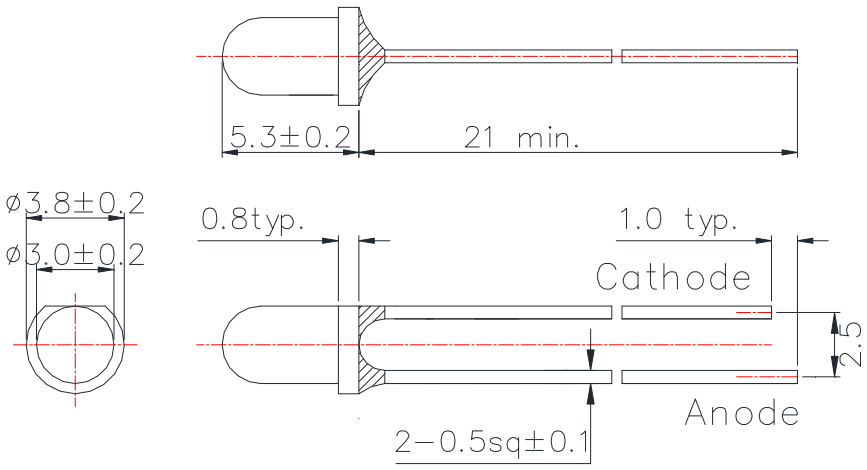
USHIO

Data Sheet

L680-33AU

Infrared LED Lamp

Outline and Internal Circuit



(Unit : mm)

Features

- Chip Material : AlGaAs
- Chip Dimension : 350um * 350um
- Number of Chips : 1pce
- Peak Wavelength : 680nm typ.
- Package Type : ϕ3mm 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	200	mA
Reverse Voltage	VR	5	V
Thermal Resistance	Rthja	220	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.

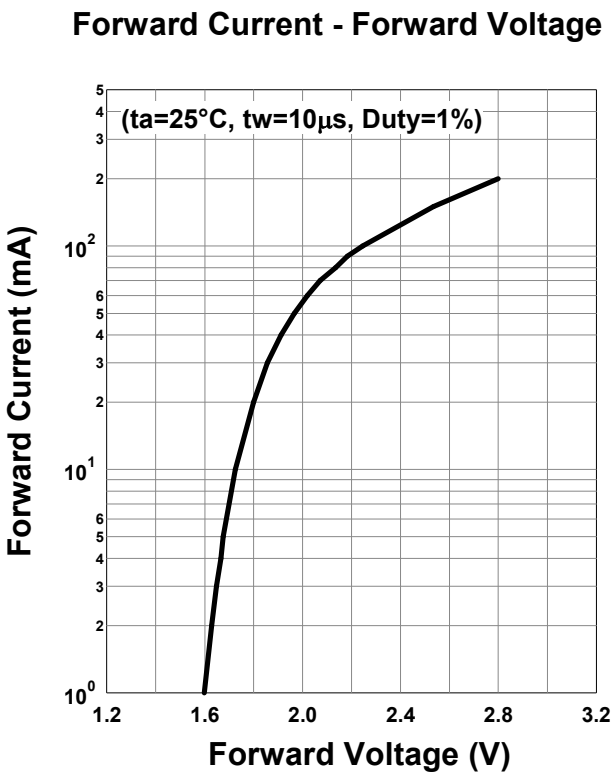
Optical and Electrical Characteristics (Tc=25°C)

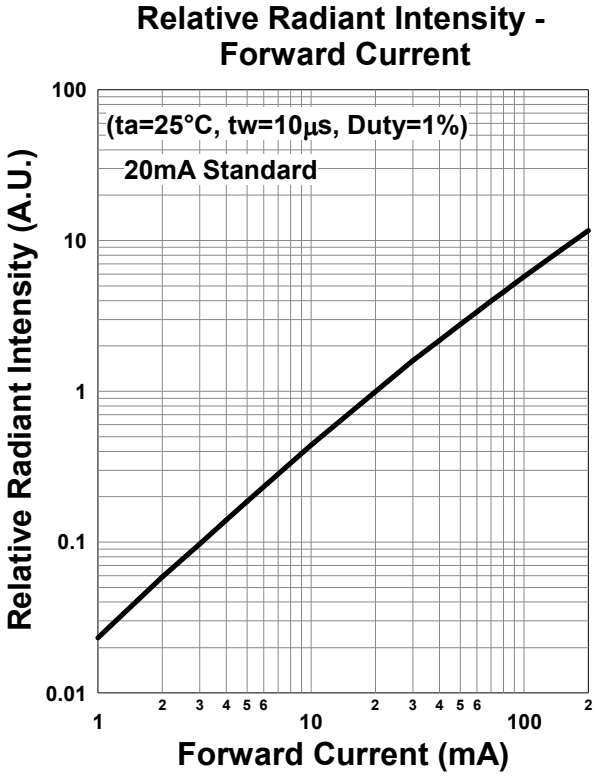
Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage	VF		1.8	2.3	V	IF=20mA
			2.0			IF=50mA T=20ms
	VFP		2.8			IFP=200mA
Total Radiated Power	PO		5.8		mW	IF=20mA
			16			IF=50mA T=20ms
			67			IFP=200mA
Radiant Intensity	IE		42		mW/sr	IF=20mA
			110			IF=50mA T=20ms
			490			IFP=200mA
Peak Wavelength	λp	670		690	nm	IF=20mA
Half Width	Δλ		24		nm	IF=20mA
Viewing Half Angle	θ1/2		±16		deg.	IF=20mA
Rise Time	tr		10		ns	IF=20mA
Fall Time	tf		10		ns	IF=20mA

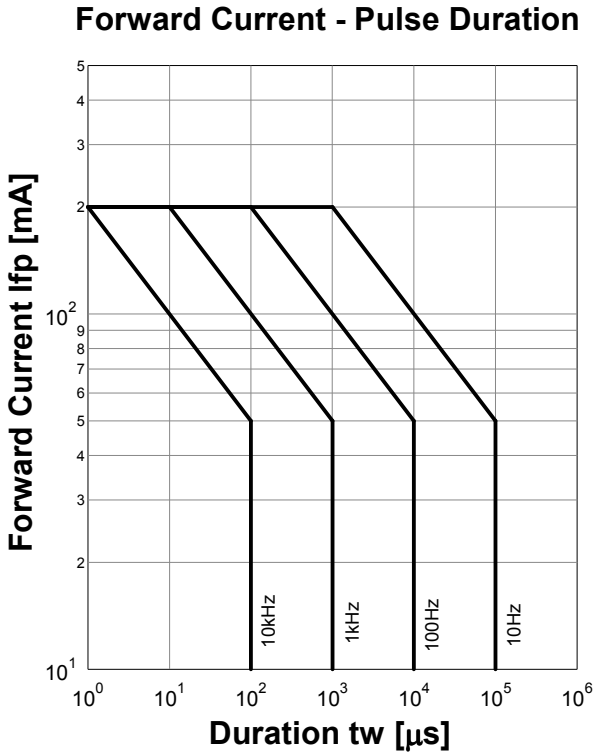
‡ Radiated Power is measured by S3584-08.

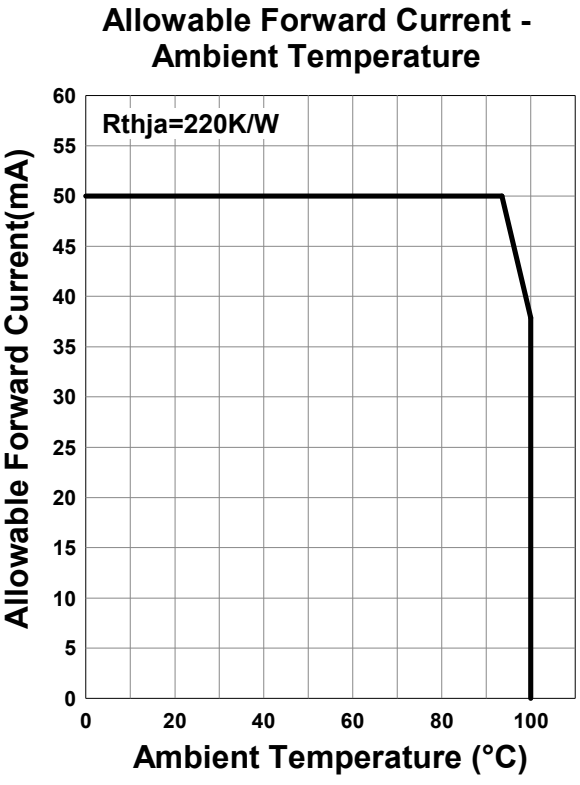
‡ Radiant Intensity is measured by CIE127-2007 Condition B.

Typical Characteristic Curves

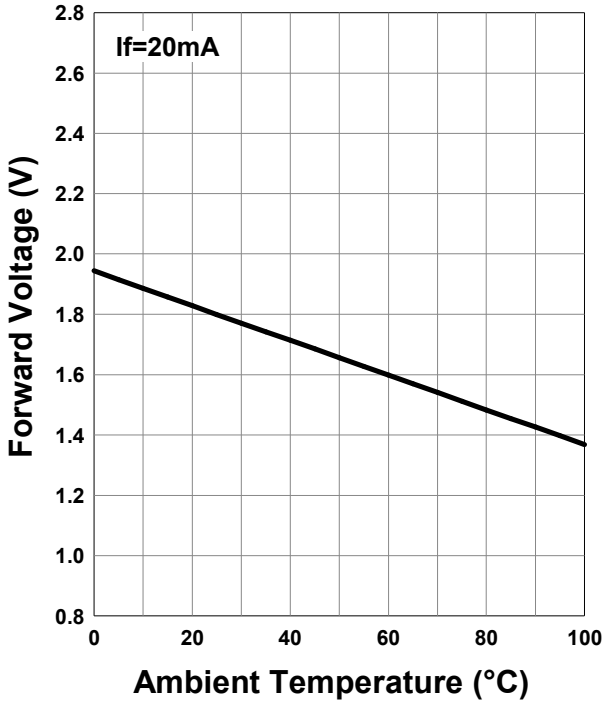




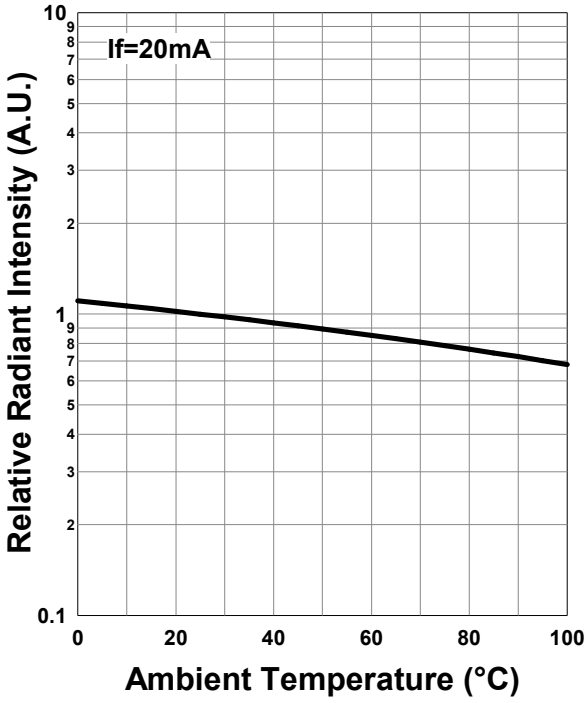




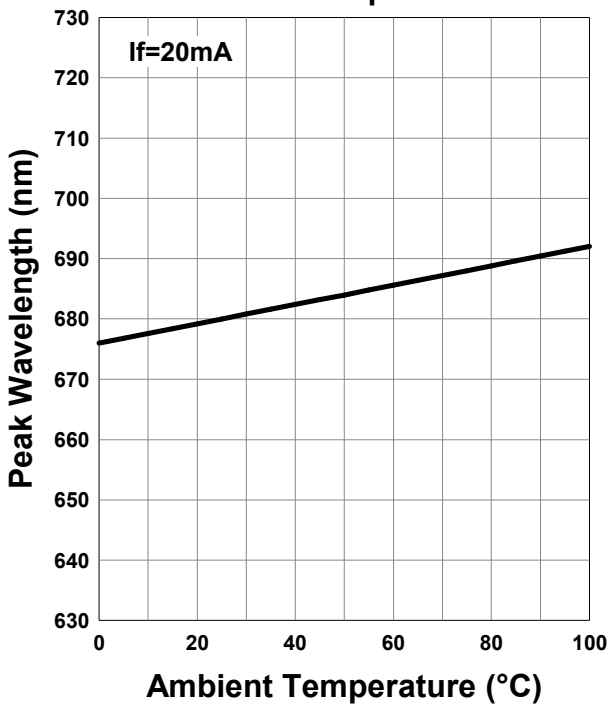
Forward Voltage - Ambient Temperture

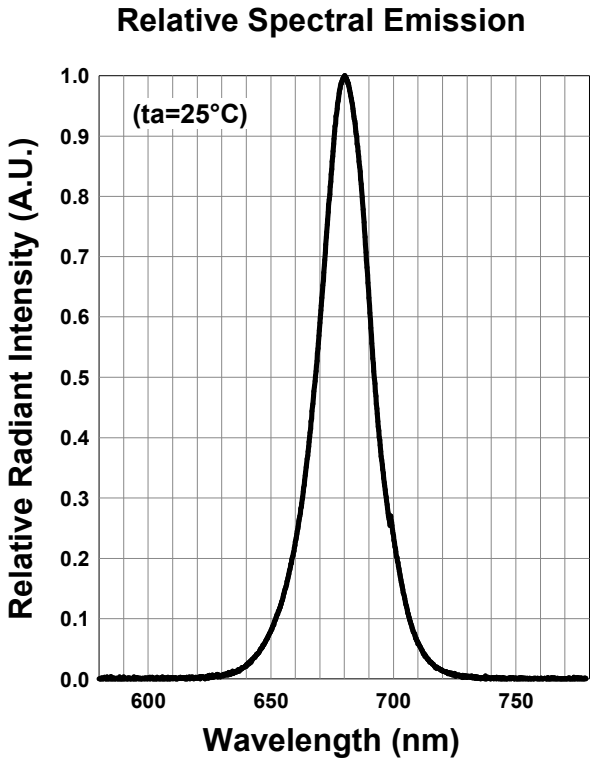


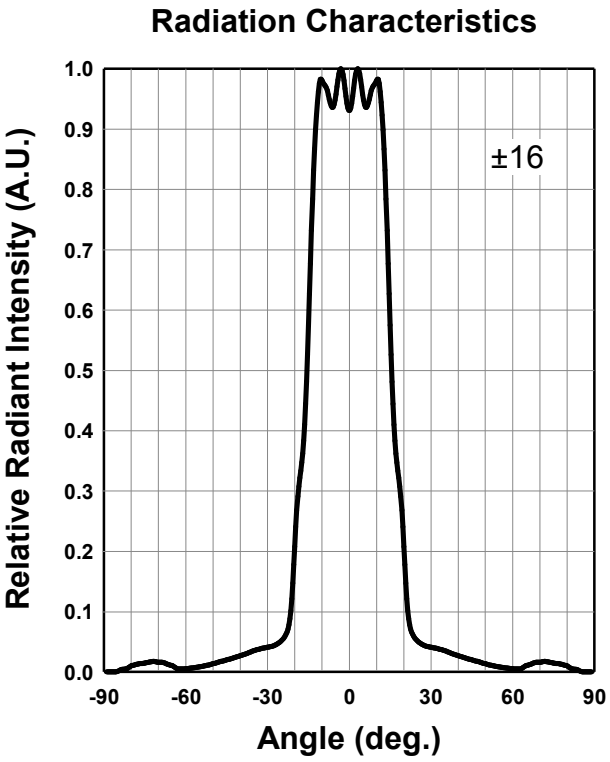
Relative Radiant Intensity - Ambient Temperature

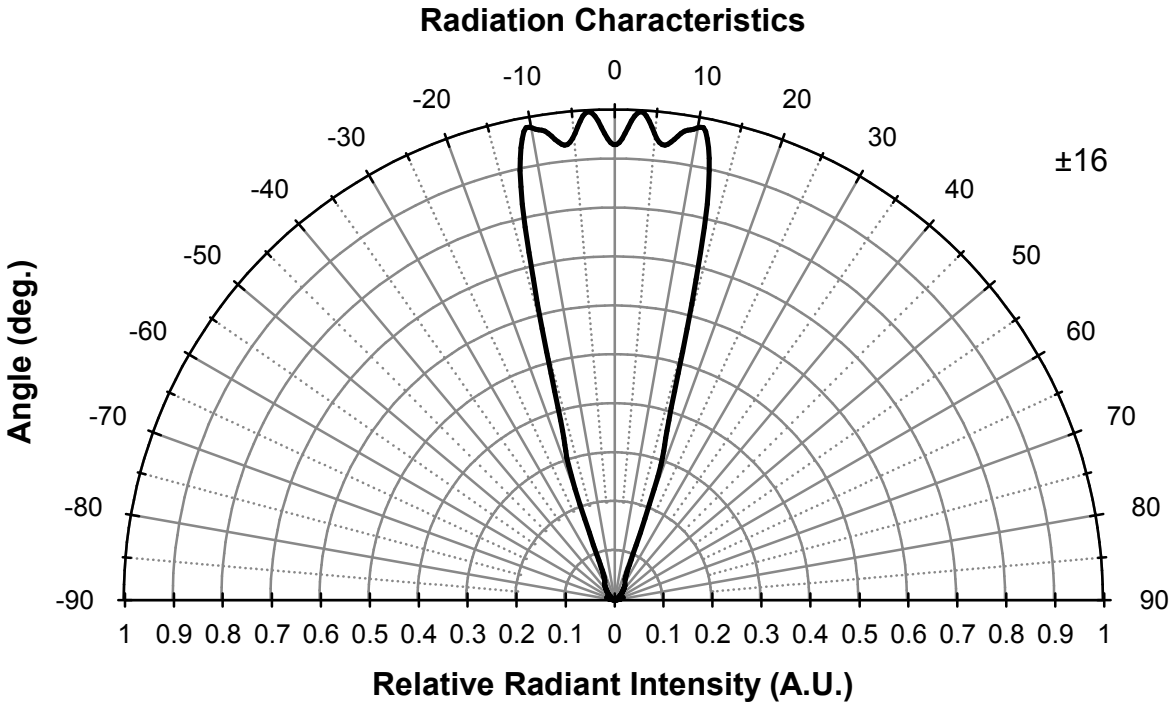


Peak Wavelength - Ambient Temperature




Relative Spectral Emission
(ta=25°C)
Relative Radiant Intensity (A.U.)
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
600
650
700
750
Wavelength (nm)


Radiation Characteristics
±16
Relative Radiant Intensity (A.U.)
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-90
-60
-30
0
30
60
90
Angle (deg.)


Radiation Characteristics
±16
Angle (deg.)
0
10
20
30
40
50
60
70
80
90
-10
-20
-30
-40
-50
-60
-70
-80
-90
1 0.9 0.8 0.7 0.6 0.5 0.4 0.3 0.2 0.1 0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1
Relative Radiant Intensity (A.U.)

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.

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