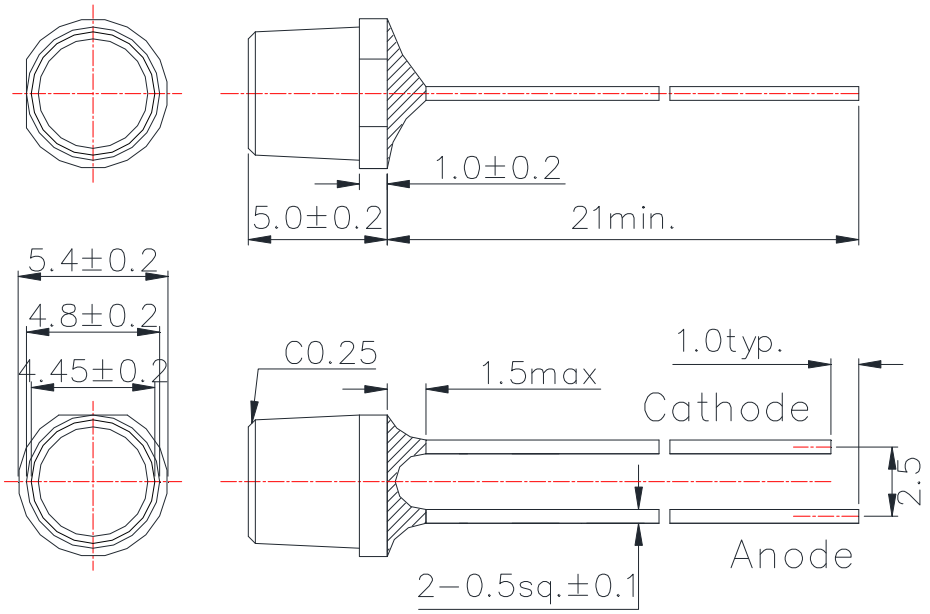
Data Sheet

L630-05

Super Bright Red LED Lamp

USHIO

Outline and Internal Circuit



(Unit : mm)

Features

- Chip Material : AlInGaP
- Chip Dimension : 350um * 350um
- Number of Chips : 1pce
- Peak Wavelength : 630nm typ.
- Package Type : ϕ5mm clear molding
- Lead Frame : Soldered (Lead Free)
- Lens : Epoxy Resin

Application

Absolute Maximum Ratings (Tc=25°C)

Item	Symbol	Ratings	Unit
Power Dissipation	PD	120	mW
Forward Current	IF	50	mA
Pulse Forward Current	IFP	100	mA
Reverse Voltage	VR	5	V
Thermal Resistance	Rthja	300	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)

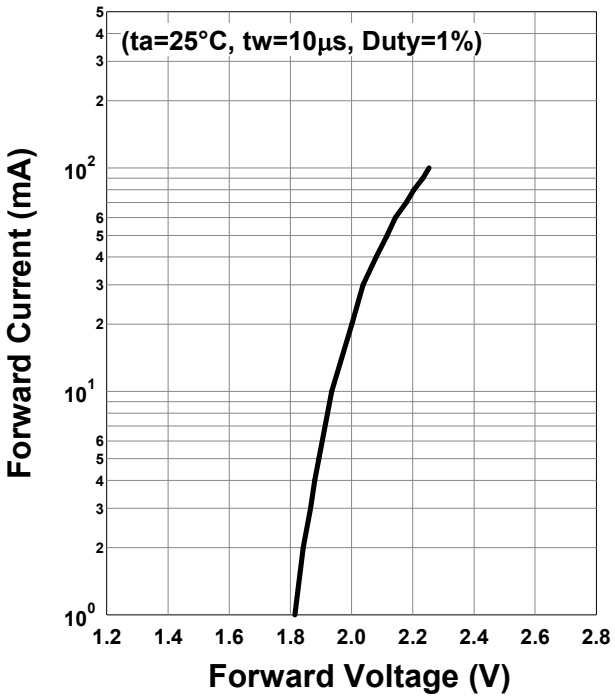
Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage	VF		2.0	2.3	V	IF=20mA
	VFP		2.3			IFP=100mA
Total Radiated Power	PO		9.5		mW	IF=20mA
			44			IFP=100mA
Radiant Intensity	IE		2.7		mW/sr	IF=20mA
			12			IFP=100mA
Luminous Flux	ΦV		2000		mlm	IF=20mA
Peak Wavelength	λp	620		640	nm	IF=20mA
Dominant Wavelength	λD		622		nm	IF=20mA
Half Width	Δλ		15		nm	IF=20mA
Viewing Half Angle	θ1/2		±47		deg.	IF=20mA
Rise Time	tr		10		ns	IF=20mA
Fall Time	tf		10		ns	IF=20mA

‡ Radiated Power is measured by S3584-08.

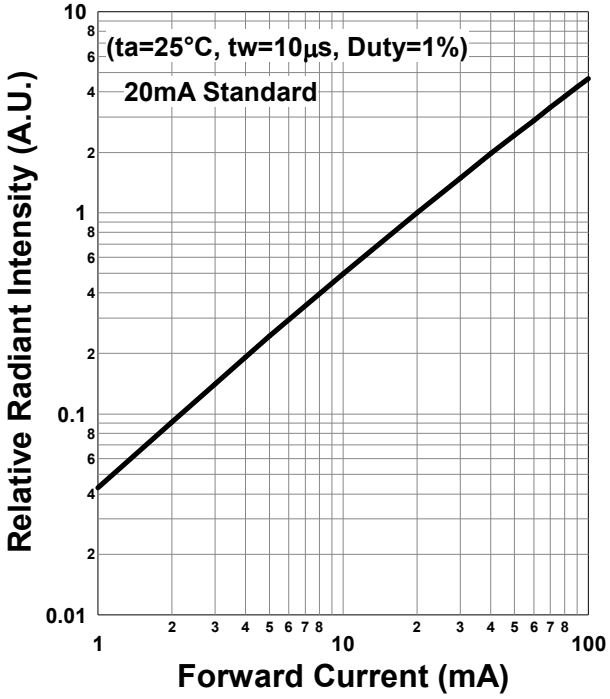
‡ Radiant Intensity is measured by CIE127-2007 Condition B.

Typical Characteristic Curves

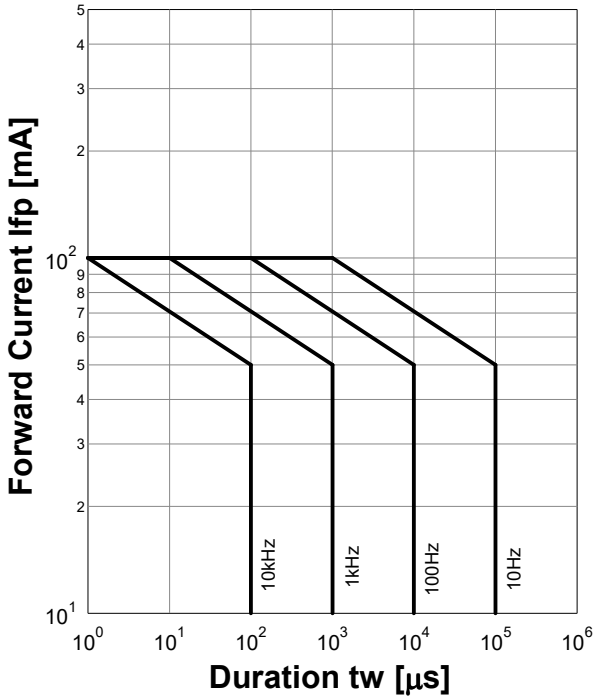
Forward Current - Forward Voltage



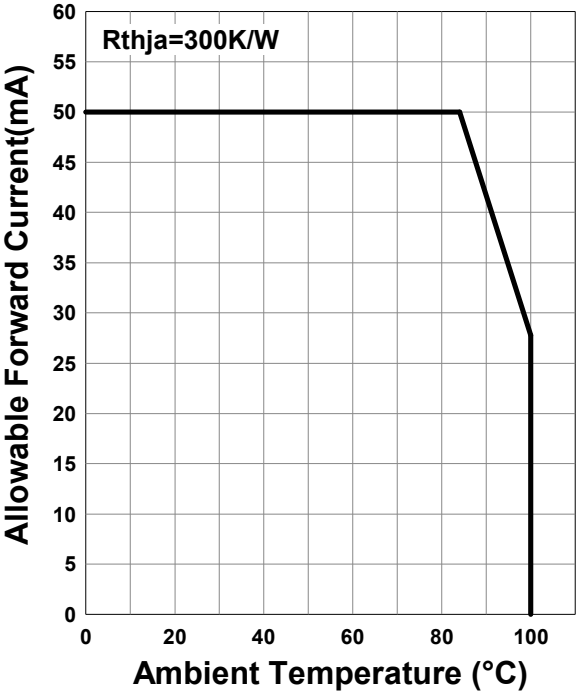
Relative Radiant Intensity - Forward Current

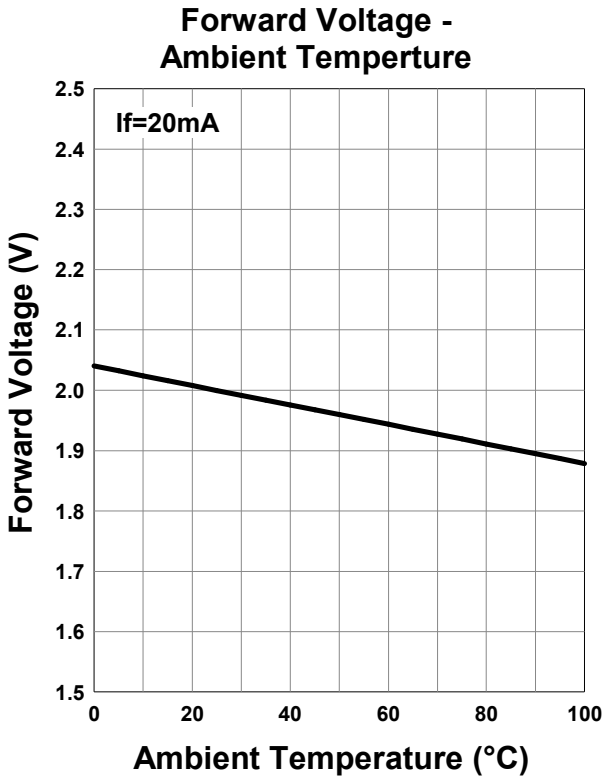


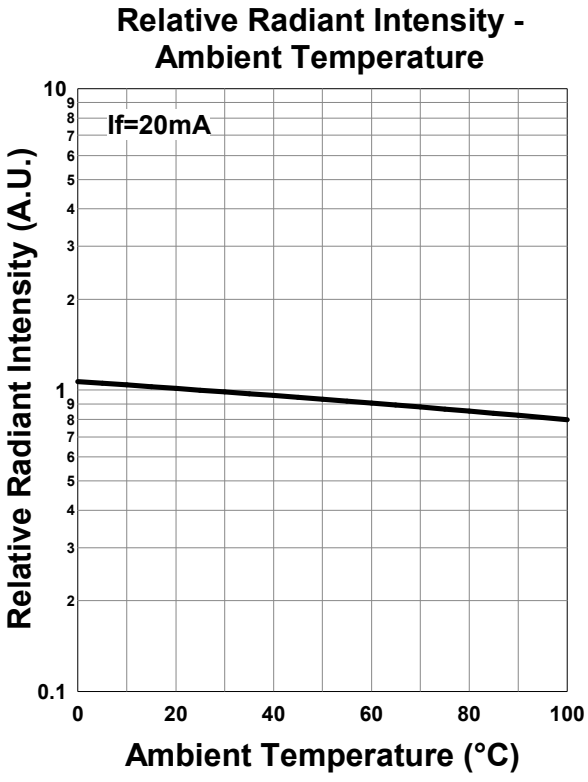
Forward Current - Pulse Duration

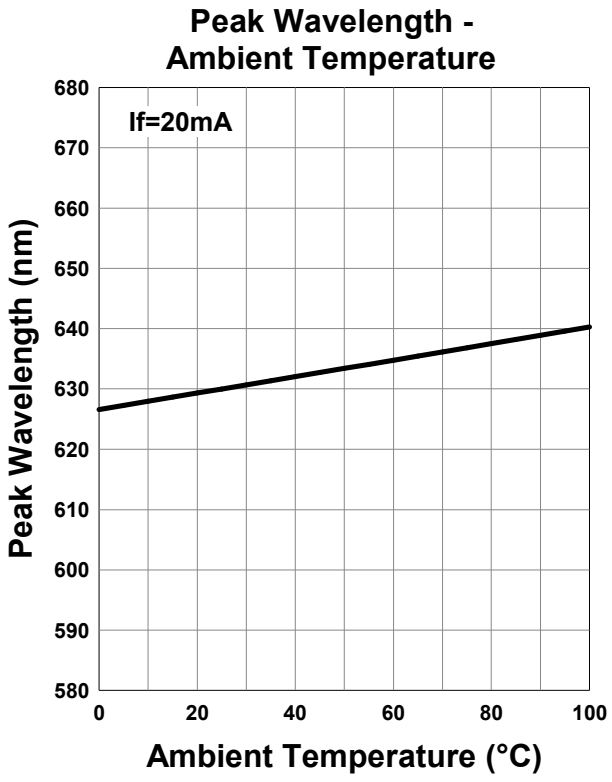


Allowable Forward Current - Ambient Temperature

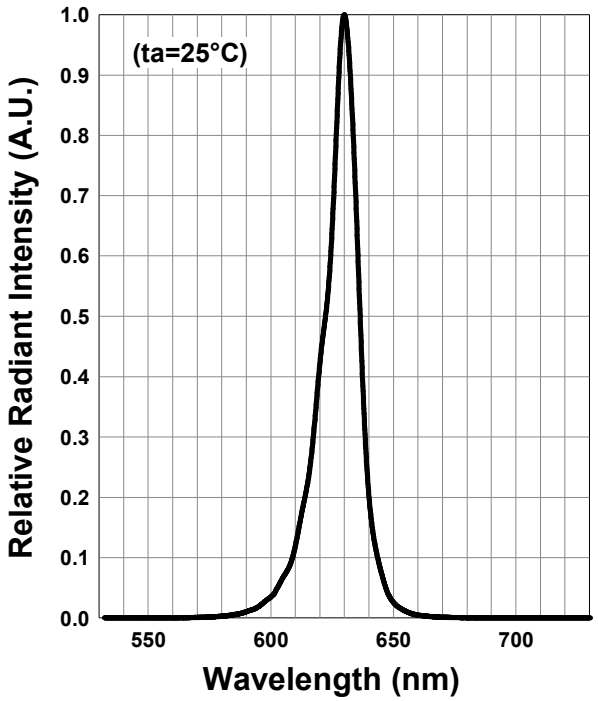



Forward Voltage -
Ambient Temperture
If=20mA
Forward Voltage (V)
2.5
2.4
2.3
2.2
2.1
2.0
1.9
1.8
1.7
1.6
1.5
0
20
40
60
80
100
Ambient Temperature (°C)

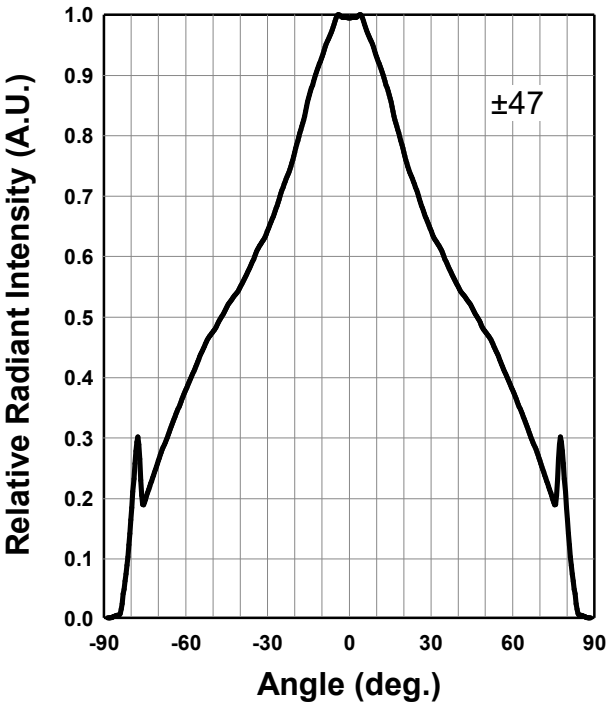

Relative Radiant Intensity -
Ambient Temperature
If=20mA
Relative Radiant Intensity (A.U.)
10
1
0.1
0
20
40
60
80
100
Ambient Temperature (°C)


Peak Wavelength -
Ambient Temperature
If=20mA
Peak Wavelength (nm)
680
670
660
650
640
630
620
610
600
590
580
0
20
40
60
80
100
Ambient Temperature (°C)

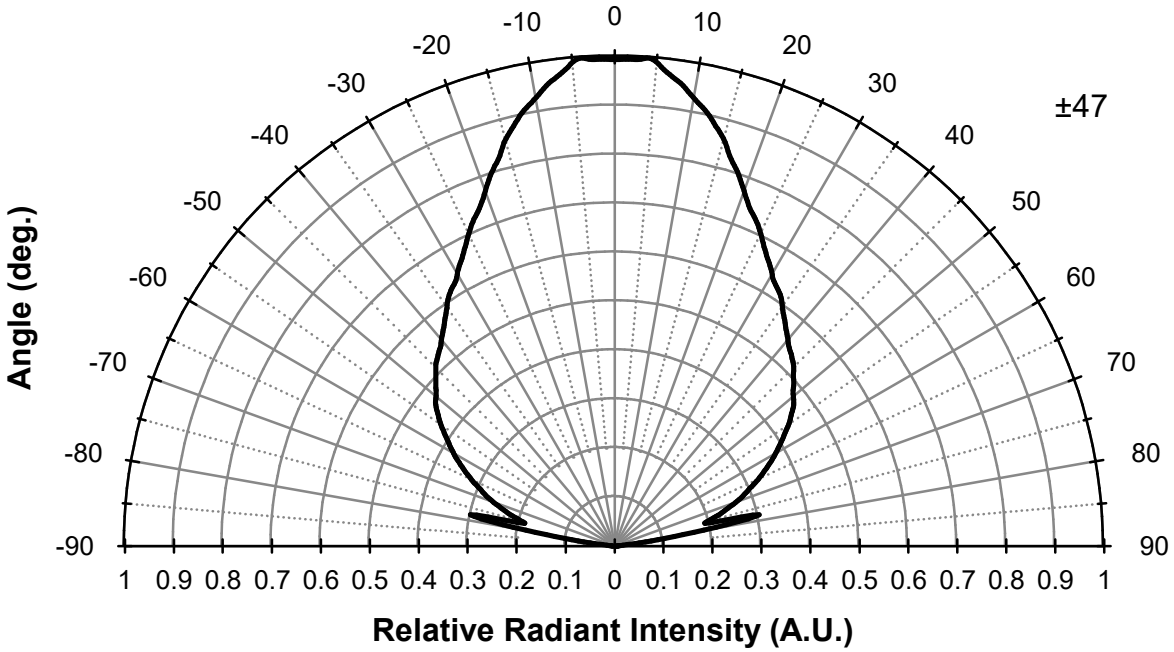
Relative Spectral Emission



Radiation Characteristics



Radiation Characteristics



Disclaimer

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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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*Effective July 2016, Ushio Epitex Inc. is now USHIO OPTO SEMICONDUCTORS, INC.