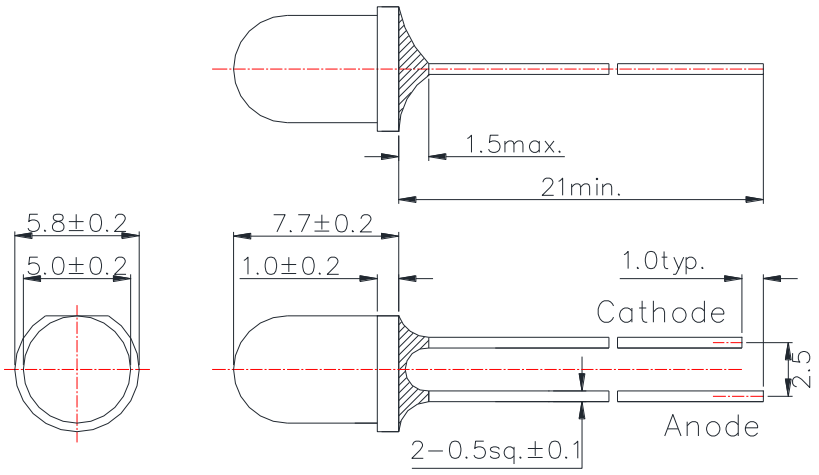
Data Sheet

L940D-04

Infrared LED Lamp

Outline and Internal Circuit



(Unit : mm)

Features

- Chip Material : AlGaAs
- Chip Dimension : 350um * 350um
- Number of Chips : 1pce
- Peak Wavelength : 940nm typ.
- Package Type : ϕ5mm clear molding
- Lead Frame : Soldered (Lead Free)
- Lens : Epoxy Resin

Absolute Maximum Ratings (Tc=25°C)

Item	Symbol	Ratings	Unit
Power Dissipation	PD	170	mW
Forward Current	IF	100	mA
Pulse Forward Current	IFP	1000	mA
Reverse Voltage	VR	5	V
Thermal Resistance	Rthja	170	K/W
Junction Temperature	Tj	120	°C
Operating Temperature	Topr	-40 ~ +100	°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 with 3 seconds at 265°C.

Optical and Electrical Characteristics (Tc=25°C)

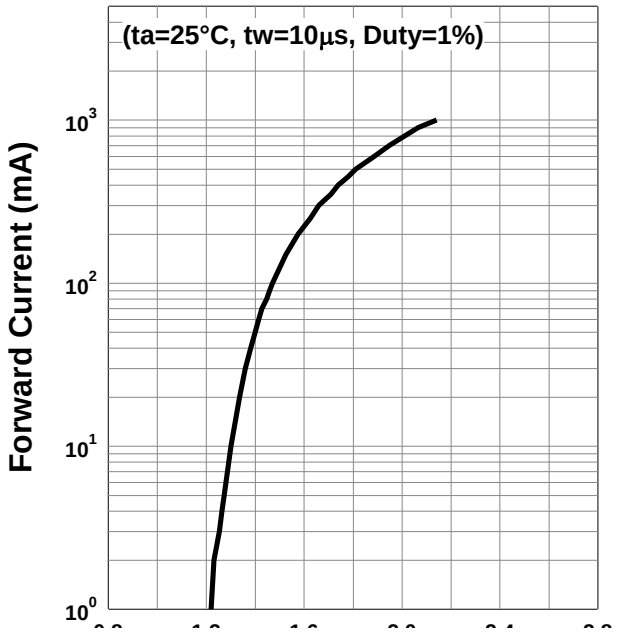
Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage	VF		1.4	1.7	V	IF=50mA
	VFP		2.1			IFP=1A
Total Radiated Power	PO		30		mW	IF=50mA
			480			IFP=1A
Radiant Intensity	IE		53		mW/sr	IF=50mA
			860			IFP=1A
Peak Wavelength	λp	930		955	nm	IF=50mA
Half Width	Δλ		40		nm	IF=50mA
Viewing Half Angle	θ1/2		±10		deg.	IF=50mA
Rise Time	tr		10		ns	IF=50mA
Fall Time	tf		15		ns	IF=50mA

‡ Radiated Power is measured by S3584-08.

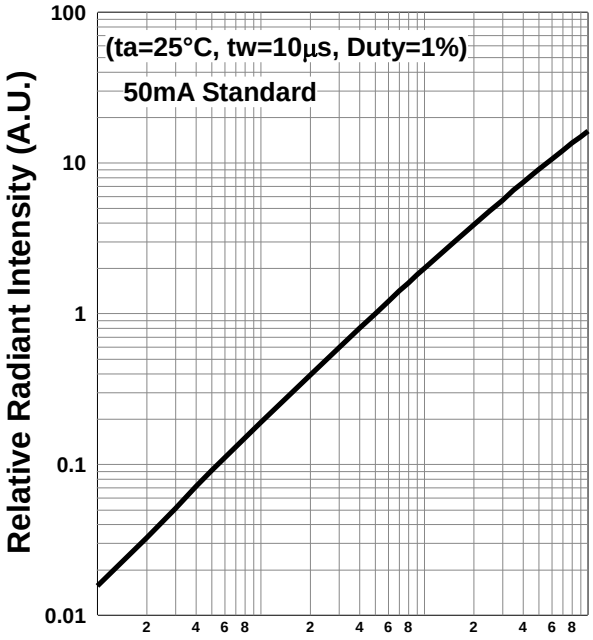
‡ Radiant Intensity is measured by CIE127-2007 Condition B.

Typical Characteristic Curves

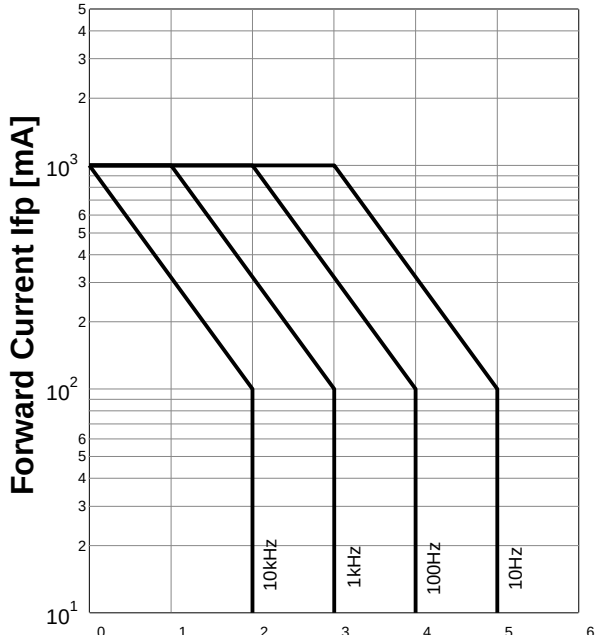
Forward Current - Forward Voltage



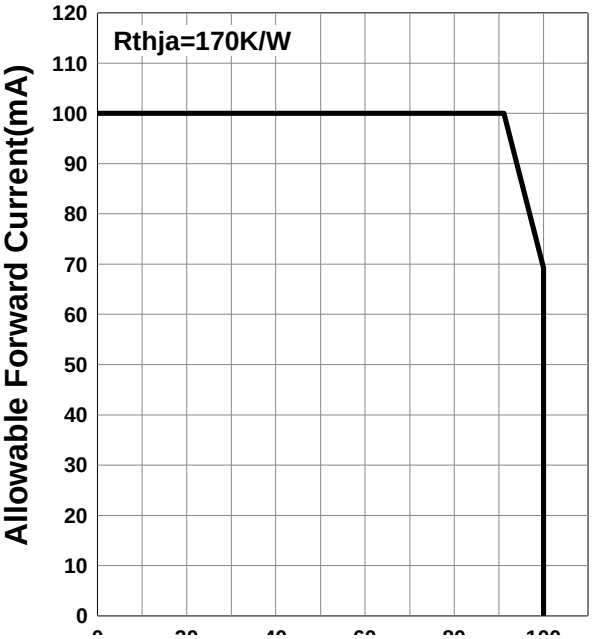
Relative Radiant Intensity - Forward Current

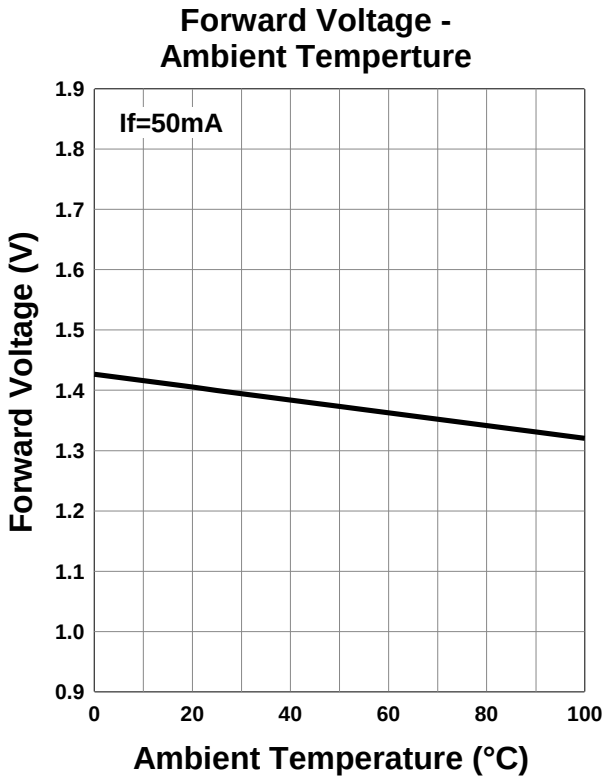


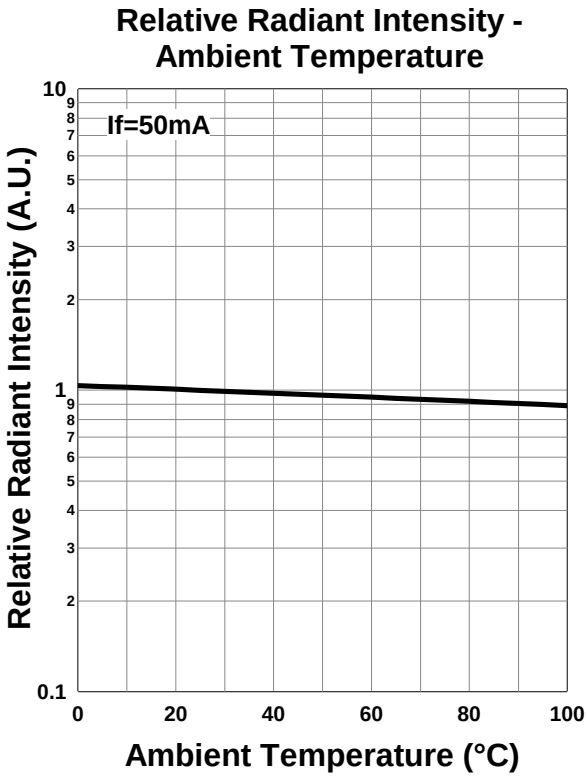
Forward Current - Pulse Duration

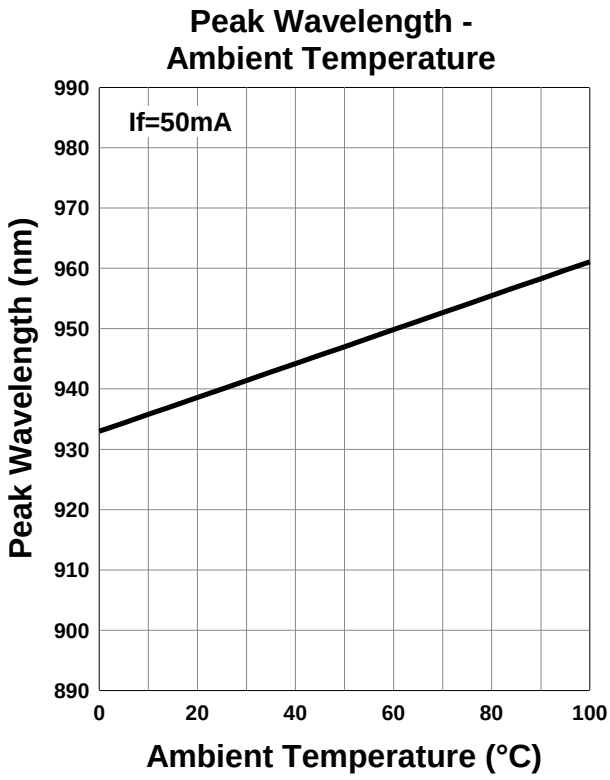


Allowable Forward Current - Ambient Temperature

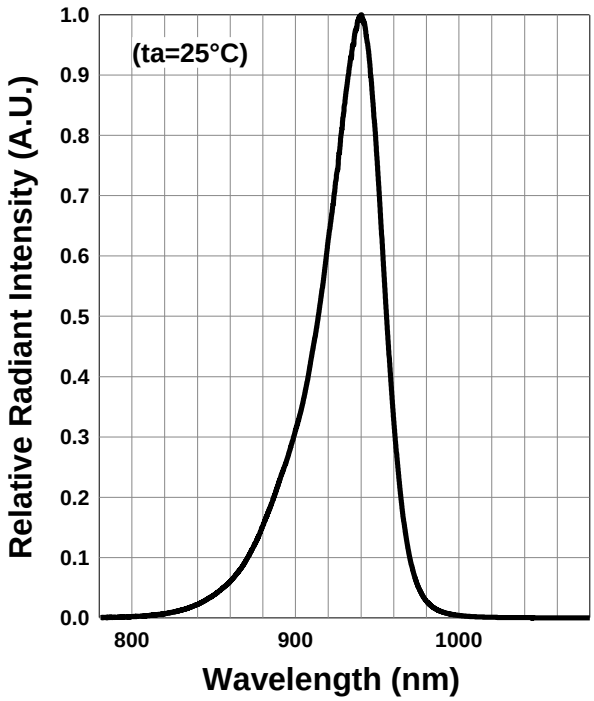



Forward Voltage -
Ambient Temperture
If=50mA
Forward Voltage (V)
1.9
1.8
1.7
1.6
1.5
1.4
1.3
1.2
1.1
1.0
0.9
0
20
40
60
80
100
Ambient Temperature (°C)

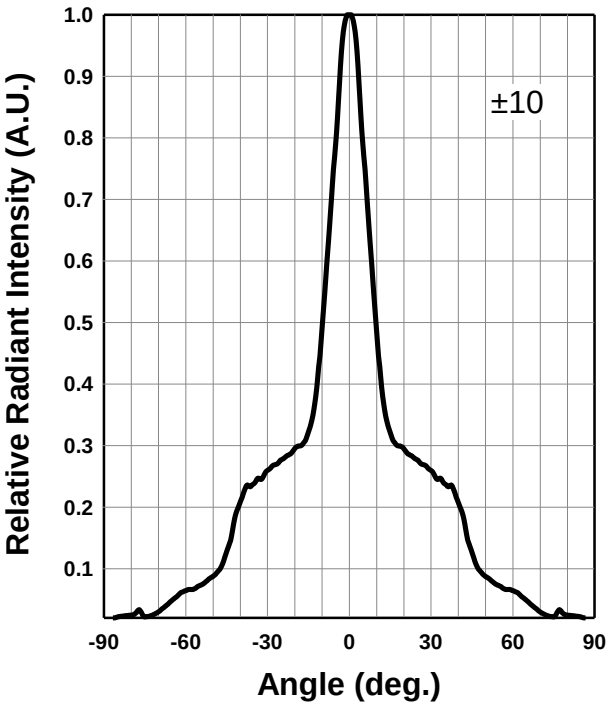

Relative Radiant Intensity -
Ambient Temperature
If=50mA
Relative Radiant Intensity (A.U.)
10
9
8
7
6
5
4
3
2
1
0.1
0
20
40
60
80
100
Ambient Temperature (°C)


Peak Wavelength -
Ambient Temperature
If=50mA
Peak Wavelength (nm)
990
980
970
960
950
940
930
920
910
900
890
0
20
40
60
80
100
Ambient Temperature (°C)

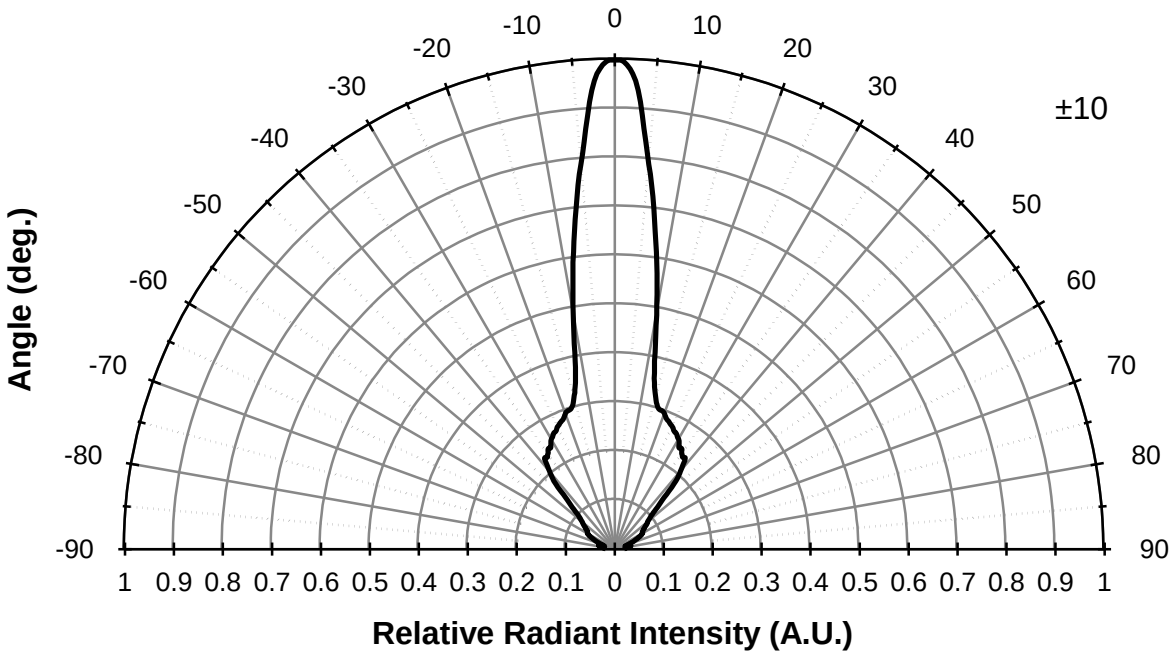
Relative Spectral Emission



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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2018.01

The product is manufactured by USHIO Inc. and the spec information is also from USHIO Inc.

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