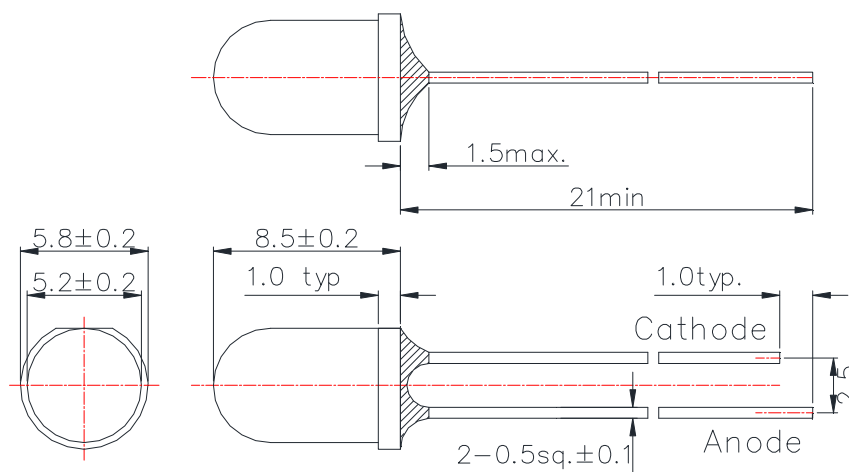


# L1650D-02

Infrared LED Lamp

## Outline and Internal Circuit



(Unit : mm)

## Features

- Chip Material : InGaAsP
- Chip Dimension : 350um \* 350um
- Number of Chips : 1pce
- Peak Wavelength : 1650nm typ.
- Package Type :  $\phi 5$ mm clear molding
- Lead Frame : Soldered (Lead Free)
- Lens : Epoxy Resin

**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	3	V
Thermal Resistance	Rthjs	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)**

(\*: 100% testing, \*\*: reference value)

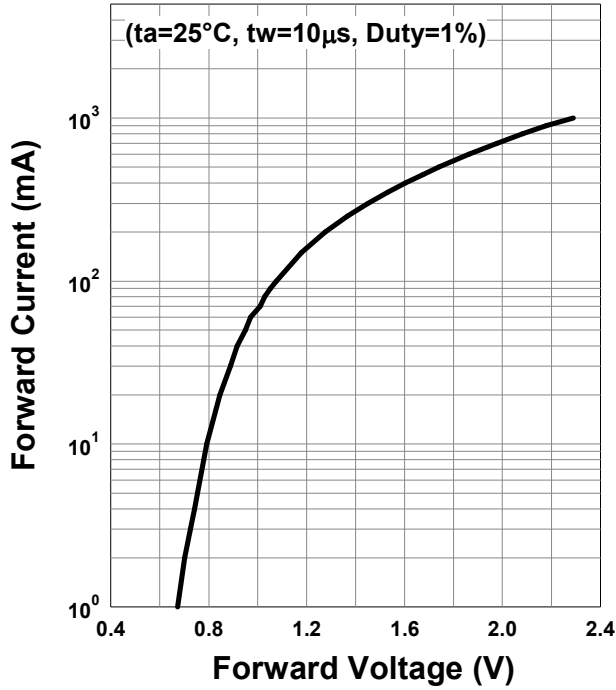
Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage	VF		0.95	1.3	V	IF=50mA*
	VFP		2.3			IFP=1A**
Reverse Current	IR			10	uA	VR=3V*
Total Radiated Power	PO	1.5	2.3		mW	IF=50mA*
			10			IFP=1A**
Radiant Intensity	IE		170		mW/sr	IF=50mA**
			800			IFP=1A**
Peak Wavelength	$\lambda_p$	1600		1700	nm	IF=50mA*
Half Width	$\Delta\lambda$		130		nm	IF=50mA**
Viewing Half Angle	$\theta_{1/2}$		±3		deg.	IF=50mA**
Rise Time	tr		60		ns	IF=50mA**
Fall Time	tf		30		ns	IF=50mA**

‡ Radiated Power is measured by G8370-85.

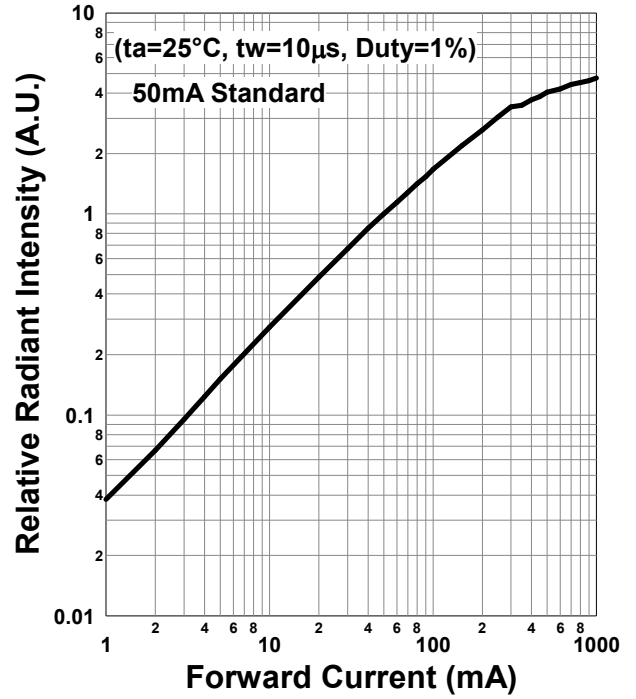
‡ Radiant Intensity is measured by Ando Optical Multi Meter AQ2140 & AQ2742.

Typical Characteristic Curves

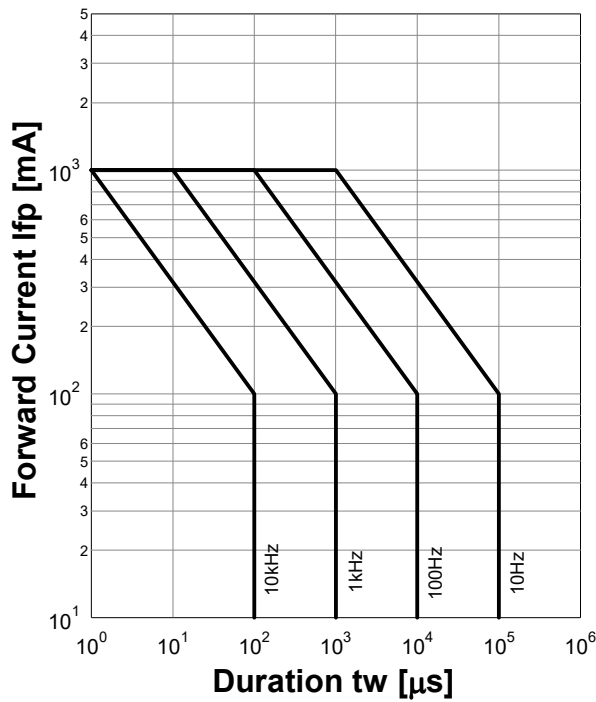
Forward Current - Forward Voltage



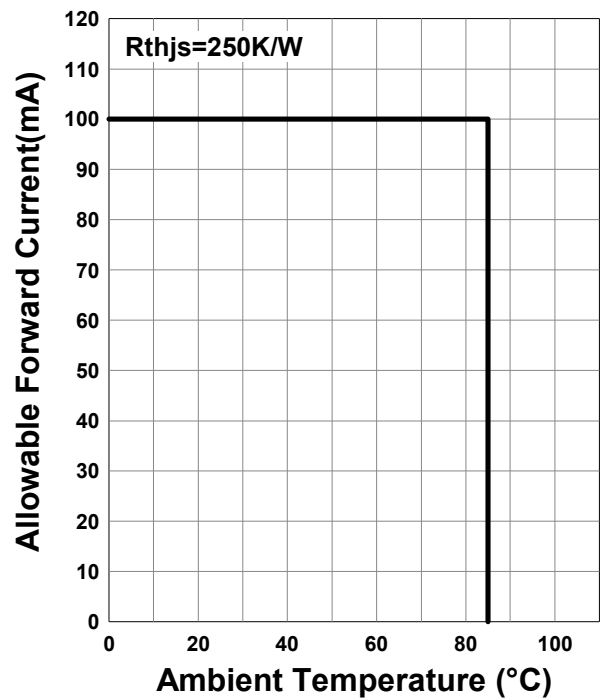
Relative Radiant Intensity - Forward Current



Forward Current - Pulse Duration



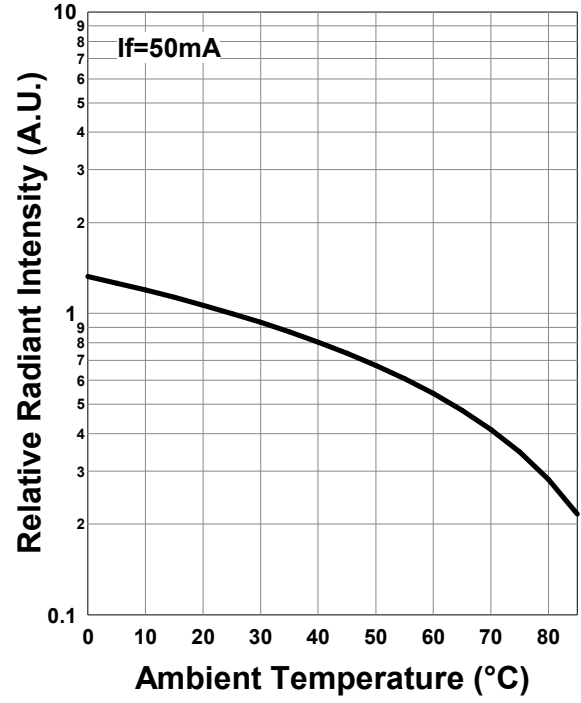
Allowable Forward Current - Ambient Temperature



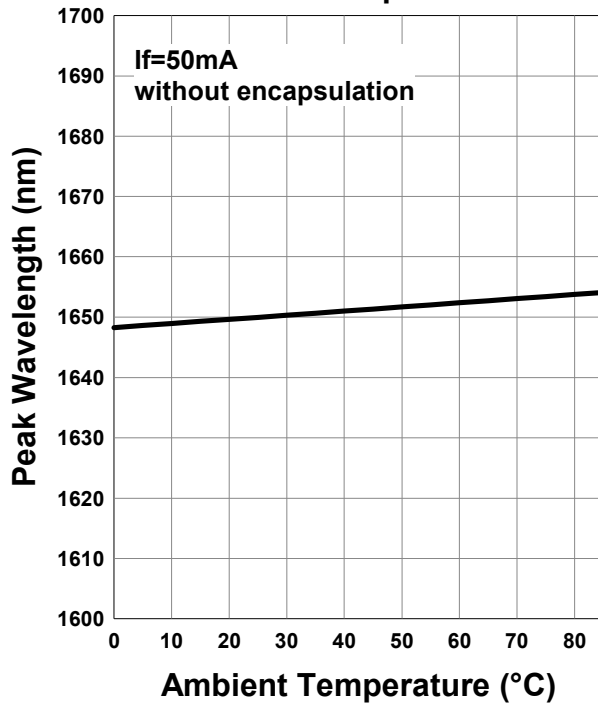
**Forward Voltage - Ambient Temperature**



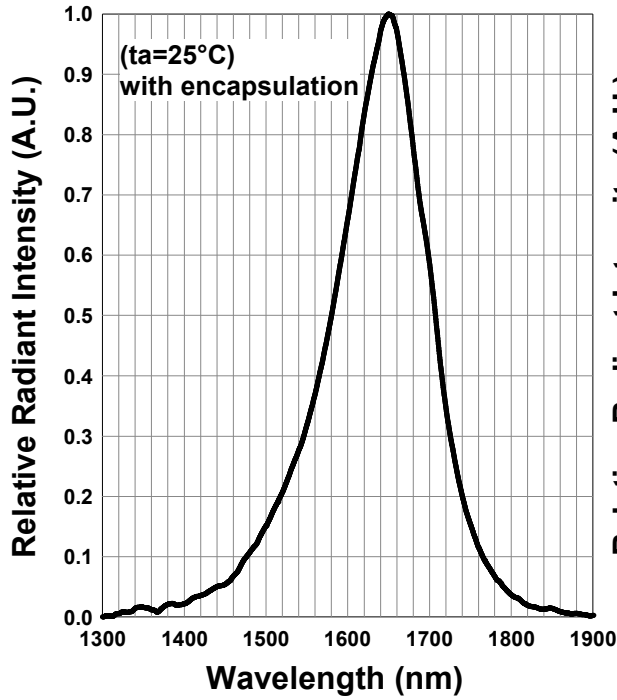
**Relative Radiant Intensity - Ambient Temperature**



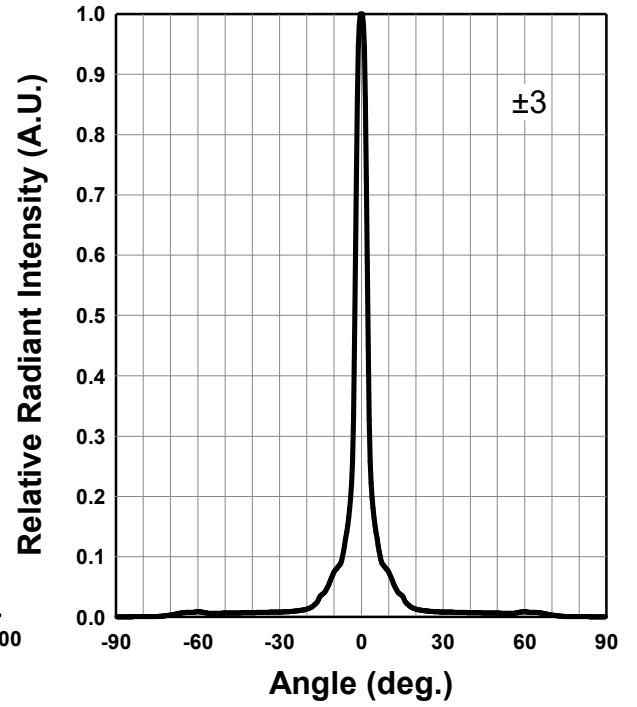
**Peak Wavelength - Ambient Temperature**



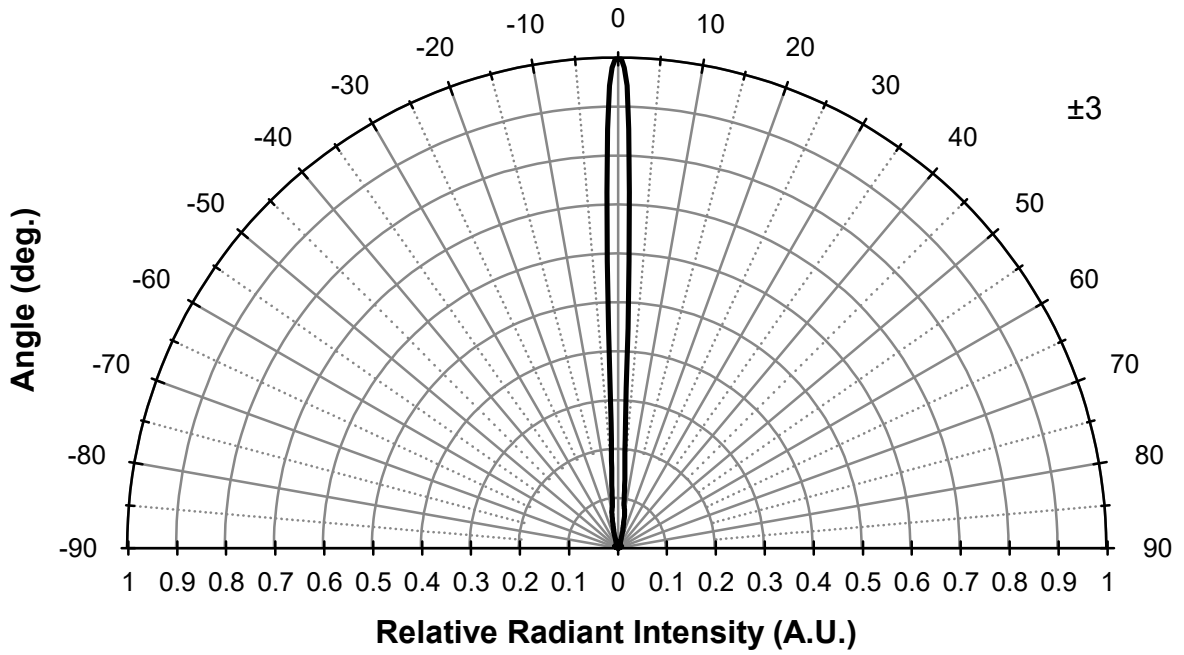
Relative Spectral Emission



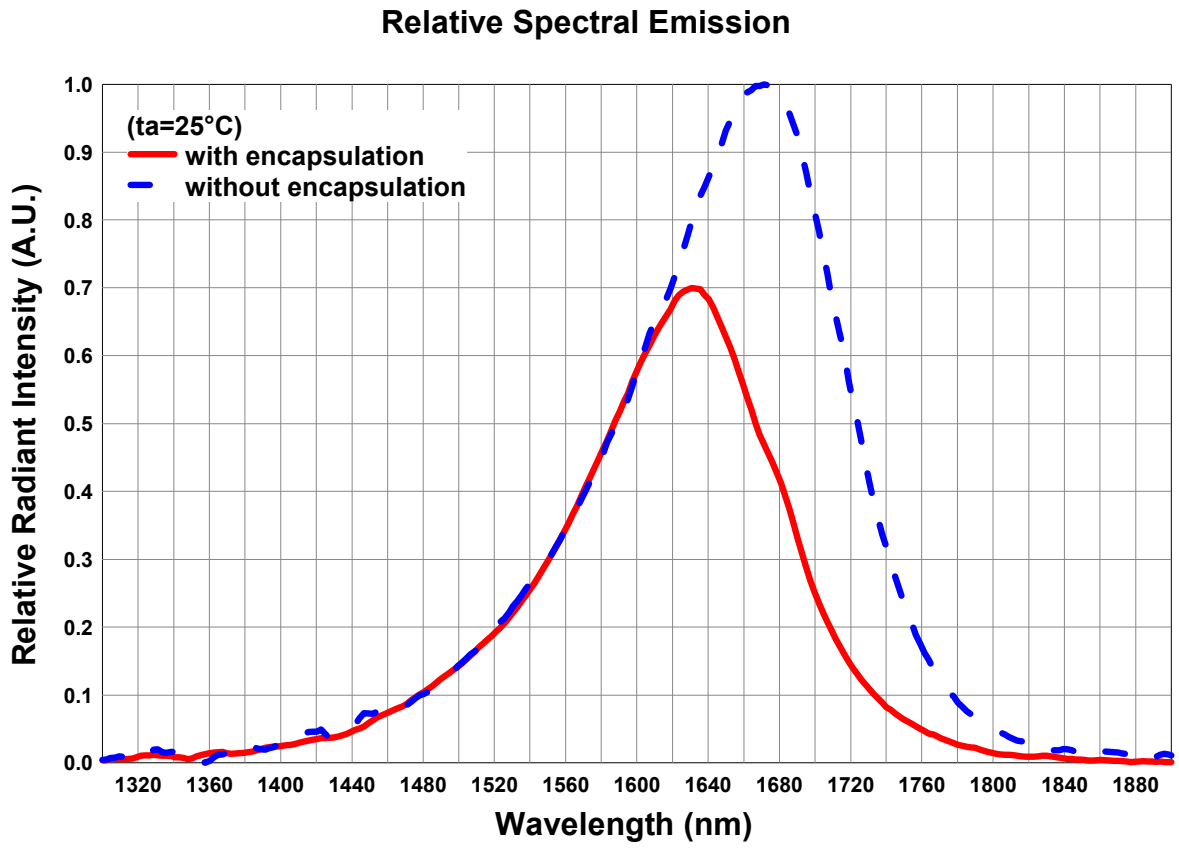
Radiation Characteristics



Radiation Characteristics



\*The absorption of lens resin changes spectral emission.



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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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