

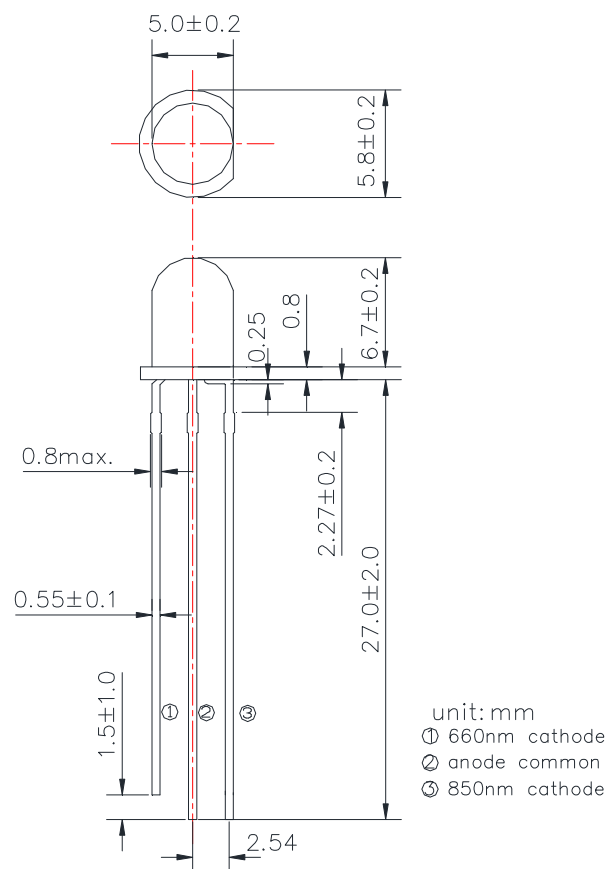
Data Sheet

L660N/850-04A

Bi-color LED Lamp

USHIO

Outline and Internal Circuit



Features

- Chip Material : AlGaInP / AlGaAs
- Chip Dimension : 350um * 350um / 400um * 400um
- Number of Chips : 2pcs
- Peak Wavelength: 660nm typ. / 850nm typ.
- Package Type : $\phi 5$ mm clear molding
- Lead Frame : Soldered (Lead Free)
- Lens : Epoxy Resin

Application

660nm

Absolute Maximum Ratings (Tc=25°C)

Item	Symbol	Ratings	Unit
Power Dissipation	PD	120	mW
Forward Current	IF	50	mA
Pulse Forward Current	IFP	300	mA
Reverse Voltage	VR	5	V
Thermal Resistance	Rthja	230	K/W
Junction Temperature	Tj	120	°C
Operating Temperature	Topr	-40 ~ +100	°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		1.9	2.3	V	IF=20mA*
	VFP		3.5			IFP=300mA**
Reverse Current	IR			10	uA	VR=5V*
Total Radiated Power	PO		12		mW	IF=20mA*
			150			IFP=300mA**
Luminous Flux	ΦV		800		mlm	IF=20mA**
Peak Wavelength	λp	650		670	nm	IF=20mA*
Dominant Wavelength	λD		640		nm	IF=20mA**
Half Width	Δλ		16		nm	IF=20mA**
Rise Time	tr		10		ns	IF=20mA**
Fall Time	tf		10		ns	IF=20mA**

‡ Radiated Power is measured by S3584-08.

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Data Sheet L660N/850-04A

850nm

Absolute Maximum Ratings (Tc=25°C)

Item	Symbol	Ratings	Unit
Power Dissipation	PD	180	mW
Forward Current	IF	100	mA
Pulse Forward Current	IFP	500	mA
Reverse Voltage	VR	5	V
Thermal Resistance	Rthja	230	K/W
Junction Temperature	Tj	120	°C
Operating Temperature	Topr	-40 ~ +100	°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		1.6	1.8	V	IF=20mA*
	VFP		2.6			IFP=500mA**
Reverse Current	IR			10	uA	VR=5V*
Total Radiated Power	PO		9.2		mW	IF=20mA*
			230			IFP=500mA**
Peak Wavelength	λ_p	840		860	nm	IF=20mA*
Half Width	$\Delta\lambda$		32		nm	IF=20mA**
Rise Time	tr		10		ns	IF=20mA**
Fall Time	tf		20		ns	IF=20mA**

‡ Radiated Power is measured by S3584-08.

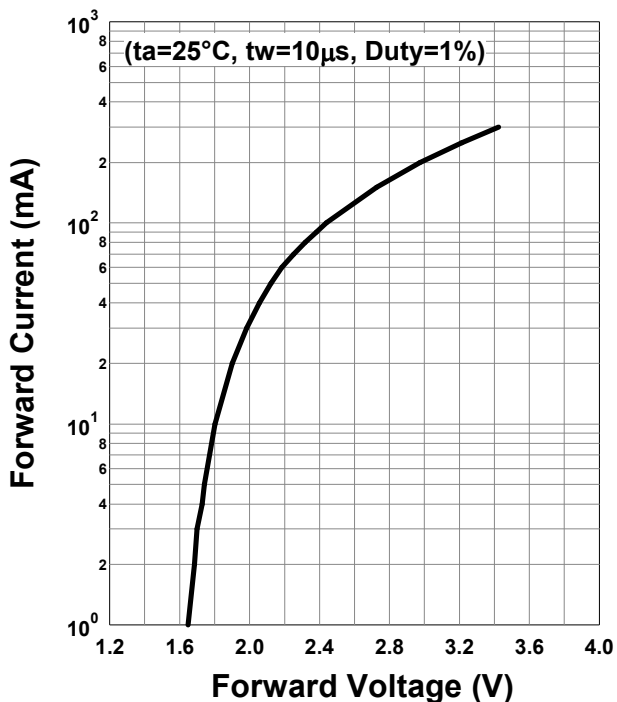
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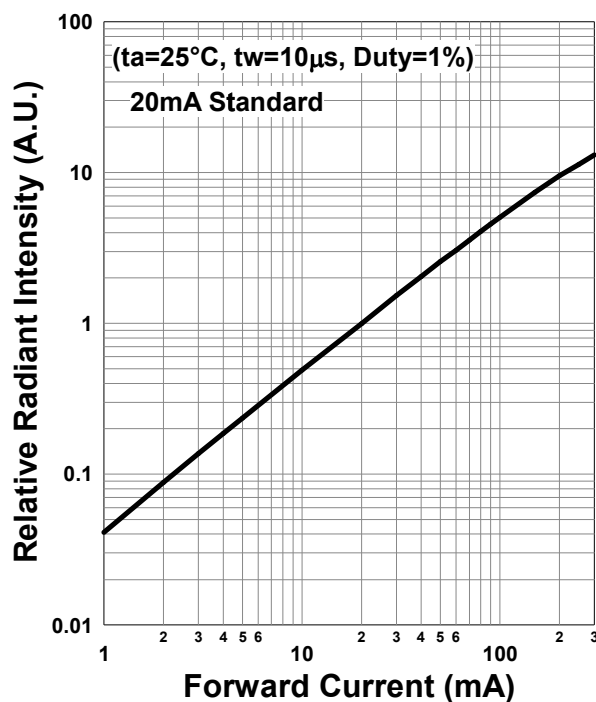
Typical Characteristic Curves

660nm

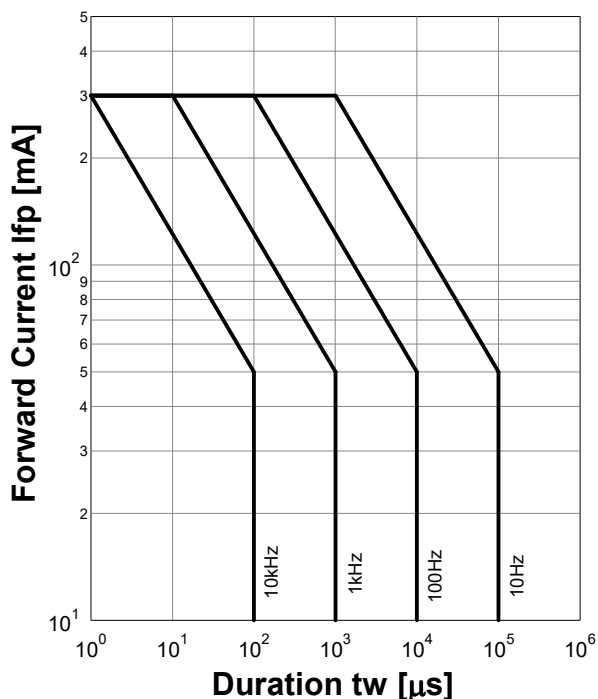
Forward Current - Forward Voltage



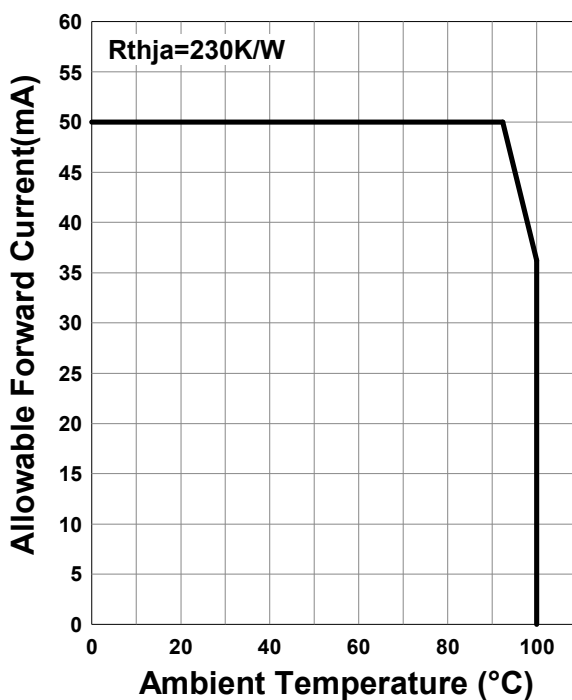
Relative Radiant Intensity - Forward Current



Forward Current - Pulse Duration



Allowable Forward Current - Ambient Temperature

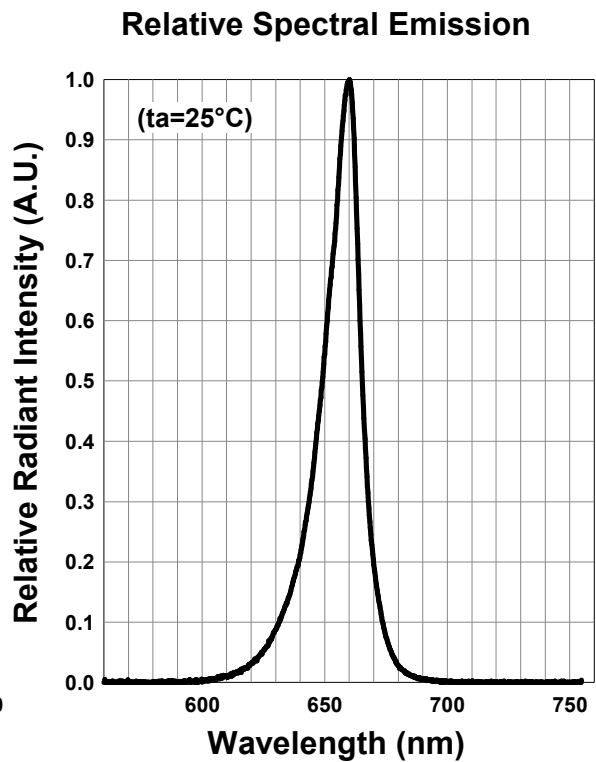
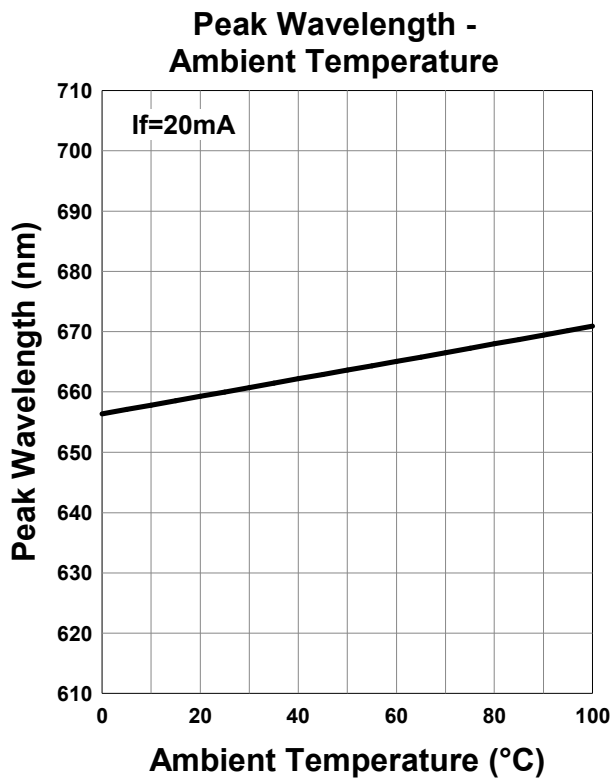
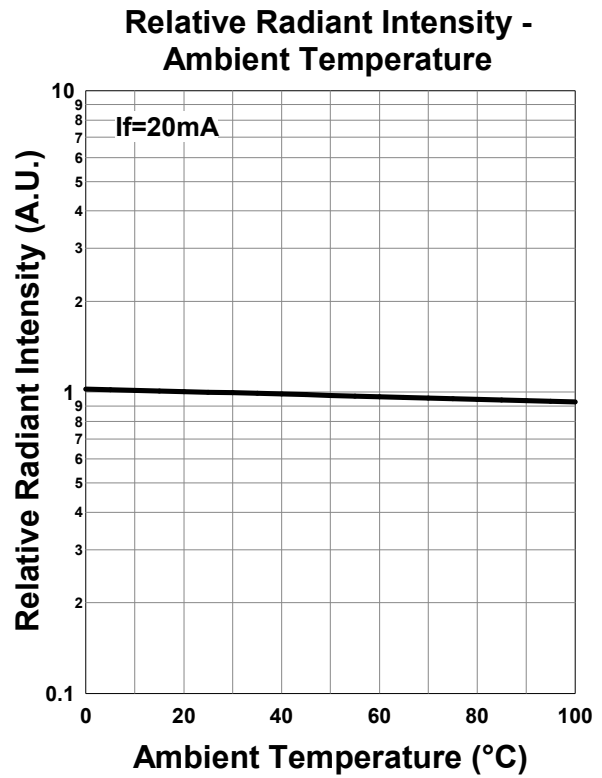
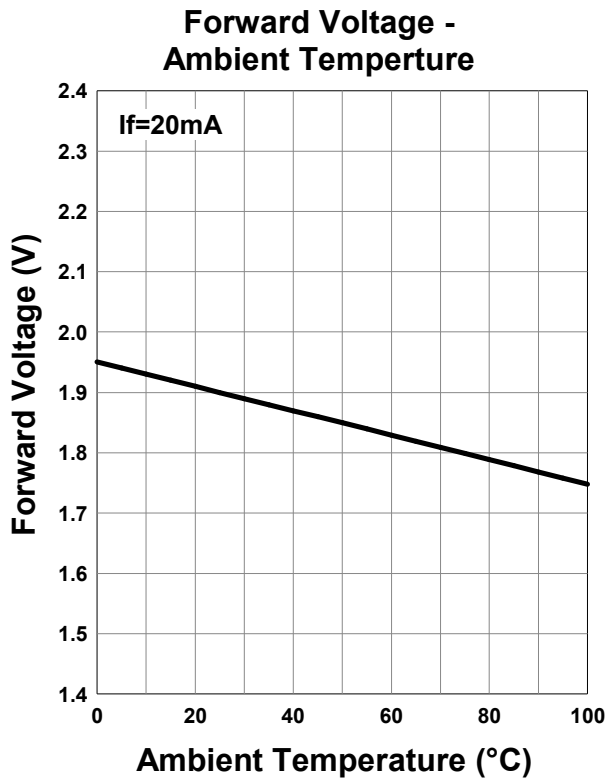


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660nm

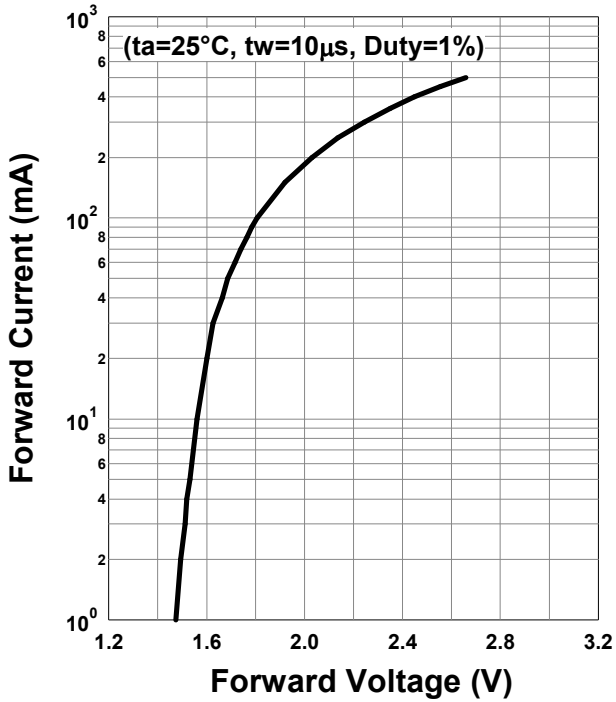


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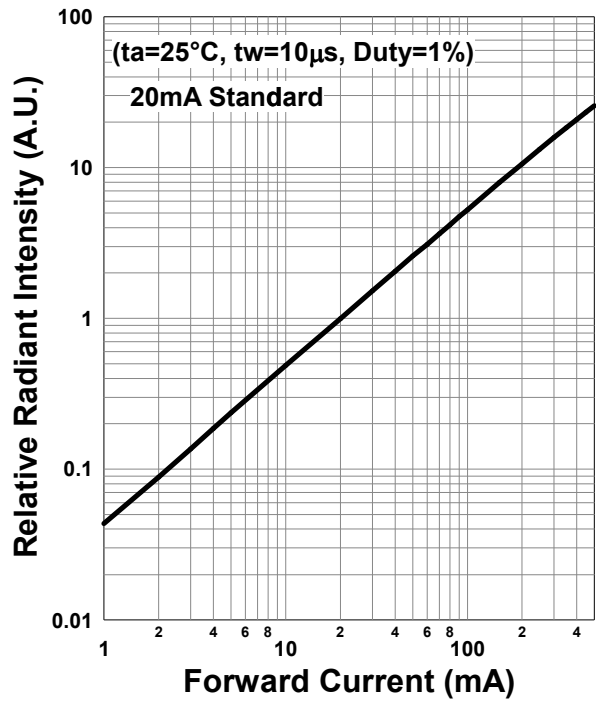
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Typical Characteristic Curves 850nm

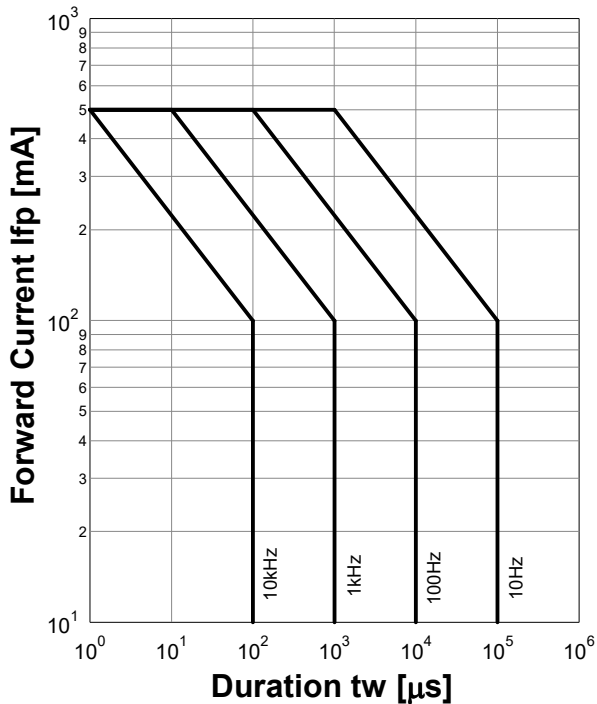
Forward Current - Forward Voltage



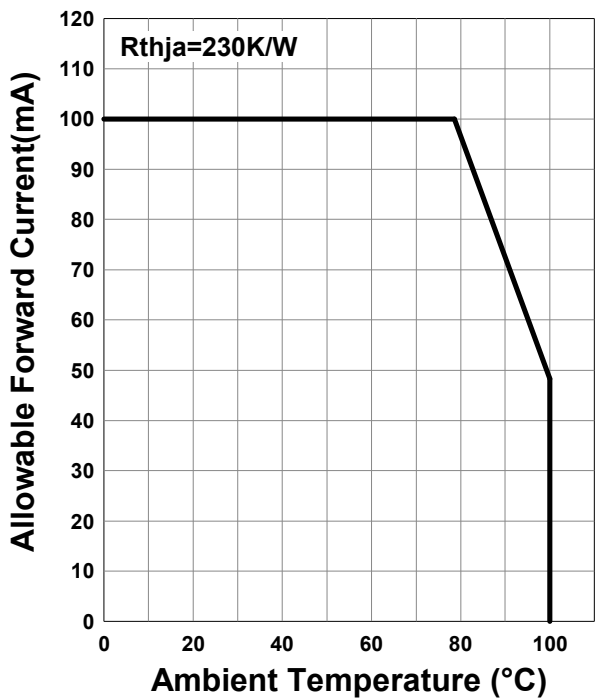
Relative Radiant Intensity - Forward Current



Forward Current - Pulse Duration



Allowable Forward Current - Ambient Temperature

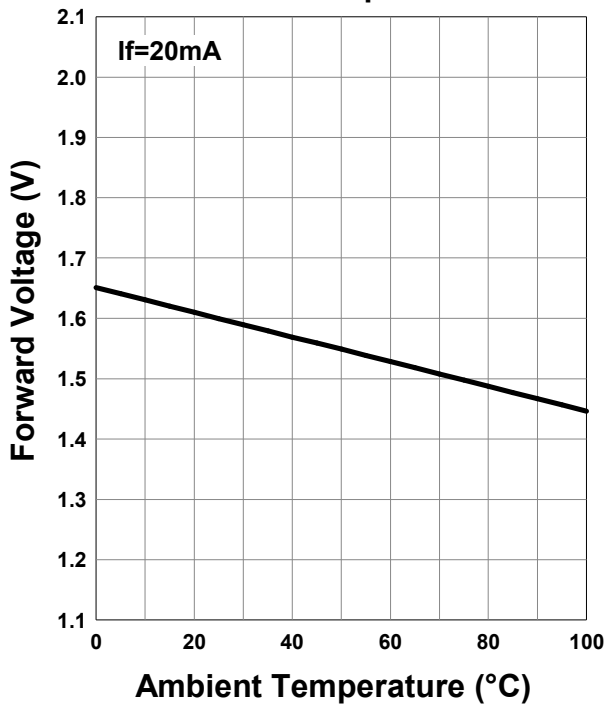


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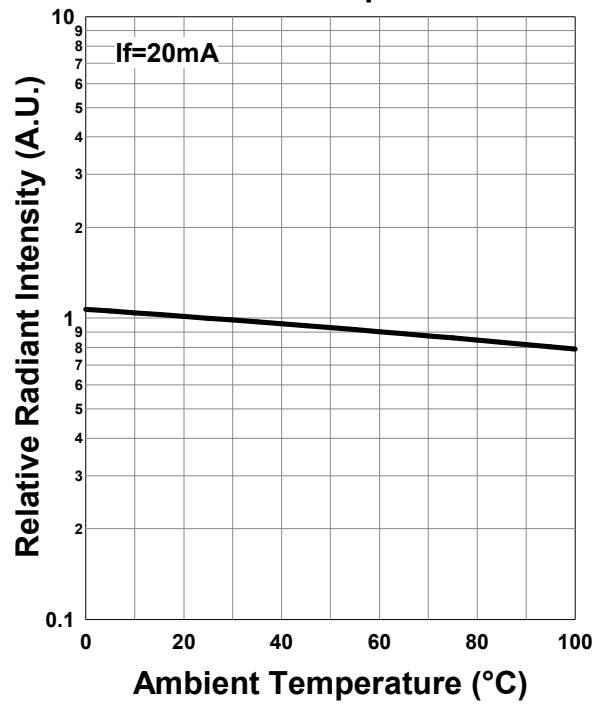
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850nm

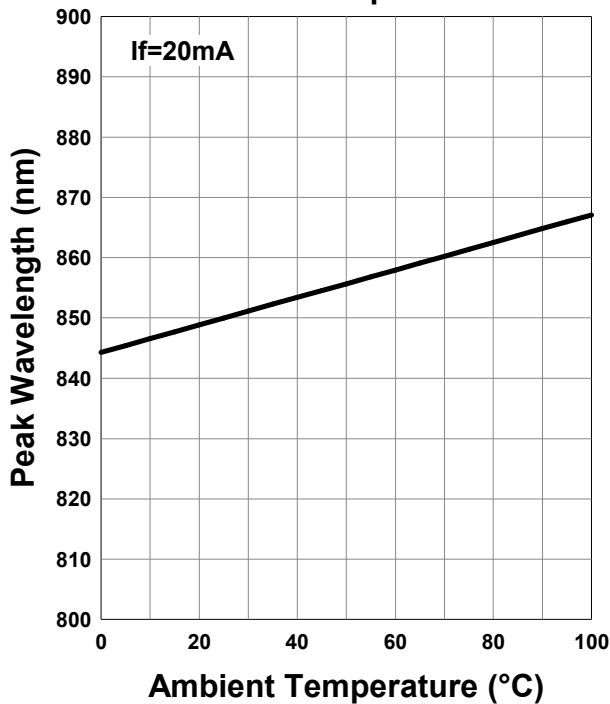
Forward Voltage - Ambient Temperature



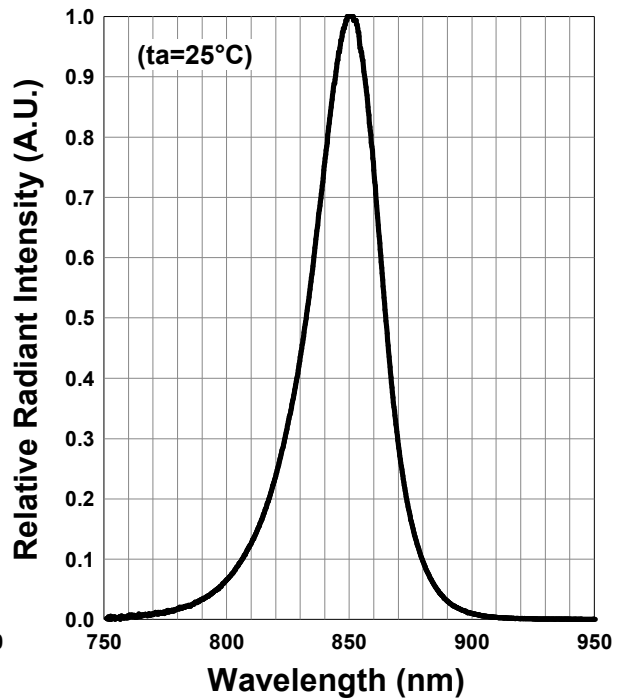
Relative Radiant Intensity - Ambient Temperature



Peak Wavelength - Ambient Temperature



Relative Spectral Emission



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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.