USHIO Applying Light to Life

Data Sheet

2023.07

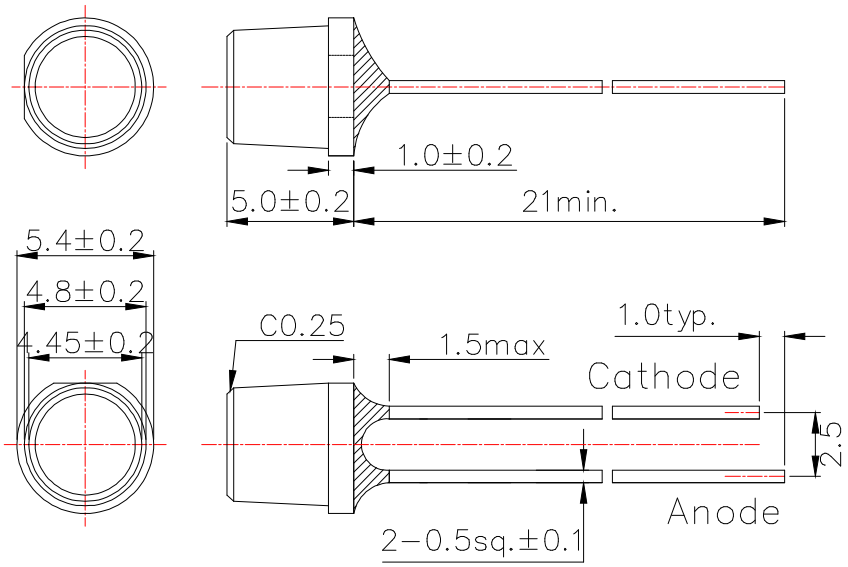
epitex

PRELIMINARY

L470R-05

Super Bright Blue LED Lamp

Outline and Internal Circuit



(Unit : mm)

Features

- Chip Material : InGaN
- Chip Dimension : 350um * 350um
- Number of Chips : 1pce
- Peak Wavelength : 470nm typ.
- Package Type : ϕ5mm clear molding
- Lead Frame : Soldered (Lead Free)
- Lens : UV Resin

Application

Absolute Maximum Ratings (Tc=25°C)

Item	Symbol	Ratings	Unit
Power Dissipation	PD	200	mW
Forward Current	IF	50	mA
Pulse Forward Current	IFP	100	mA
Reverse Voltage	VR	5	V
Thermal Resistance	Rthjs	180	K/W
Junction Temperature	Tj	120	°C
Operating Temperature	Topr	-20 ~ +100	°C
Storage Temperature	Tstg	-20 ~ +100	°C

‡Pulse Forward Current condition : Duty 1% and Pulse Width=10us.

‡Soldering condition : Refer to technical support information on the website.

Optical and Electrical Characteristics (Tc=25°C)

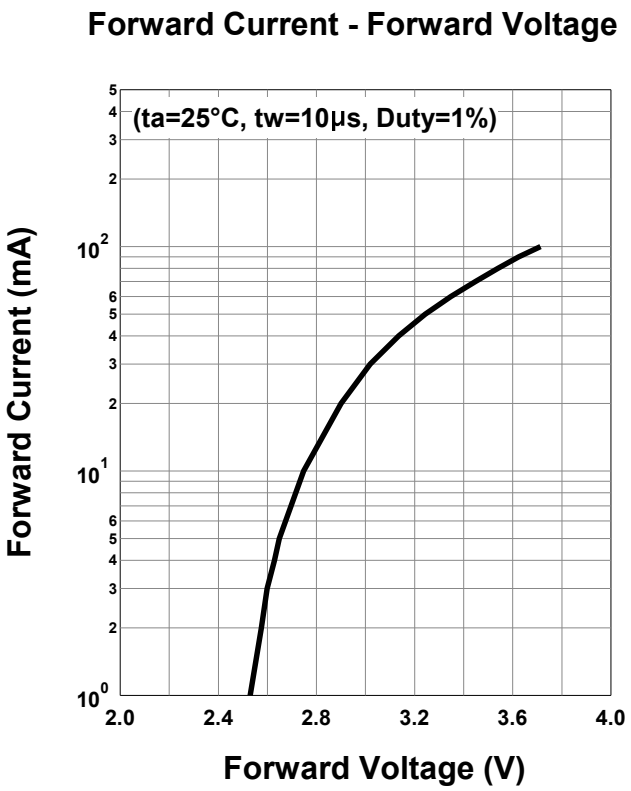
(*: 100% testing, **: reference value)

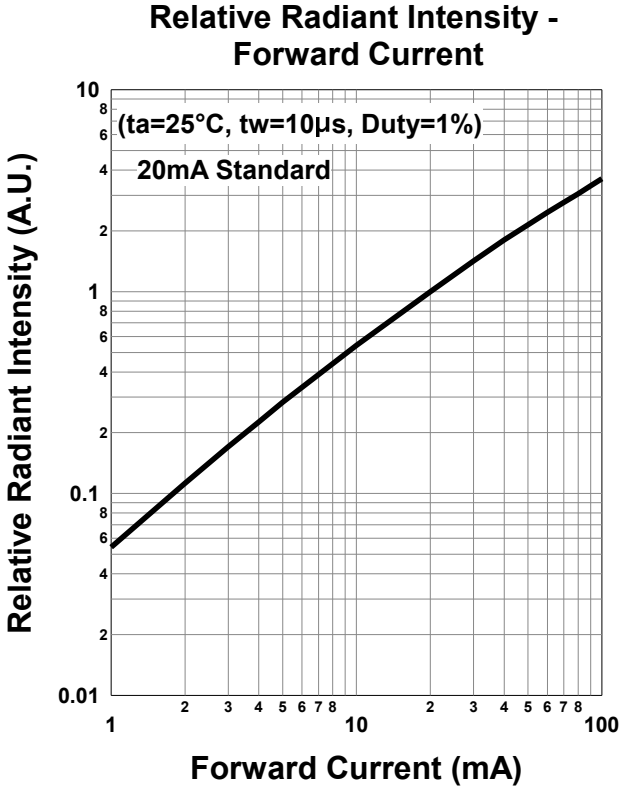
Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage	VF		2.9	4.0	V	IF=20mA*
	VFP		3.7			IFP=100mA**
Reverse Current	IR			10	uA	VR=5V*
Total Radiated Power	PO	12	18		mW	IF=20mA*
			66			IFP=100mA**
Radiant Intensity	IE		20		mW/sr	IF=20mA**
			70			IFP=100mA**
Luminous Flux	ΦV		1600		mlm	IF=20mA**
Peak Wavelength	λp	460		480	nm	IF=20mA*
Dominant Wavelength	λD		474		nm	IF=20mA**
Half Width	Δλ		24		nm	IF=20mA**
Viewing Half Angle	θ1/2		±44		deg.	IF=20mA**
Rise Time	tr		15		ns	IF=20mA**
Fall Time	tf		20		ns	IF=20mA**

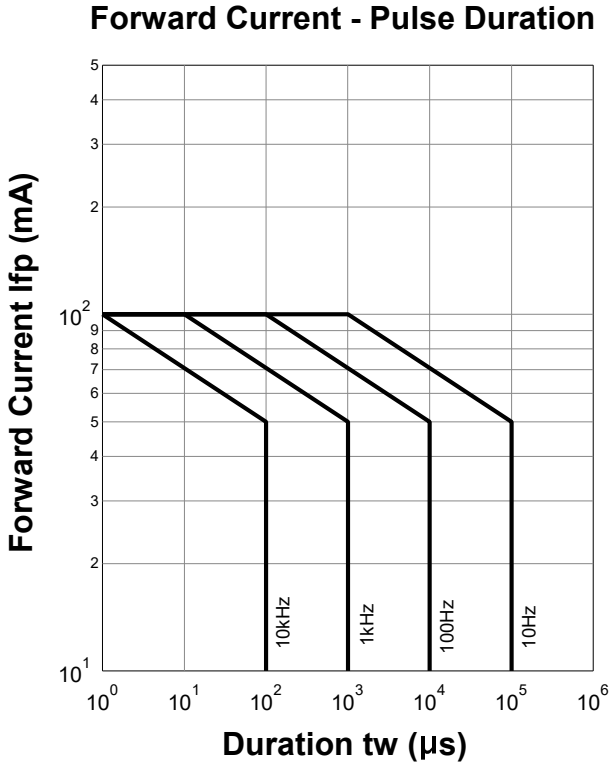
‡ Radiated Power is measured by S3584-08.

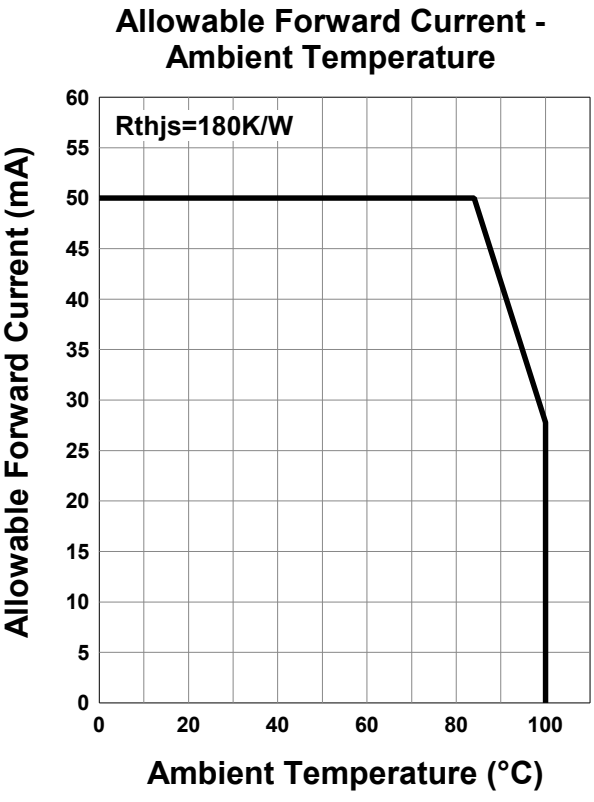
‡ Radiant Intensity is measured by CIE127-2007 Condition B.

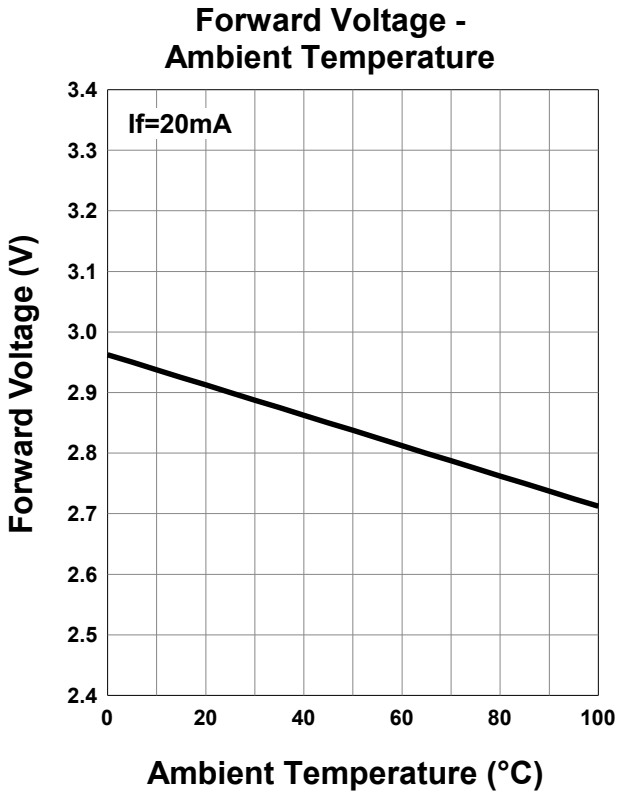
Typical Characteristic Curves

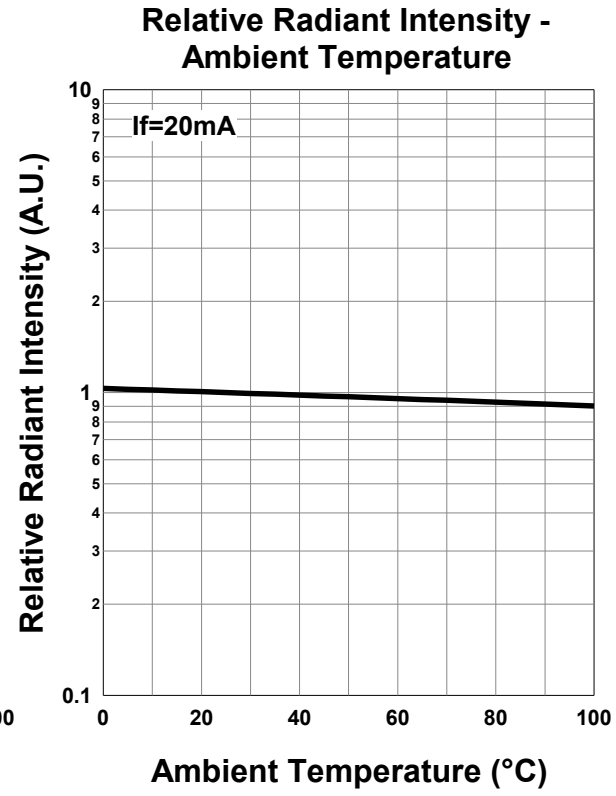


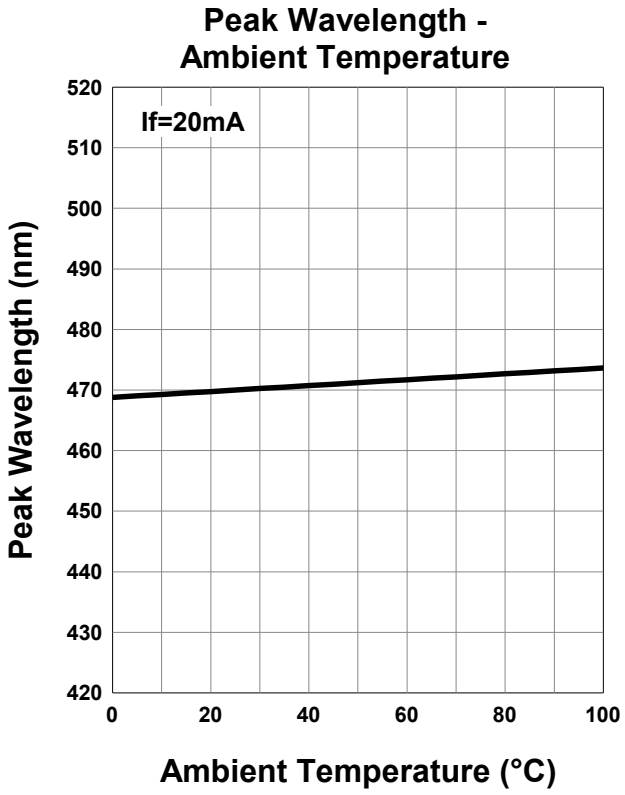




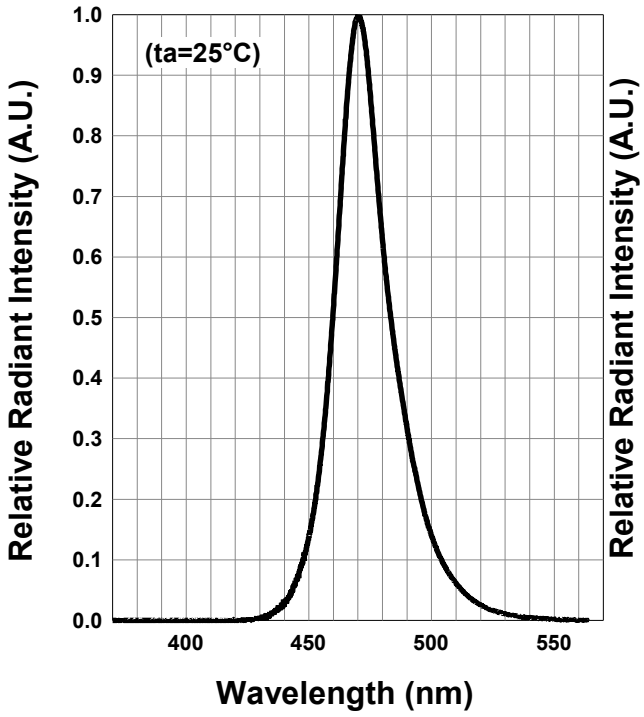



Forward Voltage -
Ambient Temperature
If=20mA
Forward Voltage (V)
3.4
3.3
3.2
3.1
3.0
2.9
2.8
2.7
2.6
2.5
2.4
0
20
40
60
80
100
Ambient Temperature (°C)

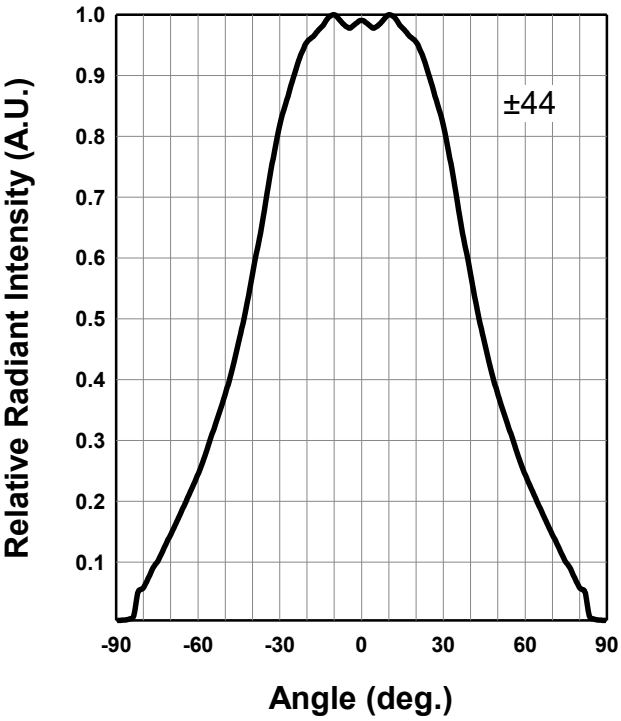

Relative Radiant Intensity -
Ambient Temperature
If=20mA
Relative Radiant Intensity (A.U.)
10
9
8
7
6
5
4
3
2
1
0.1
0
20
40
60
80
100
Ambient Temperature (°C)


Peak Wavelength -
Ambient Temperature
If=20mA
Peak Wavelength (nm)
520
510
500
490
480
470
460
450
440
430
420
0
20
40
60
80
100
Ambient Temperature (°C)

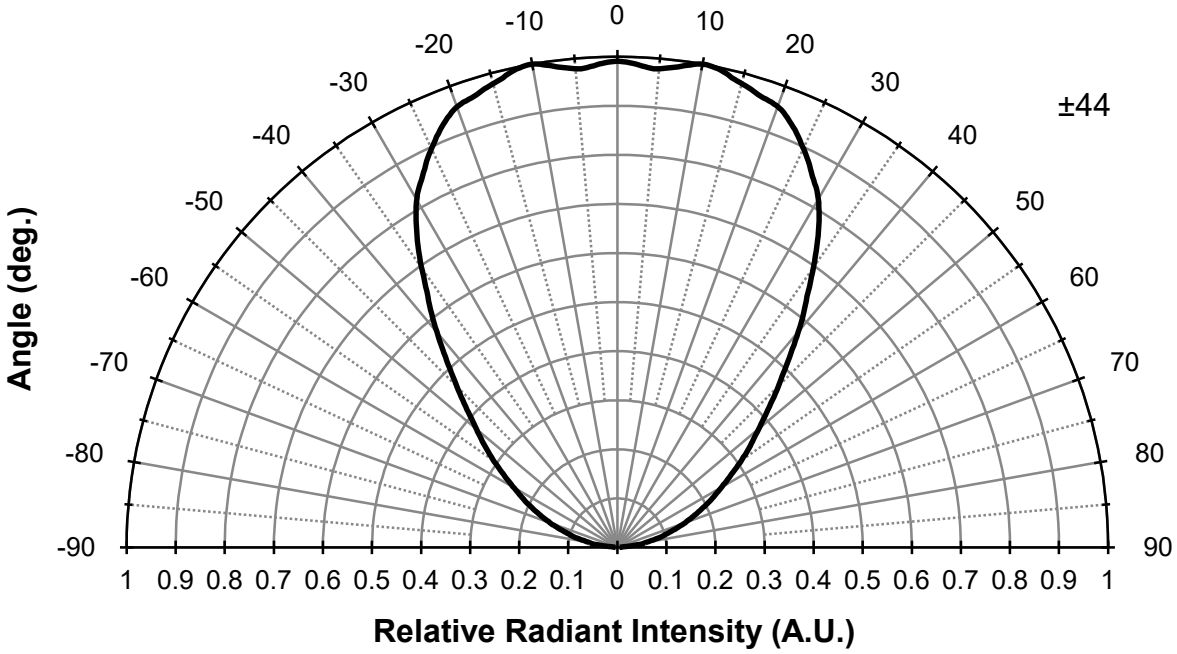
Relative Spectral Emission



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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Technical Support Information

https://www.ushio.co.jp/en/led/technology/index.html

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