

Data Sheet

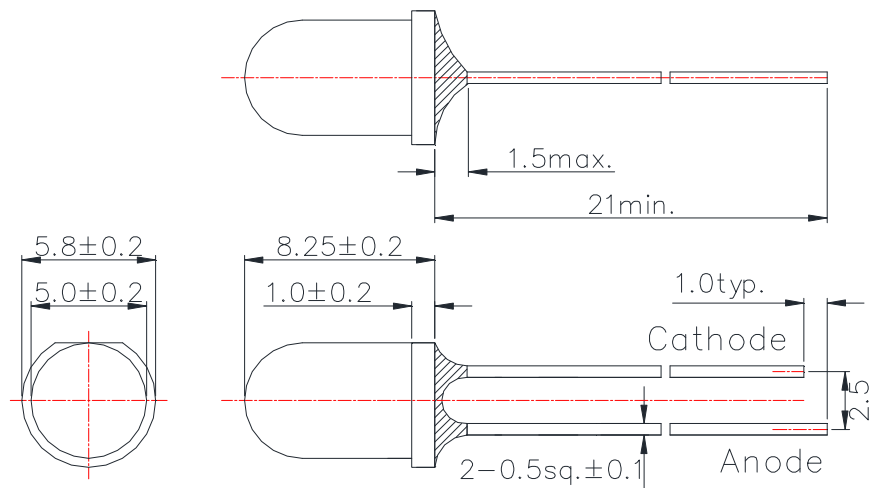
PRELIMINARY

L1650S-03

Infrared LED Lamp

USHIO

Outline and Internal Circuit



(Unit : mm)

Features

- Chip Material : InGaAsP
- Chip Dimension : 300um *300um
- Number of Chips : 1pce
- Peak Wavelength : 1650nm typ.
- Package Type : $\phi 5$ mm clear molding
- Lead Frame : Soldered (Lead Free)
- Lens : Epoxy Resin

Application

Absolute Maximum Ratings (Tc=25°C)

Item	Symbol	Rated	Unit
Power Dissipation	PD	130	mW
Forward Current	IF	100	mA
Pulse Forward Current	IFP	1000	mA
Reverse Voltage	VR	3	V
Thermal Resistance	Rthja	250	K/W
Junction Temperature	Tj	120	°C
Operating Temperature	Topr	-40 ~ +85	°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)

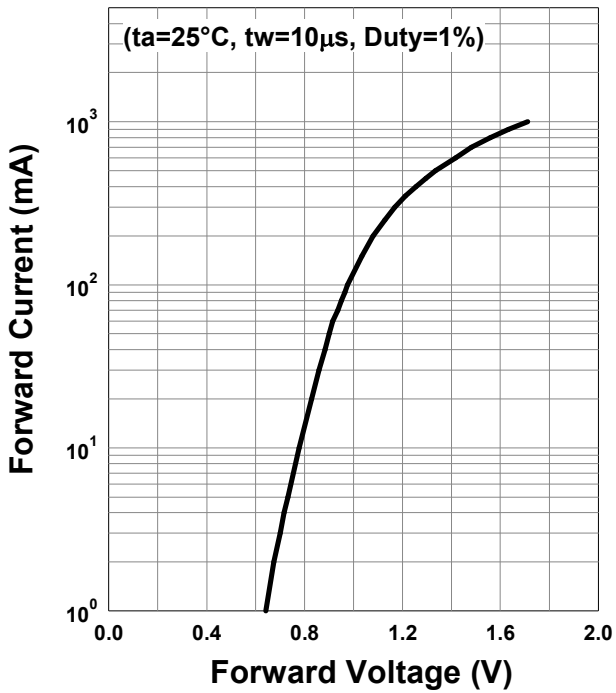
Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage	VF		0.9	1.3	V	IF=50mA
	VFP		1.7			IFP=1A
Total Radiated Power	PO		2.3		mW	IF=50mA
			12			IFP=1A
Radiant Intensity	IE		37		mW/sr	IF=50mA
			190			IFP=1A
Peak Wavelength	λ_p	1600		1700	nm	IF=50mA
Half Width	$\Delta\lambda$		120		nm	IF=50mA
Viewing Half Angle	$\theta_{1/2}$		± 12		deg.	IF=50mA
Rise Time	tr		30		ns	IF=50mA
Fall Time	tf		70		ns	IF=50mA

‡ Radiated Power is measured by G8370-85.

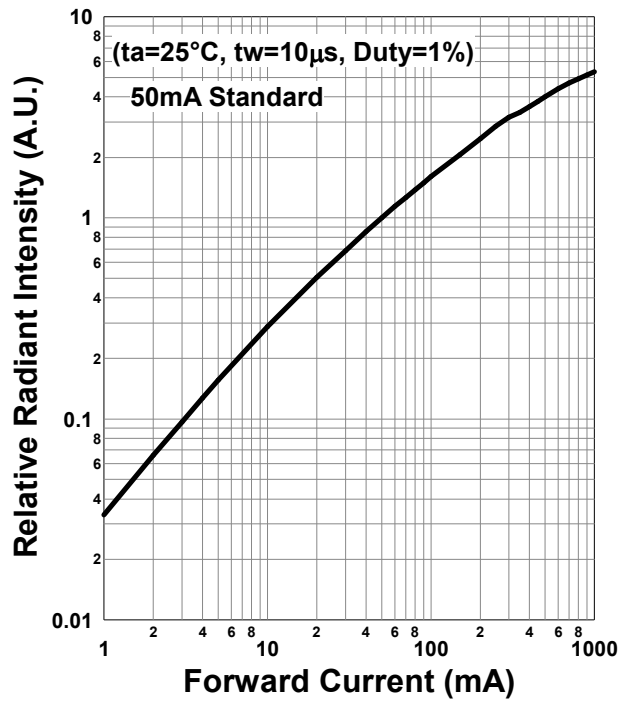
‡ Radiant Intensity is measured by Ando Optical Multi Meter AQ2140 & AQ2742.

Typical Characteristic Curves

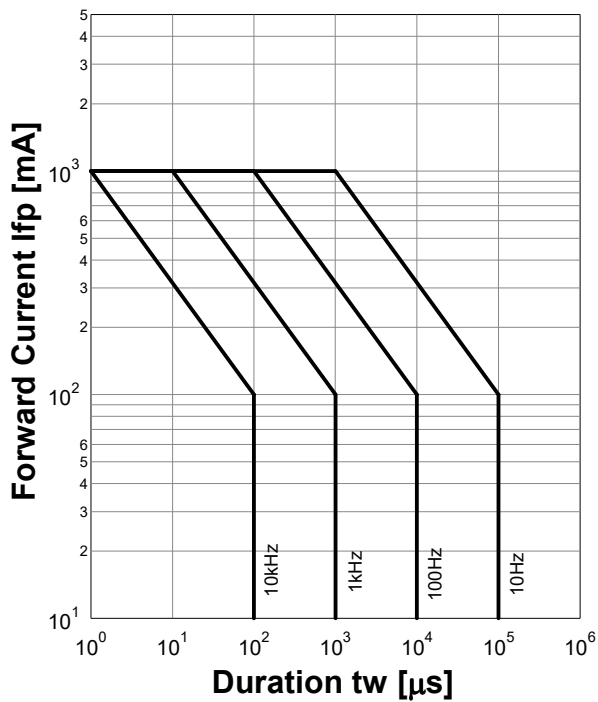
Forward Current - Forward Voltage



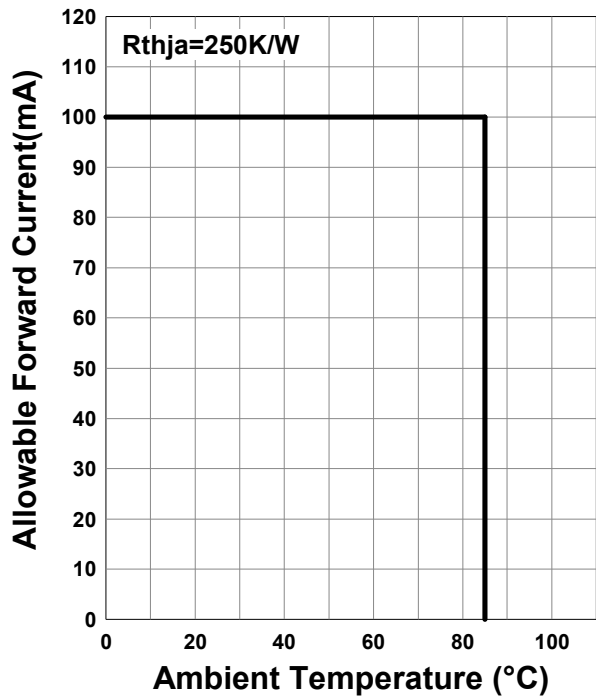
Relative Radiant Intensity - Forward Current



Forward Current - Pulse Duration

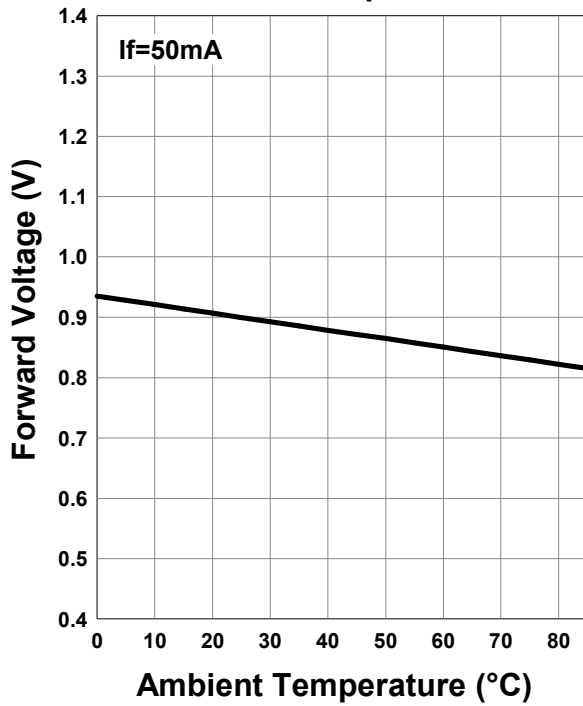


Allowable Forward Current - Ambient Temperature

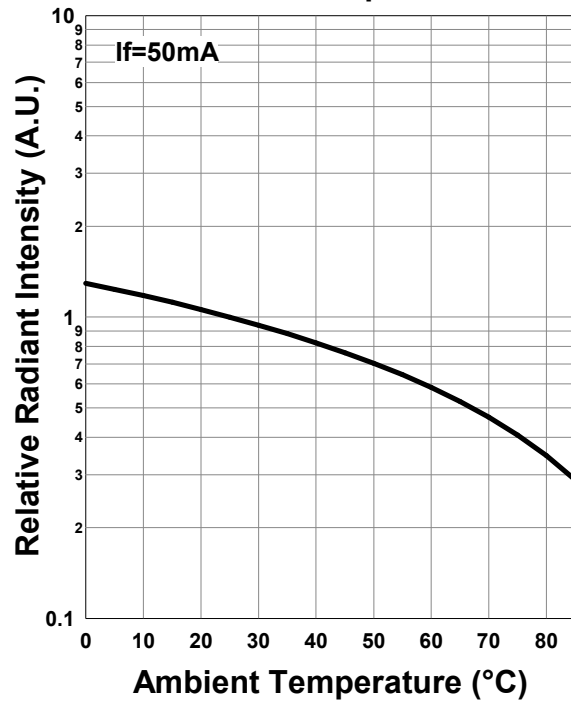


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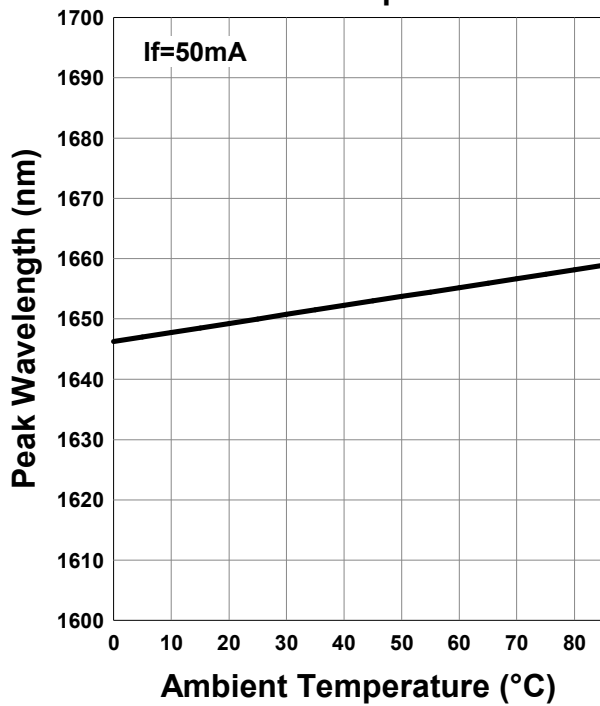
Forward Voltage - Ambient Temperature

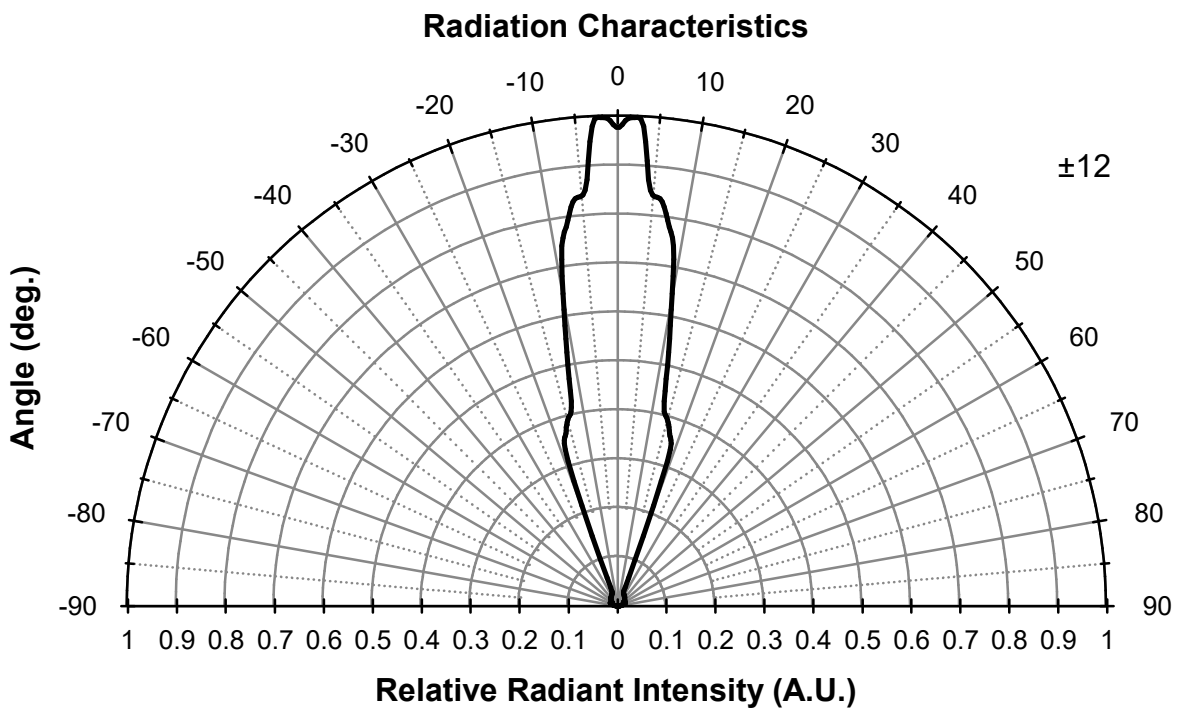
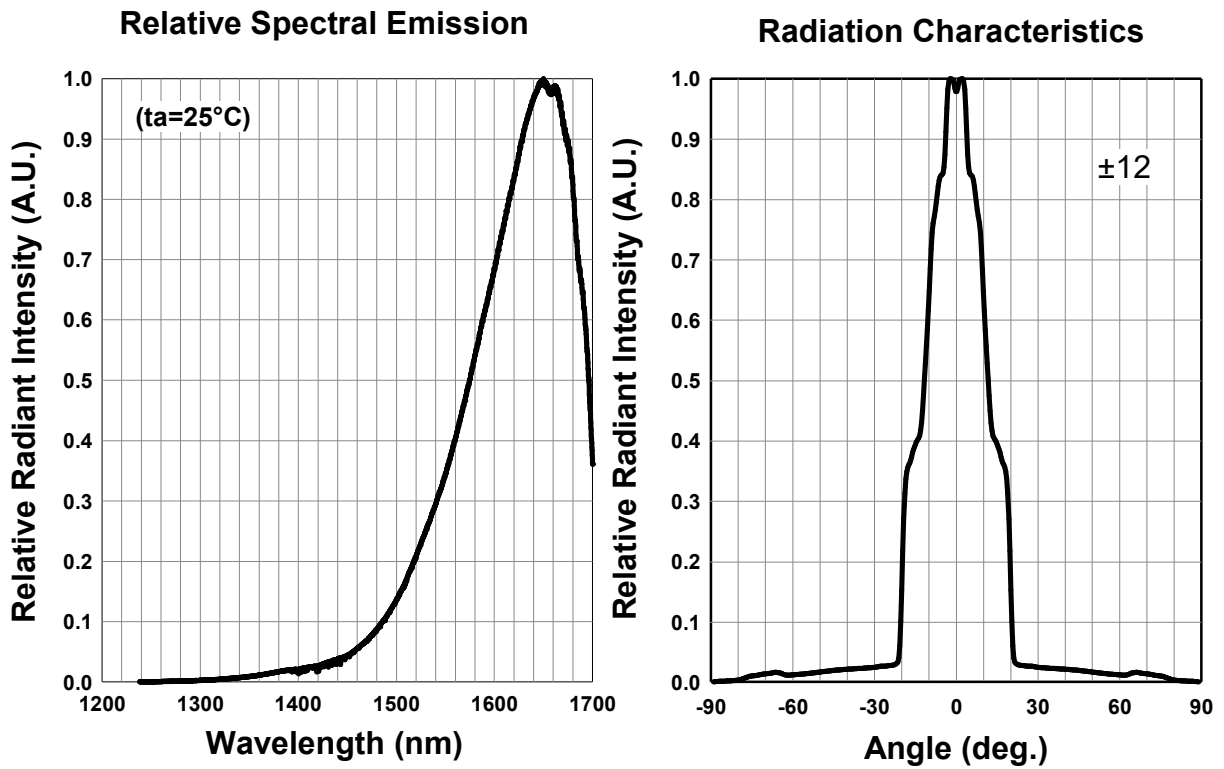


Relative Radiant Intensity - Ambient Temperature



Peak Wavelength - Ambient Temperature





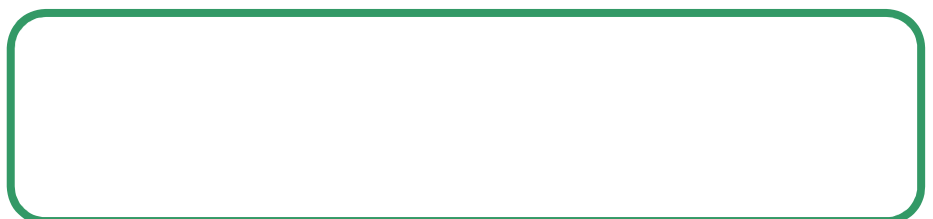
Disclaimer

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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.