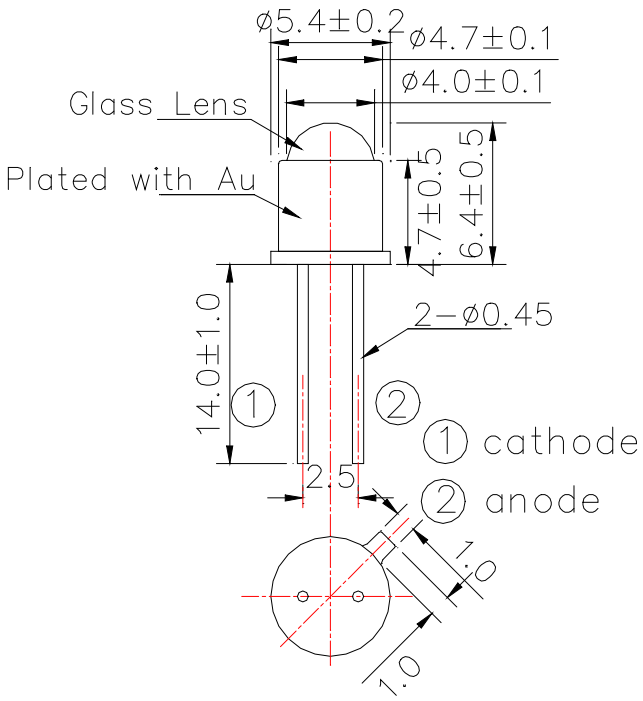
Data Sheet

L1450S-35M32

Infrared LED Lamp

USHIO

Outline and Internal Circuit



(Unit : mm)

Features

- Non-hermetic package
- Chip Material : InGaAsP
- Chip Dimension : 300um *300um
- Number of Chips : 1pce
- Peak Wavelength : 1450nm typ.
- Stem: TO-18 type
- Lens : Glass Ball Lens
- CAP : Gold plated

Application

Absolute Maximum Ratings (Tc=25°C)

Item	Symbol	Ratings	Unit
Power Dissipation	PD	130	mW
Forward Current	IF	100	mA
Pulse Forward Current	IFP	1000	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 and is allowed in the area apart 3mm from the bottom of the lamp.

Optical and Electrical Characteristics (Tc=25°C)

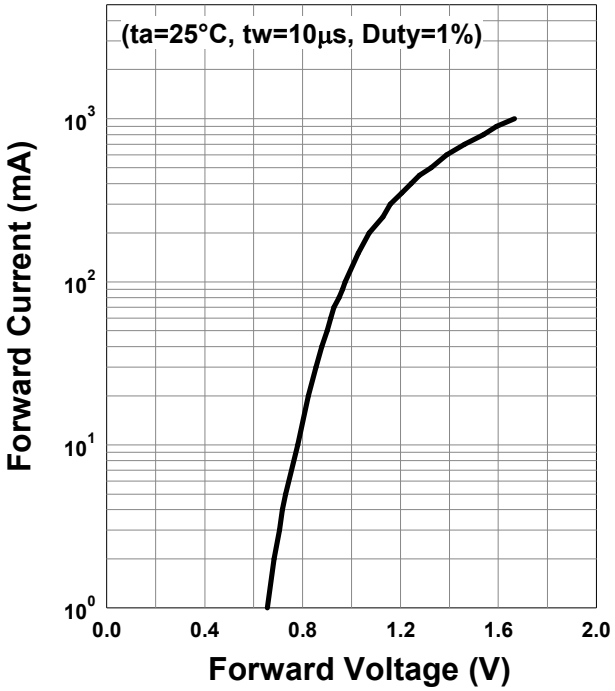
Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage	VF		0.9	1.3	V	IF=50mA
	VFP		1.7			IFP=1000mA
Total Radiated Power	PO		4.6		mW	IF=50mA
			29			IFP=1000mA
Radiant Intensity	IE		39		mW/sr	IF=50mA
			240			IFP=1000mA
Peak Wavelength	λp	1400		1500	nm	IF=50mA
Half Width	Δλ		110		nm	IF=50mA
Viewing Half Angle	θ1/2		±15		deg.	IF=50mA
Rise Time	tr		30		ns	IF=50mA
Fall Time	tf		70		ns	IF=50mA

‡ Radiated Power is measured by G8370-85.

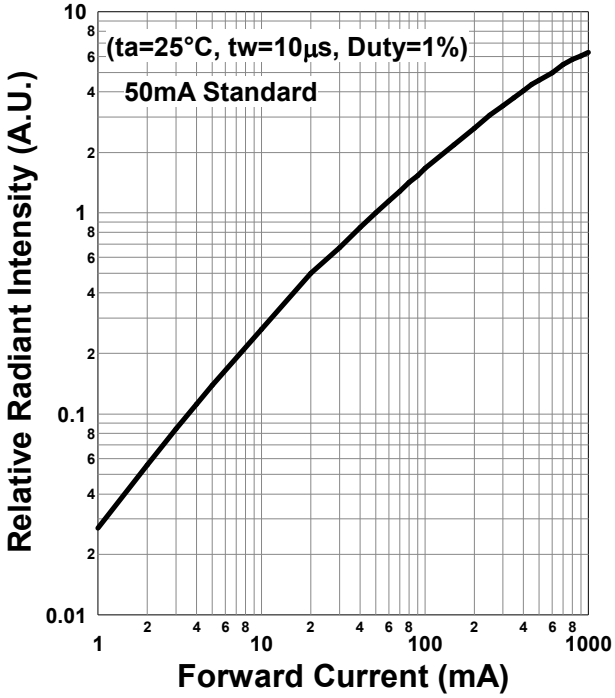
‡ Radiant Intensity is measured by Ando Optical Multi Meter AQ2140 & AQ2742.

Typical Characteristic Curves

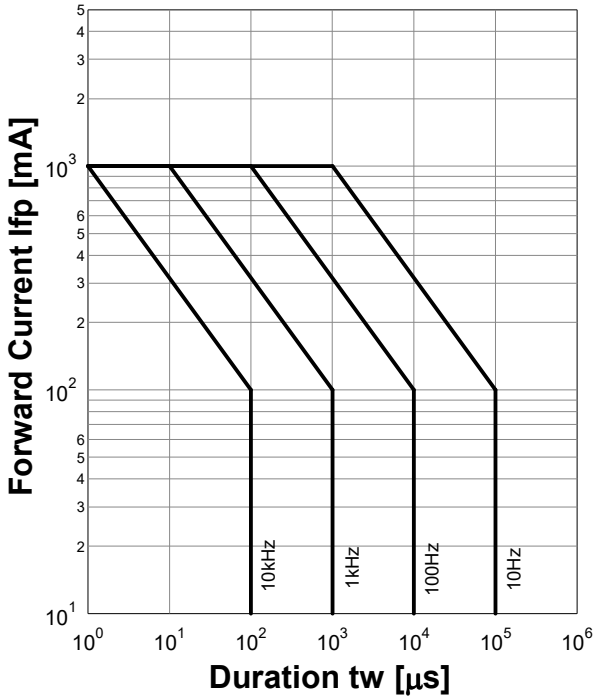
Forward Current - Forward Voltage



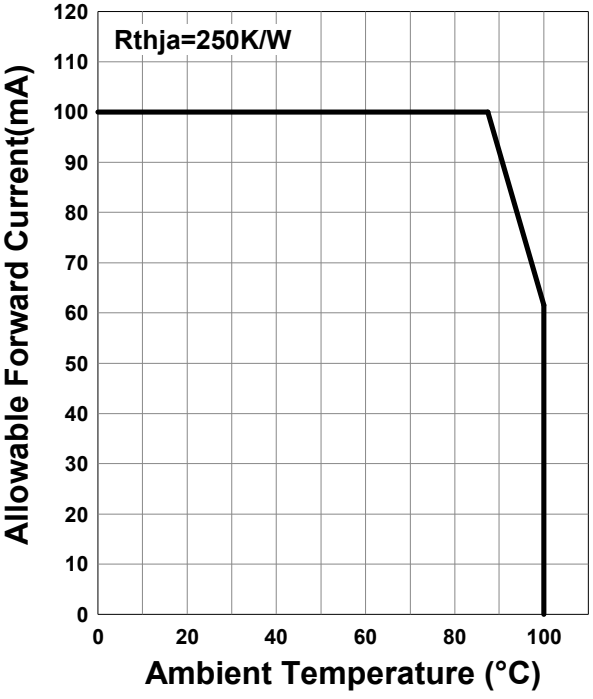
Relative Radiant Intensity - Forward Current

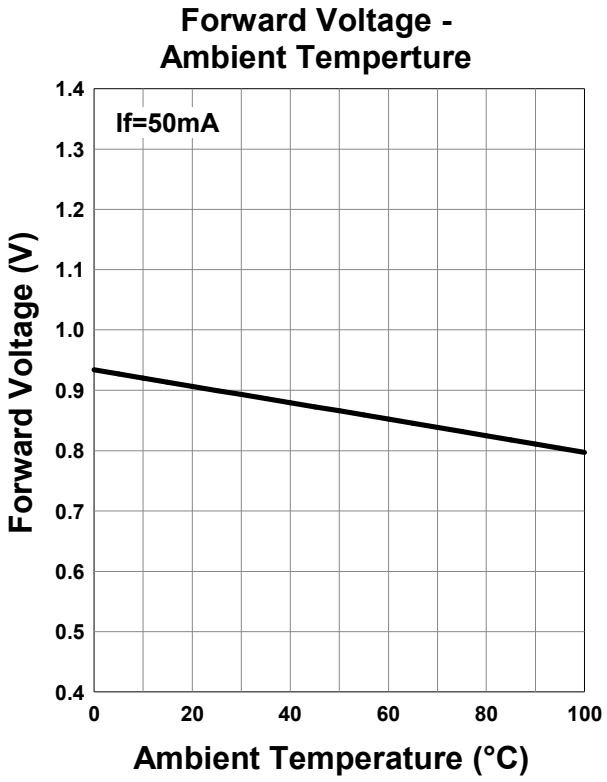


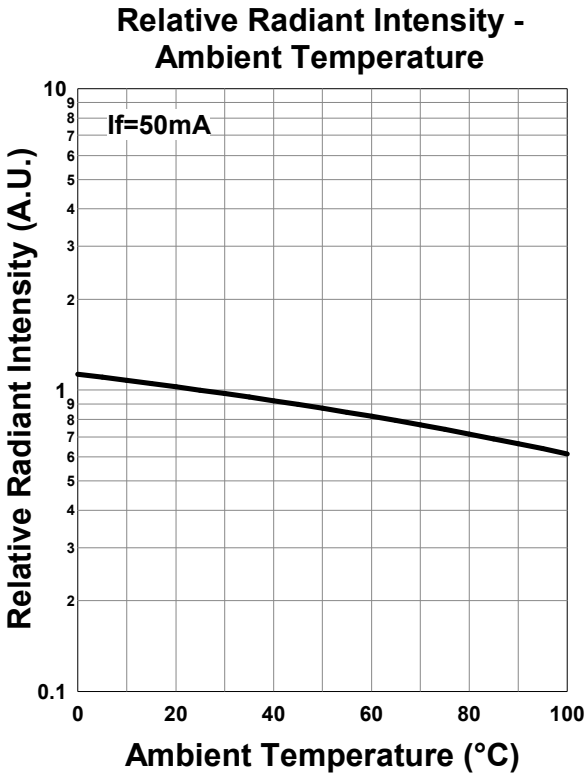
Forward Current - Pulse Duration

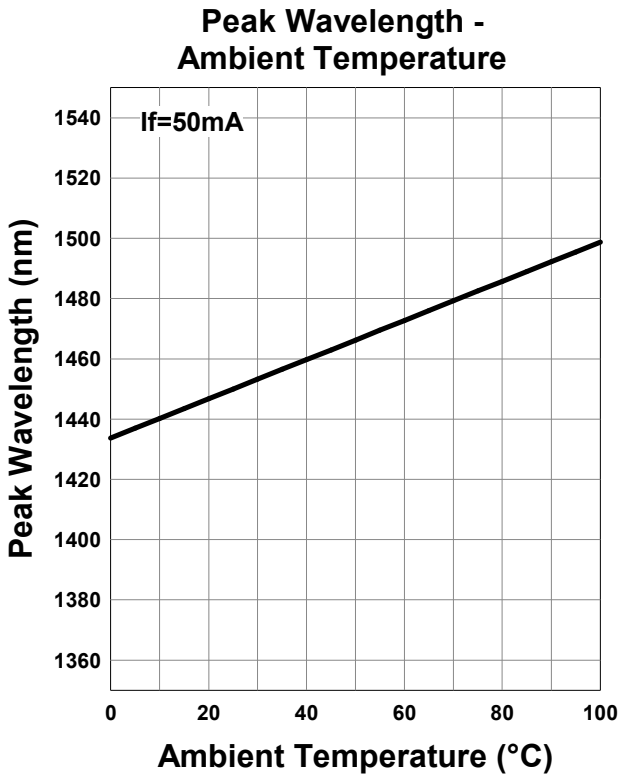


Allowable Forward Current - Ambient Temperature

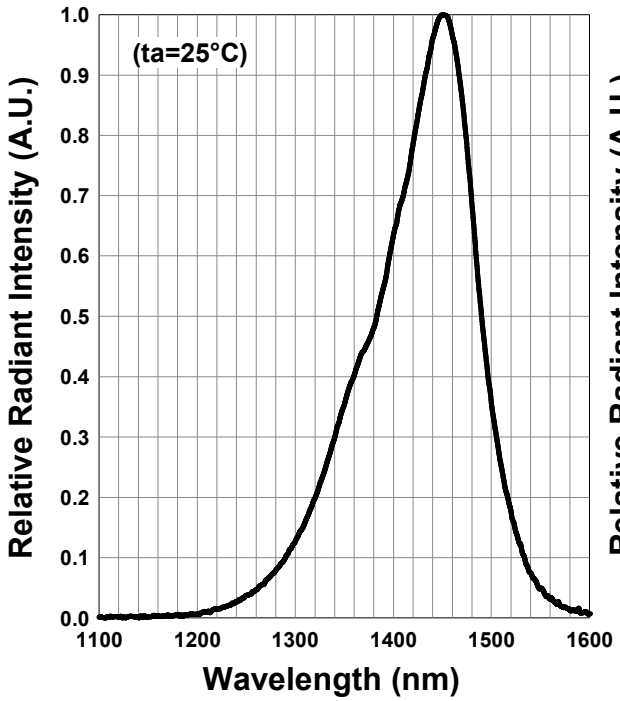



Forward Voltage -
Ambient Temperture
If=50mA
Forward Voltage (V)
1.4
1.3
1.2
1.1
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0
20
40
60
80
100
Ambient Temperature (°C)

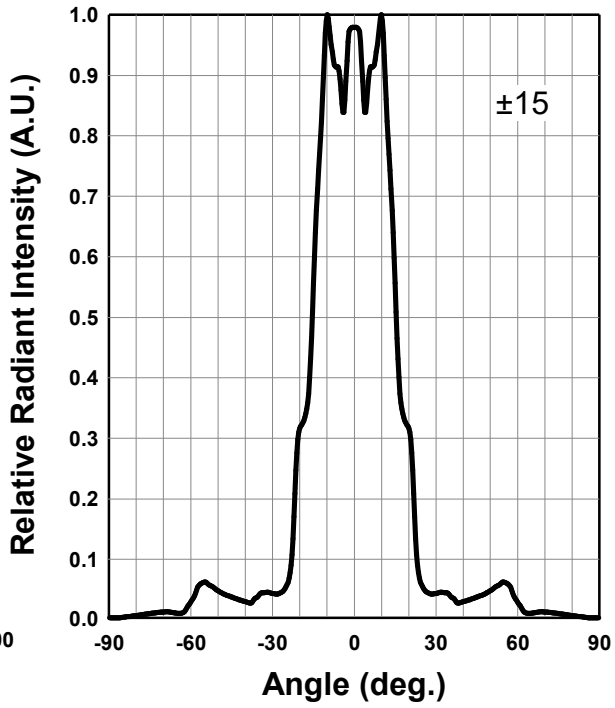

Relative Radiant Intensity -
Ambient Temperature
If=50mA
Relative Radiant Intensity (A.U.)
10
9
8
7
6
5
4
3
2
1
0.1
0
20
40
60
80
100
Ambient Temperature (°C)


Peak Wavelength -
Ambient Temperature
If=50mA
Peak Wavelength (nm)
1540
1520
1500
1480
1460
1440
1420
1400
1380
1360
0
20
40
60
80
100
Ambient Temperature (°C)

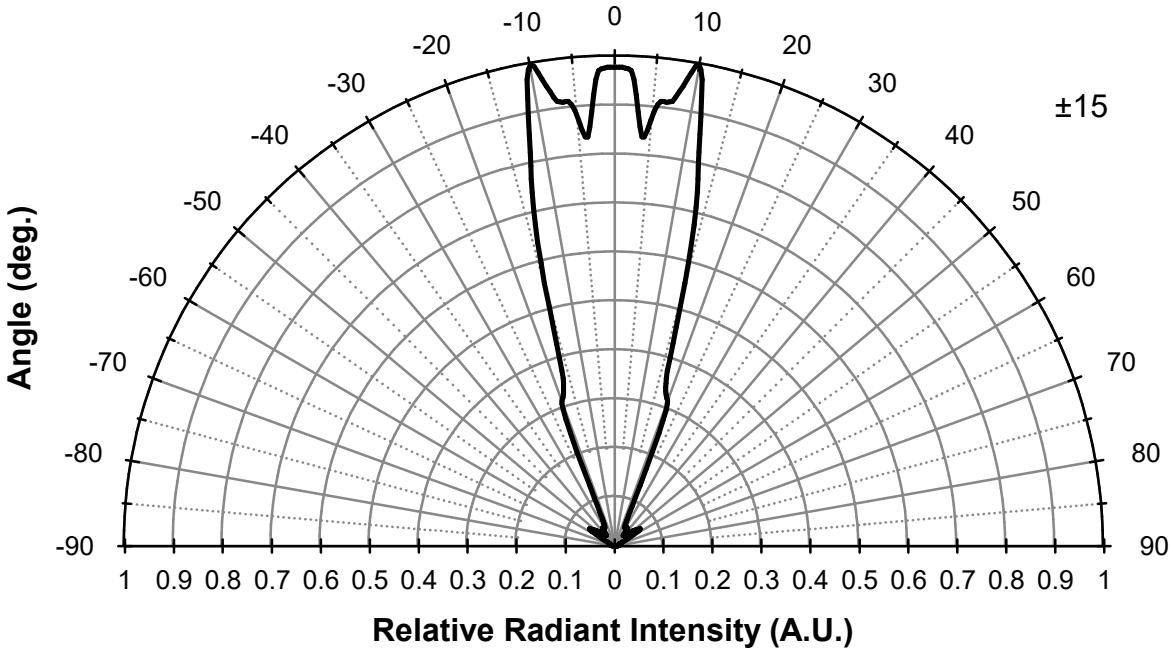
Relative Spectral Emission



Radiation Characteristics



Radiation Characteristics



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.

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