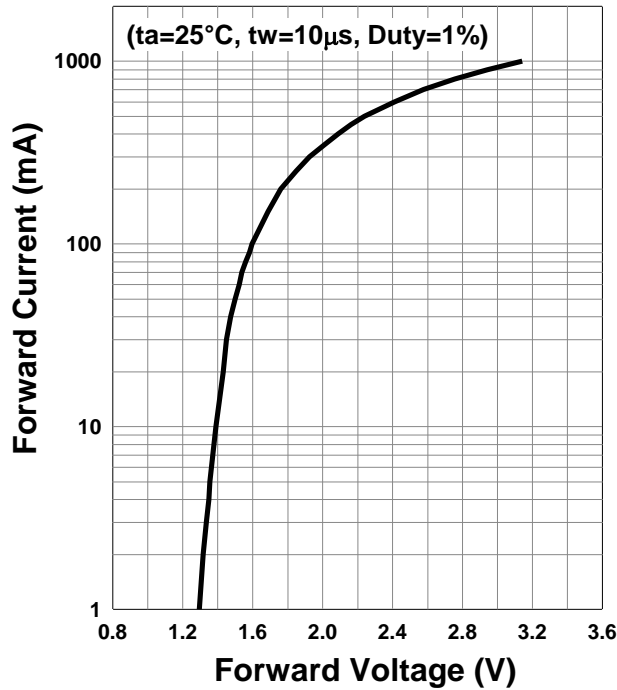
## ◆ Electro-Optical Characteristics [Ta=25°C typ.]

Item	Symbol	Condition	Minimum	Typical	Maximum	Unit
Forward Voltage	VF	IF=50mA		1.5	1.6	V
	VFP	IFP=1A		3.1		
Radiated Power	PO	IF=50mA	18	25		mW
		IFP=1A		440		
Radiant Intensity	IE	IF=50mA		170		mW/sr
		IFP=1A		3000		
Peak Wavelength	$\lambda_P$	IF=50mA	840	850	860	nm
Half Width	$\Delta\lambda$	IF=50mA		42		nm
Viewing Half Angle	$\theta_{1/2}$	IF=50mA		±11		deg.
Rise Time	tr	IF=50mA		25		ns
Fall Time	tf	IF=50mA		25		ns

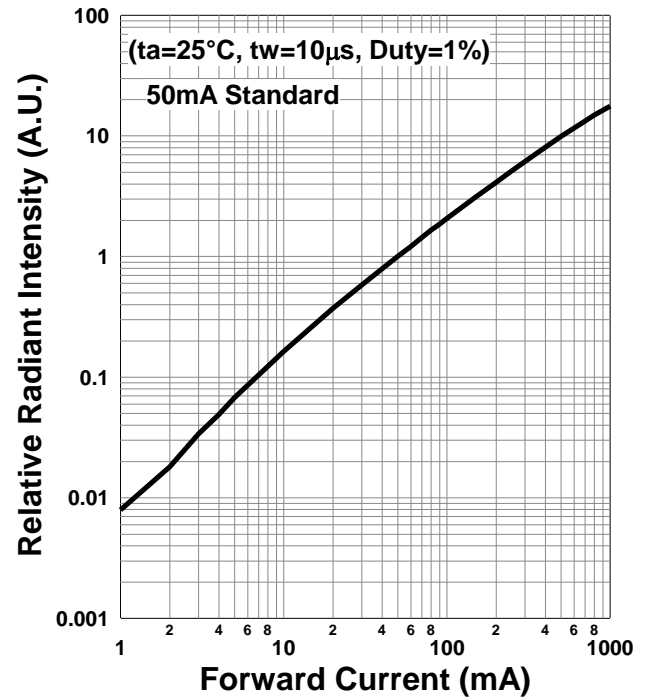
‡Radiated Power is measured by S3584-08.

‡Radiant Intensity is measured by CIE127-2007 Condition B.

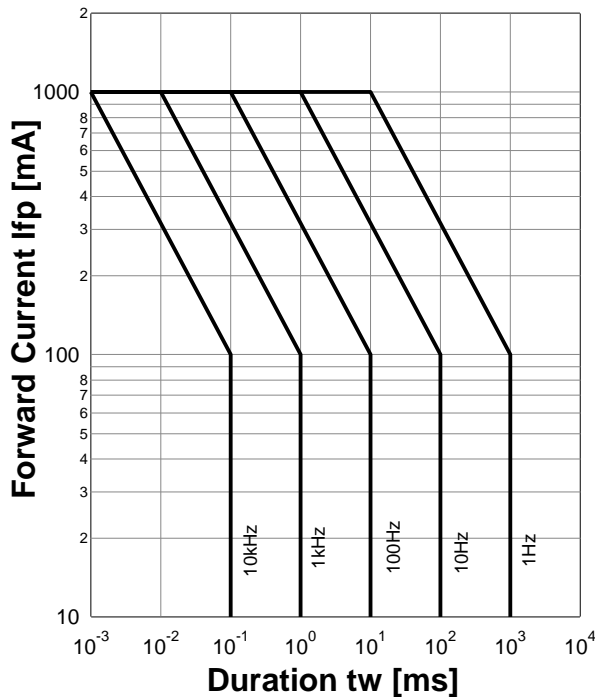
**Forward Current - Forward Voltage**



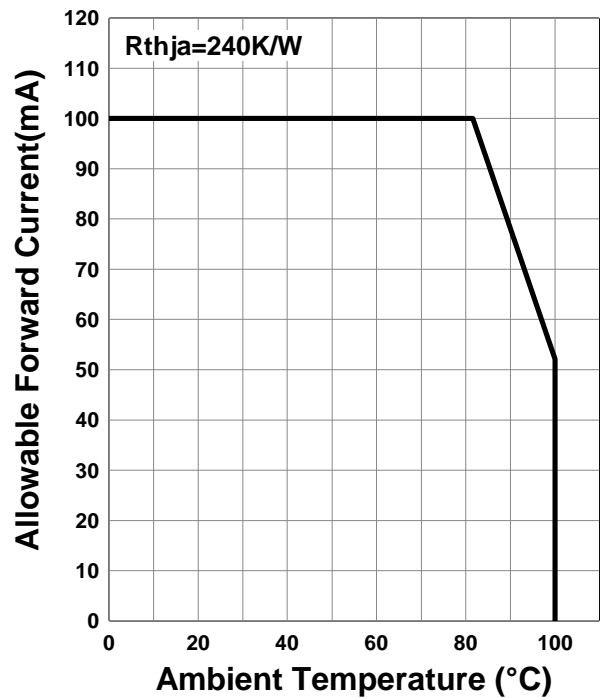
**Relative Radiant Intensity - Forward Current**



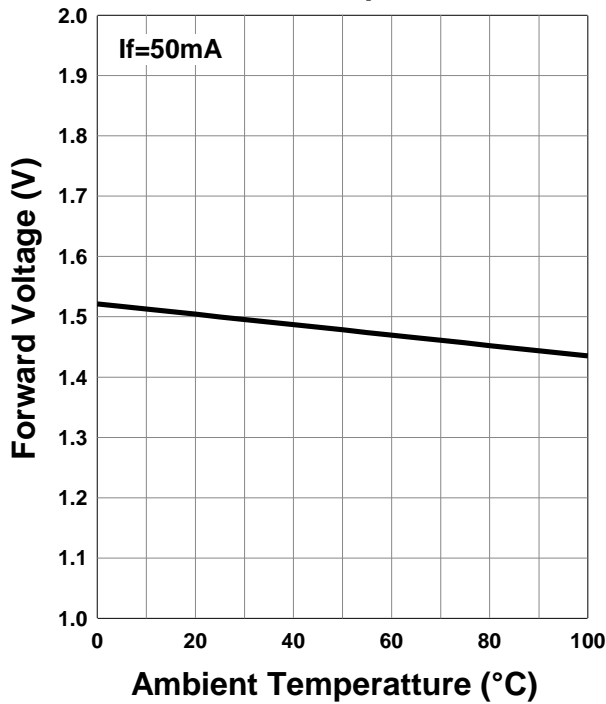
**Forward Current - Pulse Duration**



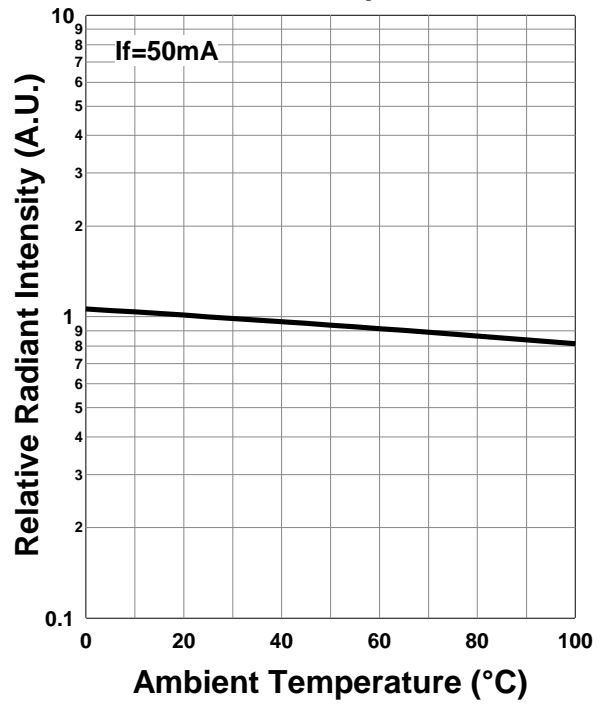
**Allowable Forward Current - Ambient Temperature**



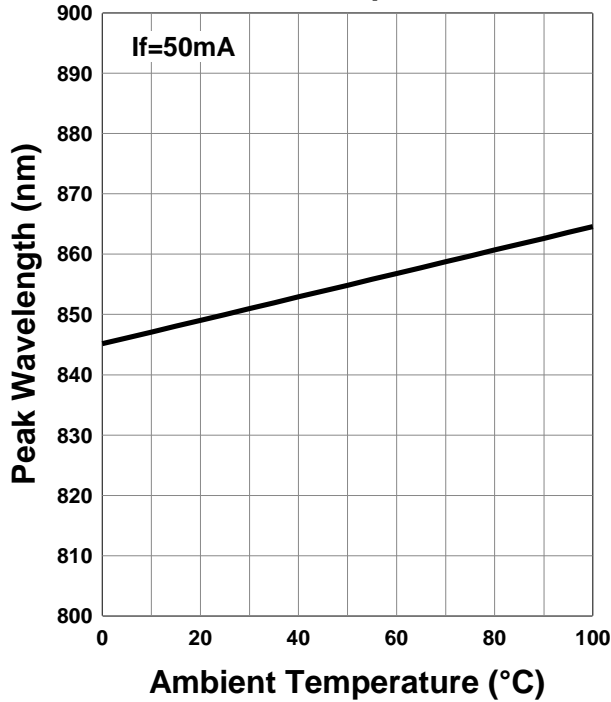
**Forward Voltage - Ambient Temperature**



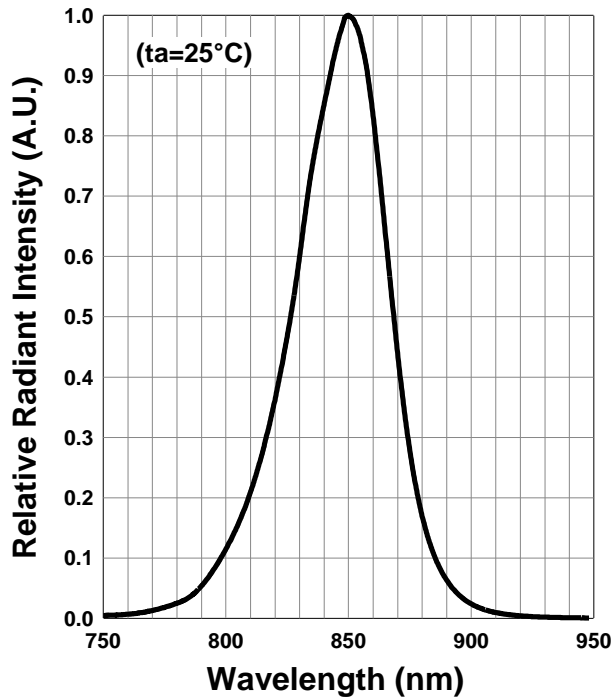
**Relative Radiant Intensity - Ambient Temperature**



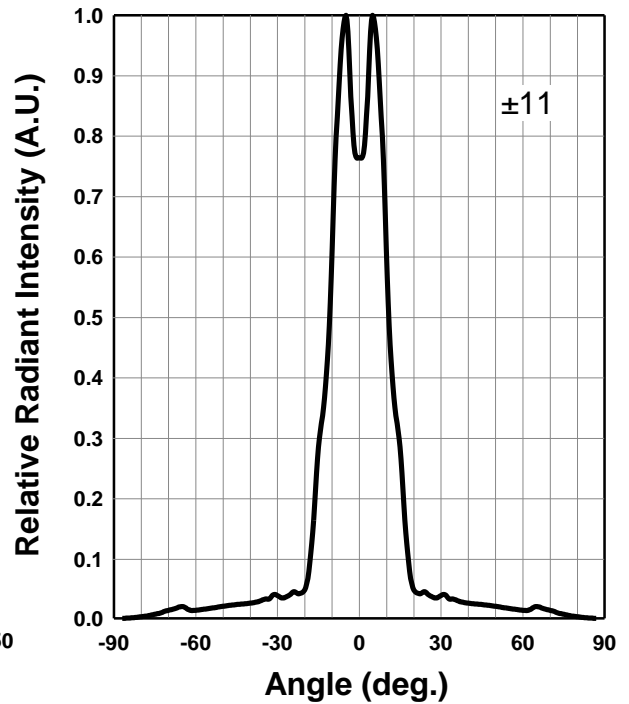
**Peak Wavelength - Ambient Temperature**



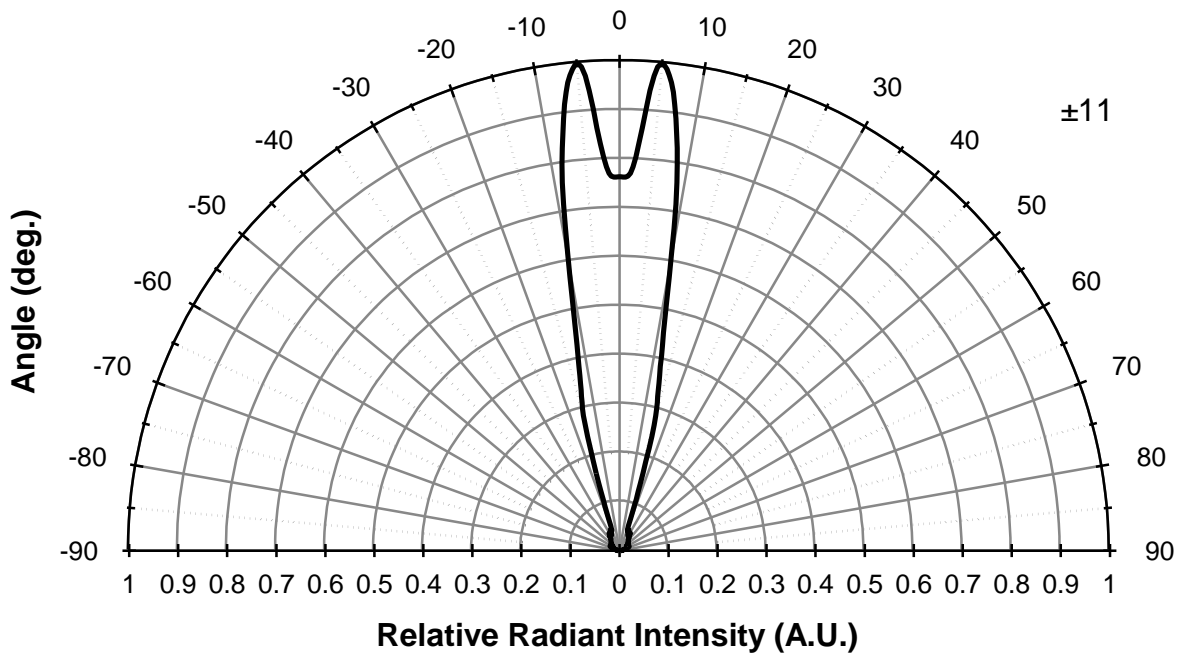
Relative Spectral Emission



Radiation Characteristics



Radiation Characteristics



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