Marubeni

Data Sheet

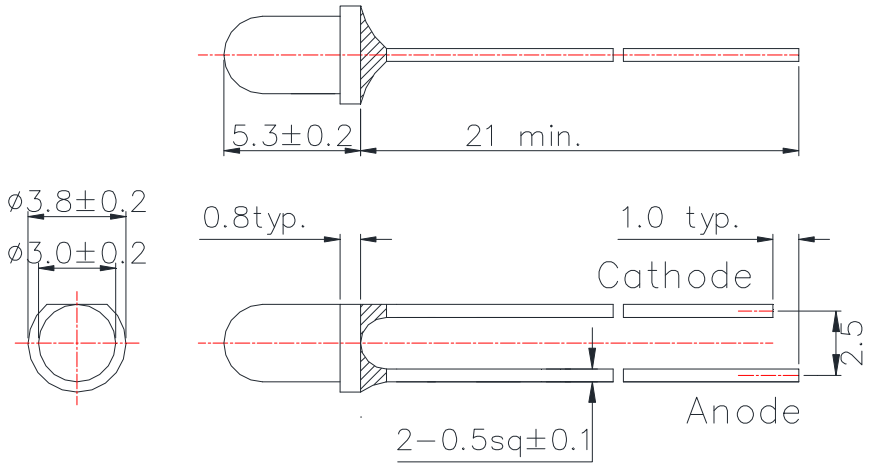
2021.03

PRELIMINARY

L1650D-33

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 : ϕ3mm 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)

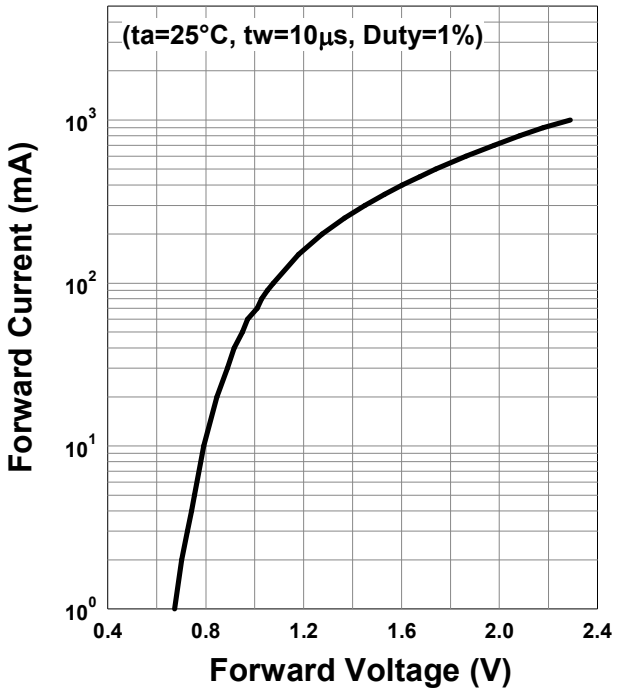
Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage	VF		0.95	1.3	V	IF=50mA*
	VFP		2.3			IFP=1A**
Reverse Current	IR			10	uA	VR=3V*
Total Radiated Power	PO	1.5	2.3		mW	IF=50mA*
			10			IFP=1A**
Radiant Intensity	IE		17		mW/sr	IF=50mA**
			80			IFP=1A**
Peak Wavelength	λp	1600		1700	nm	IF=50mA*
Half Width	Δλ		130		nm	IF=50mA**
Viewing Half Angle	θ1/2		±20		deg.	IF=50mA**
Rise Time	tr		60		ns	IF=50mA**
Fall Time	tf		30		ns	IF=50mA**

‡ Radiated Power is measured by G8370-85.

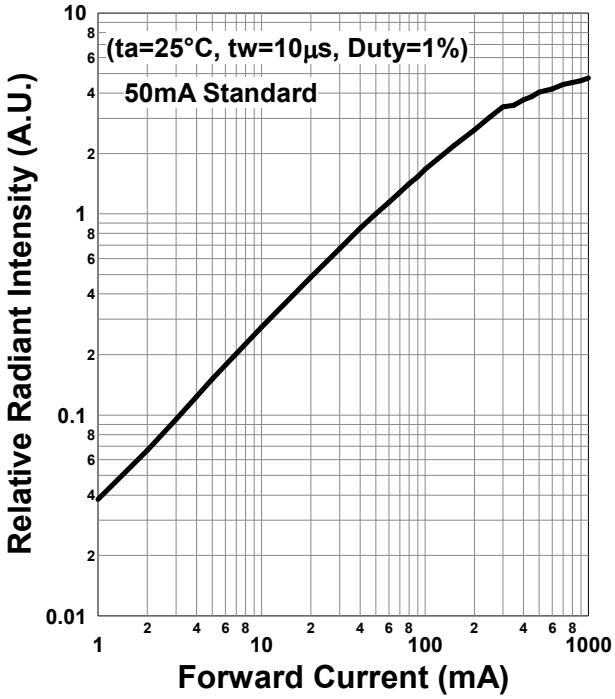
‡ Radiant Intensity is measured by Ando Optical Multi Meter AQ2140 & AQ2742.

Typical Characteristic Curves

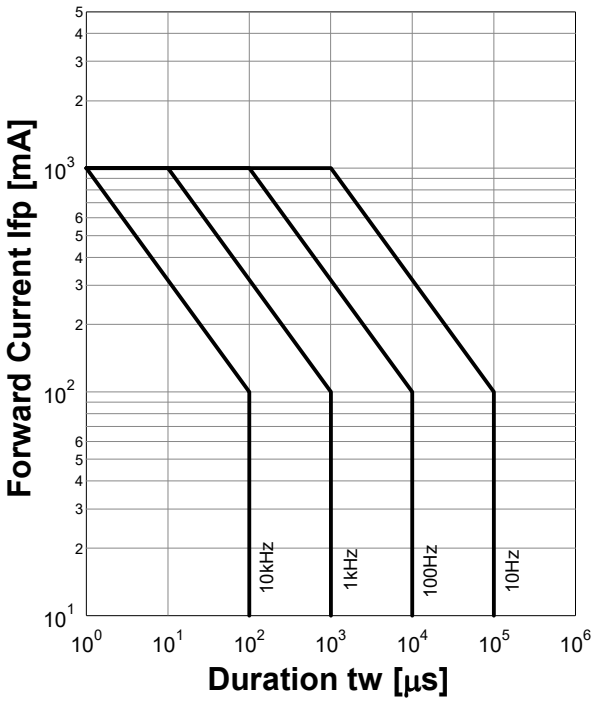
Forward Current - Forward Voltage



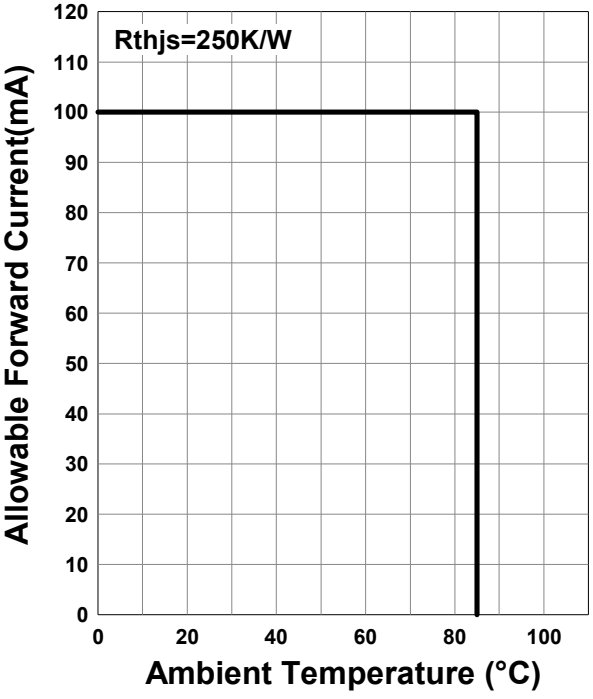
Relative Radiant Intensity - Forward Current



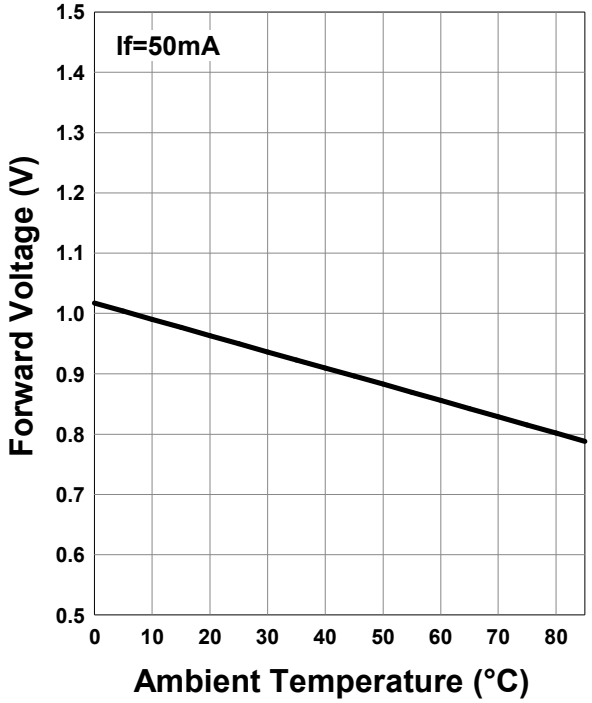
Forward Current - Pulse Duration



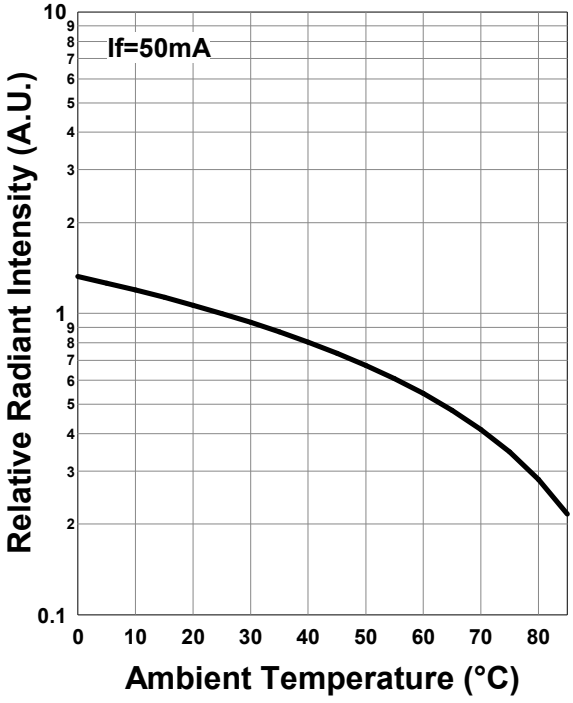
Allowable Forward Current - Ambient Temperature



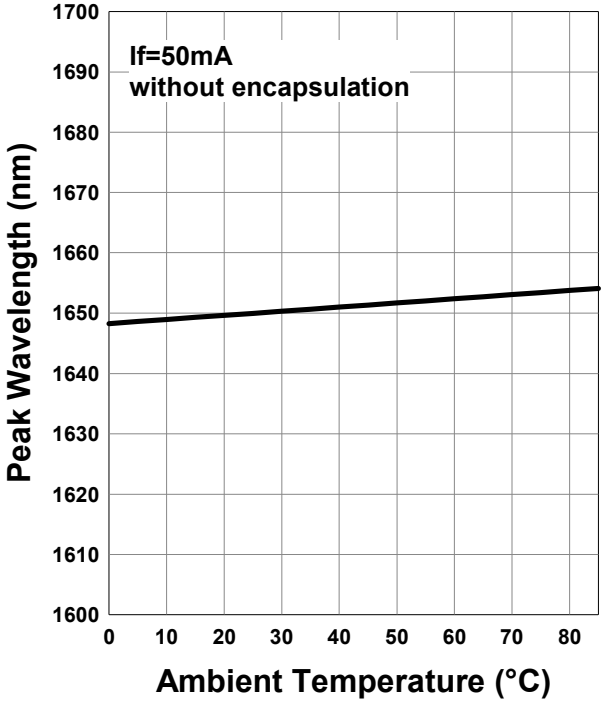
Forward Voltage - Ambient Temperature



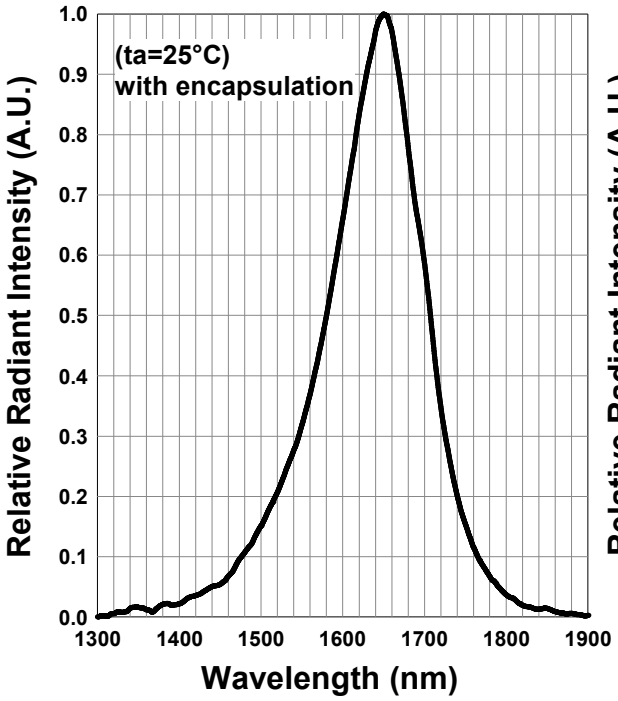
Relative Radiant Intensity - Ambient Temperature



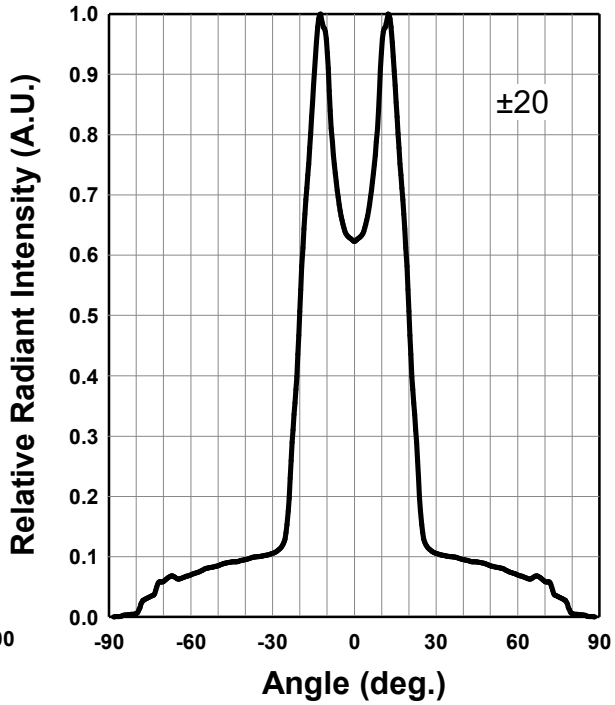
Peak Wavelength - Ambient Temperature



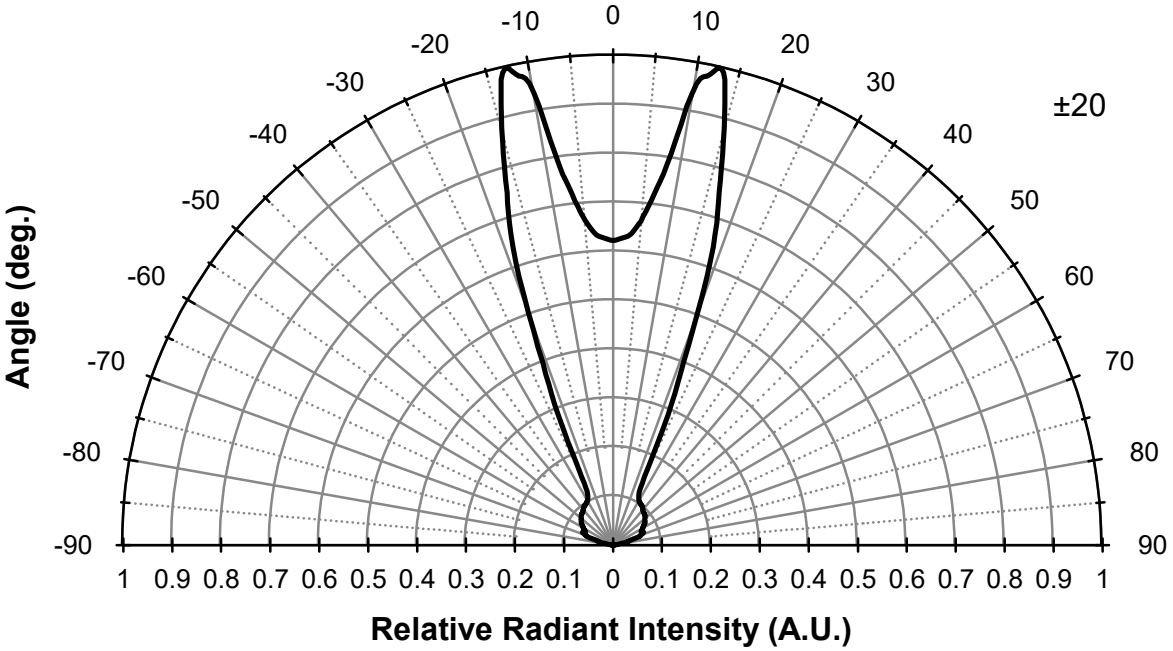
Relative Spectral Emission



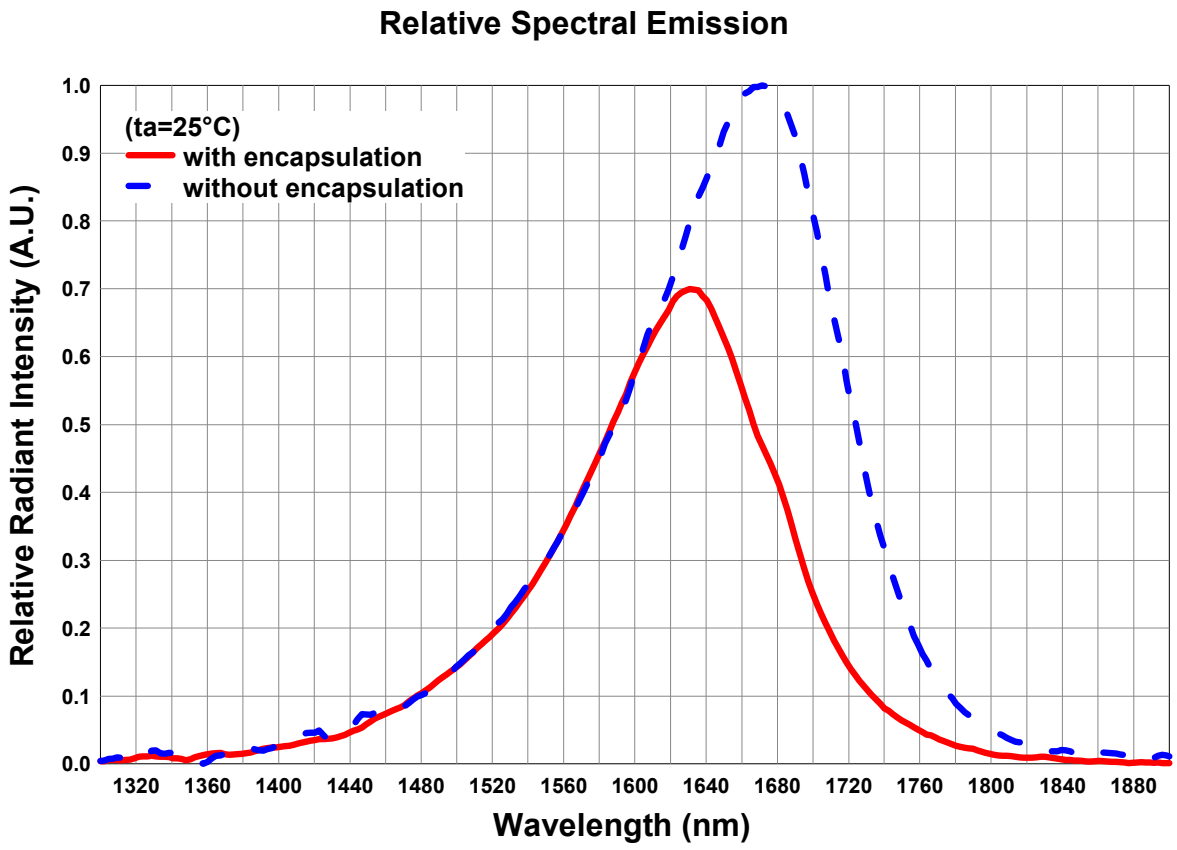
Radiation Characteristics



Radiation Characteristics



*The absorption of lens resin changes spectral emission.



Disclaimer

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