

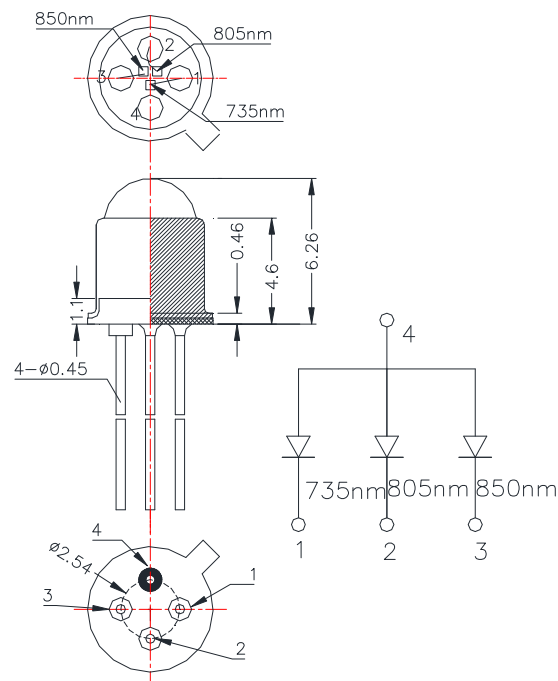
Data Sheet

L735/805/850-40C32

Multi Wavelength LED Lamp

USHIO

Outline and Internal Circuit



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(Unit : mm)

Features

- Non-hermetic package
- Chip Material : AlGaAs(735,805,850nm)
- Chip Dimension : 400um* 400um(735,805,850nm)
- Number of Chips : 3pcs
- Peak Wavelength: 735nm / 805nm / 850nm typ.
- Stem: TO-46 4pin type
- Lens : Glass Ball Lens
- CAP : Gold plated

Application

735nm

Absolute Maximum Ratings (Tc=25°C)

Item	Symbol	Ratings	Unit
Power Dissipation	PD	150	mW
Forward Current	IF	75	mA
Pulse Forward Current	IFP	500	mA
Reverse Voltage	VR	5	V
Thermal Resistance	Rthja	240	K/W
Junction Temperature	Tj	120	°C
Operating Temperature	Topr	-40 ~ +100	°C
Storage Temperature	Tstg	-40 ~ +100	°C
Soldering Temperature	TSOL	250	°C

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

‡Soldering condition: Soldering condition must be completed within 5 seconds at 250°C and is allowed in the area apart 3mm from the bottom of the lamp.

Optical and Electrical Characteristics (Tc=25°C)

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage	VF		1.8	2.0	V	IF=50mA
	VFP		3.3			IFP=500mA
Total Radiated Power	PO		10		mW	IF=50mA
			100			IFP=500mA
Peak Wavelength	λ_p	725		745	nm	IF=50mA
Half Width	$\Delta\lambda$		23		nm	IF=50mA
Rise Time	tr		10		ns	IF=50mA
Fall Time	tf		20		ns	IF=50mA

‡ Radiated Power is measured by S3584-08.

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805nm

Absolute Maximum Ratings (Tc=25°C)

Item	Symbol	Rated	Unit
Power Dissipation	PD	200	mW
Forward Current	IF	100	mA
Pulse Forward Current	IFP	500	mA
Reverse Voltage	VR	5	V
Thermal Resistance	Rthja	240	K/W
Junction Temperature	Tj	120	°C
Operating Temperature	Topr	-40 ~ +100	°C
Storage Temperature	Tstg	-40 ~ +100	°C
Soldering Temperature	TSOL	250	°C

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

‡Soldering condition: Soldering condition must be completed within 5 seconds at 250°C and is allowed in the area apart 3mm from the bottom of the lamp.

Optical and Electrical Characteristics (Tc=25°C)

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage	VF		1.6	2.0	V	IF=50mA
	VFP		2.6			IFP=500mA
Total Radiated Power	PO		11		mW	IF=50mA
			110			IFP=500mA
Peak Wavelength	λ_p	795		815	nm	IF=50mA
Half Width	$\Delta\lambda$		30		nm	IF=50mA
Rise Time	tr		20		ns	IF=50mA
Fall Time	tf		30		ns	IF=50mA

‡ Radiated Power is measured by S3584-08.

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850nm

Absolute Maximum Ratings (Tc=25°C)

Item	Symbol	Ratings	Unit
Power Dissipation	PD	200	mW
Forward Current	IF	100	mA
Pulse Forward Current	IFP	500	mA
Reverse Voltage	VR	5	V
Thermal Resistance	Rthja	240	K/W
Junction Temperature	Tj	120	°C
Operating Temperature	Topr	-40 ~ +100	°C
Storage Temperature	Tstg	-40 ~ +100	°C
Soldering Temperature	TSOL	250	°C

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

‡Soldering condition: Soldering condition must be completed within 5 seconds at 250°C and is allowed in the area apart 3mm from the bottom of the lamp.

Optical and Electrical Characteristics (Tc=25°C)

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage	VF		1.7	2.0	V	IF=50mA
	VFP		2.7			IFP=500mA
Total Radiated Power	PO		10		mW	IF=50mA
			100			IFP=500mA
Peak Wavelength	λ_p	840		860	nm	IF=50mA
Half Width	$\Delta\lambda$		32		nm	IF=50mA
Rise Time	tr		10		ns	IF=50mA
Fall Time	tf		20		ns	IF=50mA

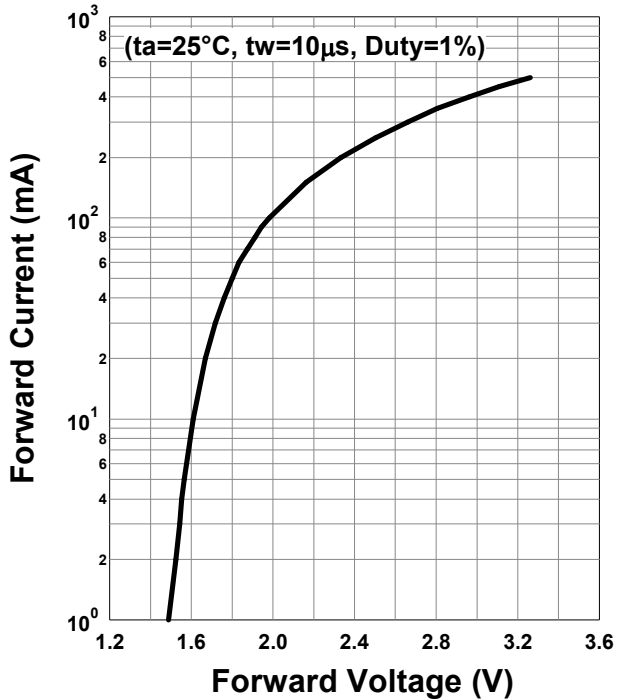
‡ Radiated Power is measured by S3584-08.

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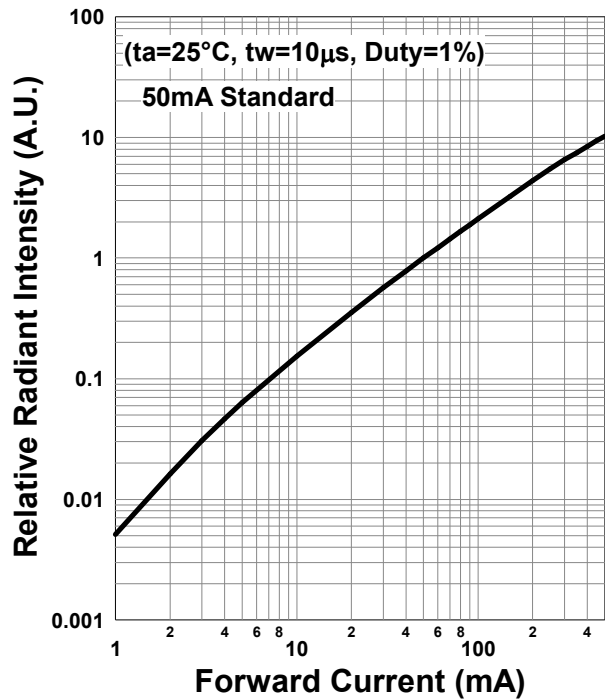
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Typical Characteristic Curves 735nm

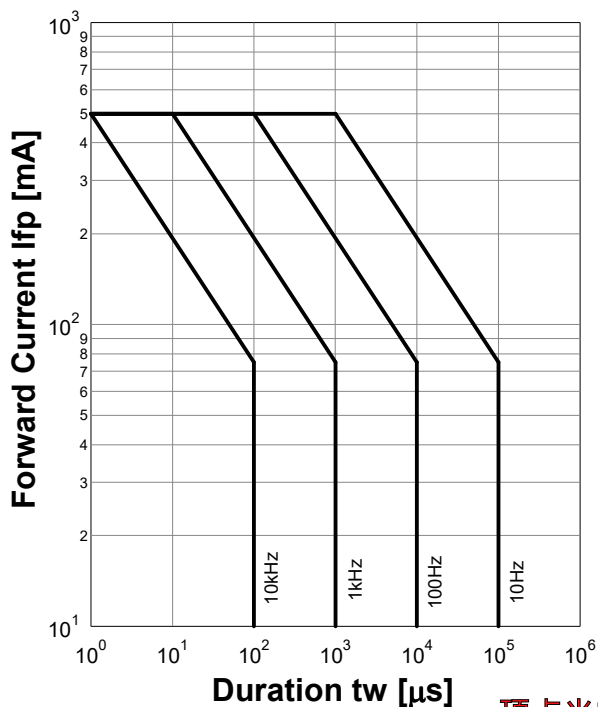
Forward Current - Forward Voltage



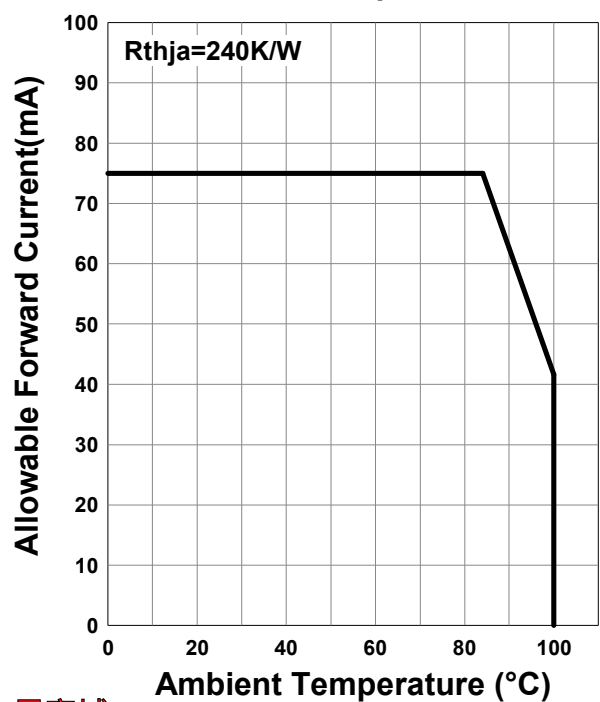
Relative Radiant Intensity - Forward Current



Forward Current - Pulse Duration



Allowable Forward Current - Ambient Temperature

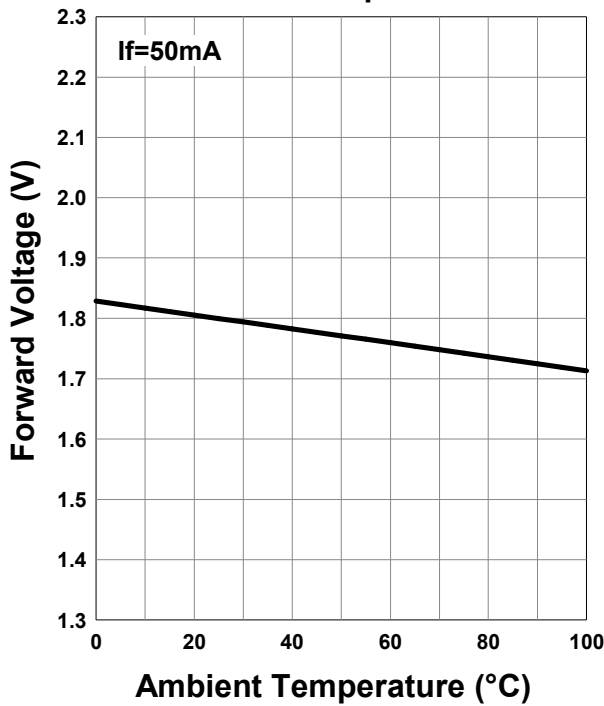


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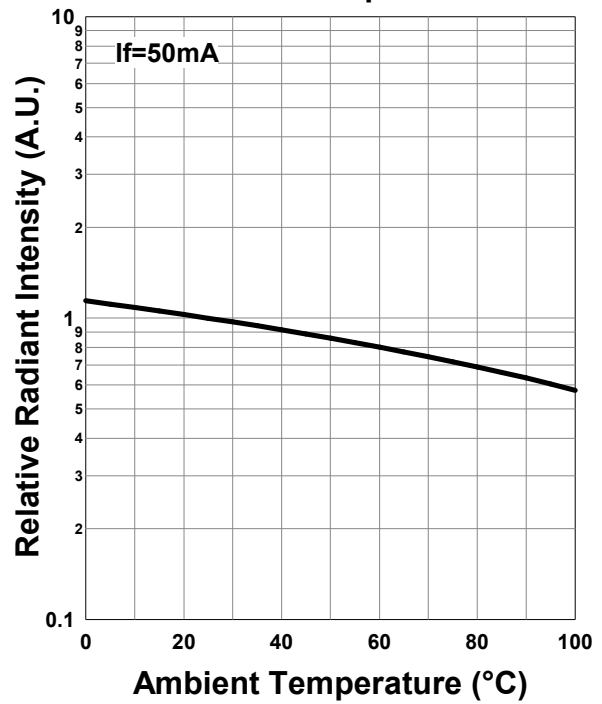
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735nm

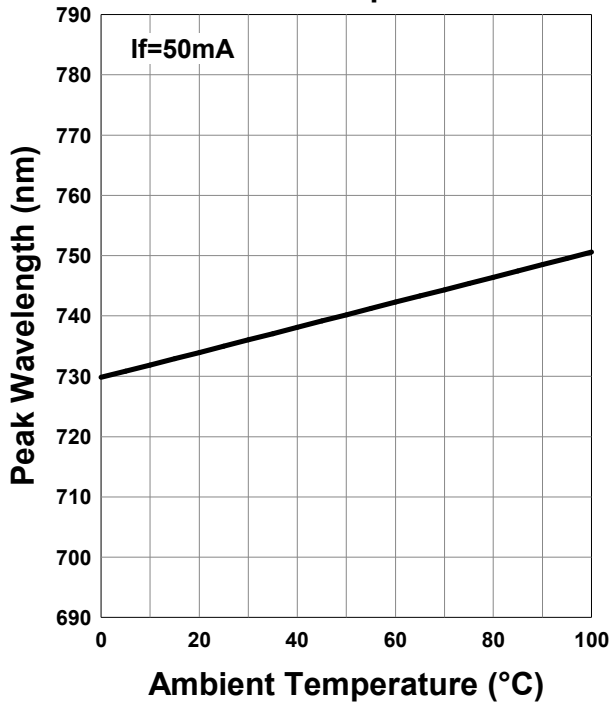
Forward Voltage - Ambient Temperature



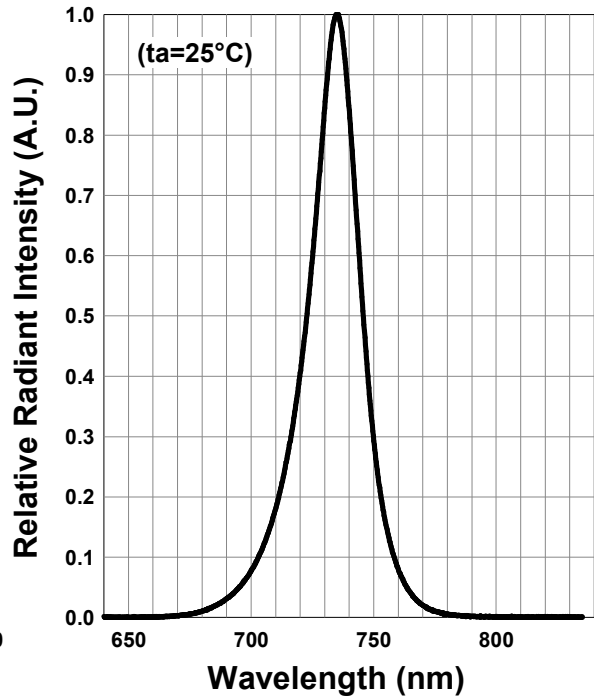
Relative Radiant Intensity - Ambient Temperature



Peak Wavelength - Ambient Temperature



Relative Spectral Emission

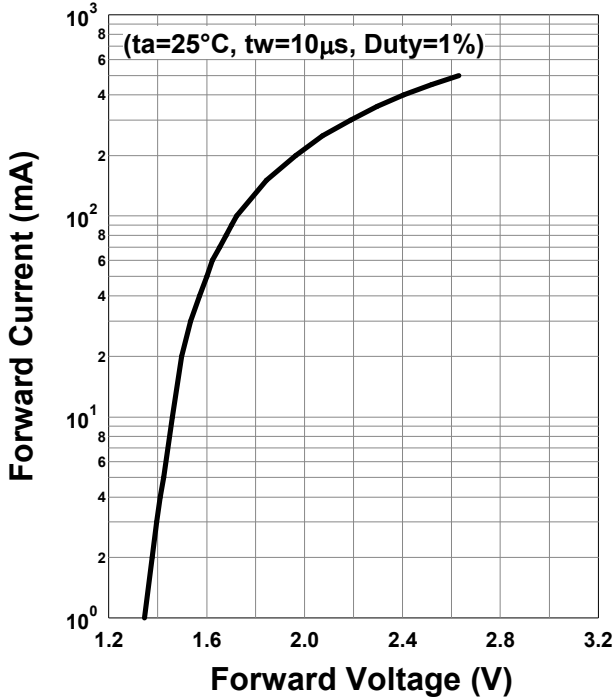


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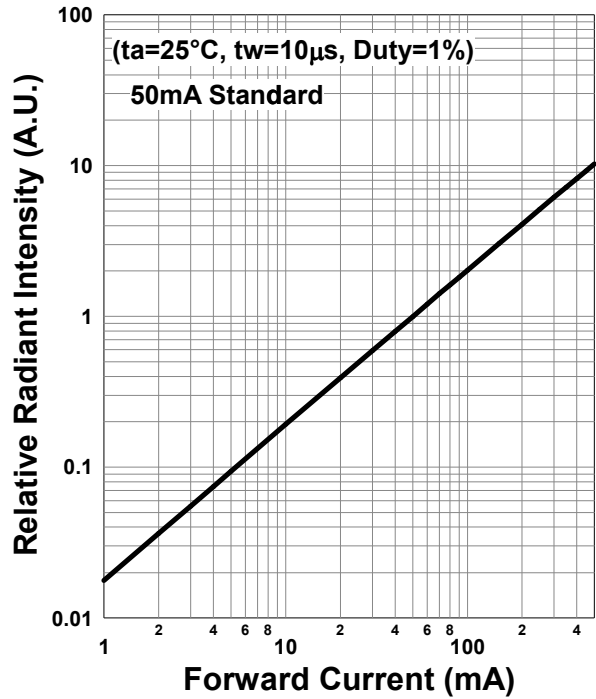
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Typical Characteristic Curves 805nm

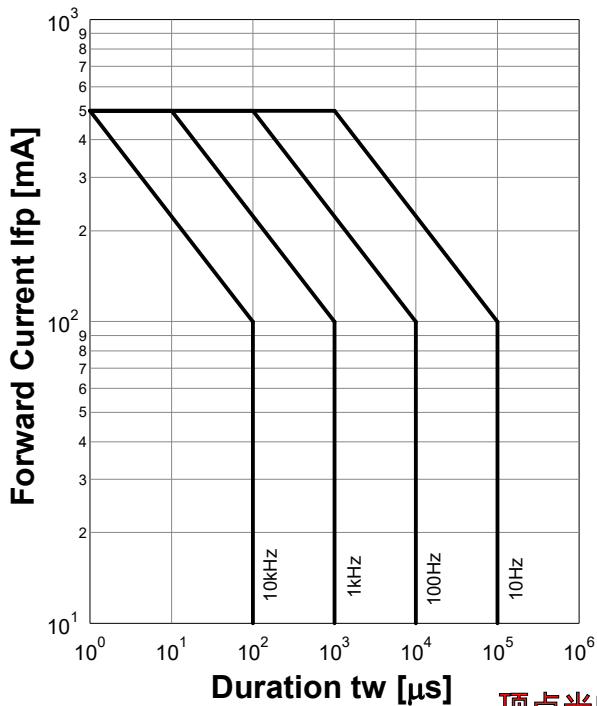
Forward Current - Forward Voltage



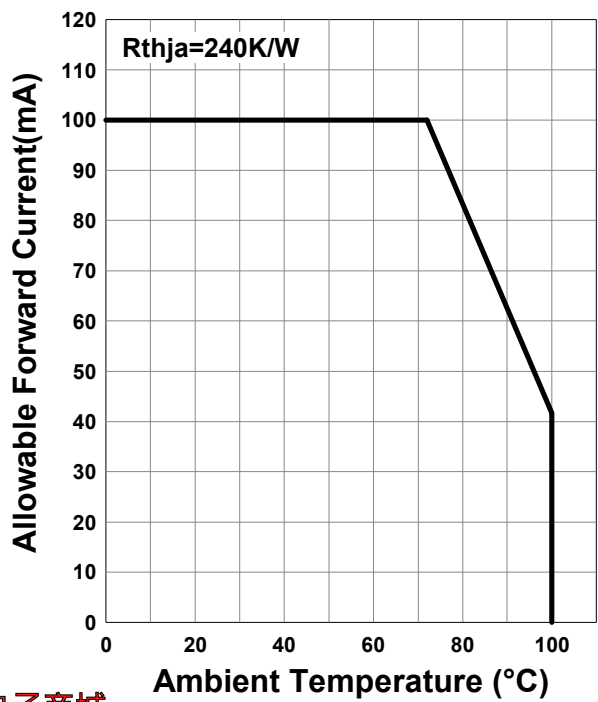
Relative Radiant Intensity - Forward Current



Forward Current - Pulse Duration



Allowable Forward Current - Ambient Temperature

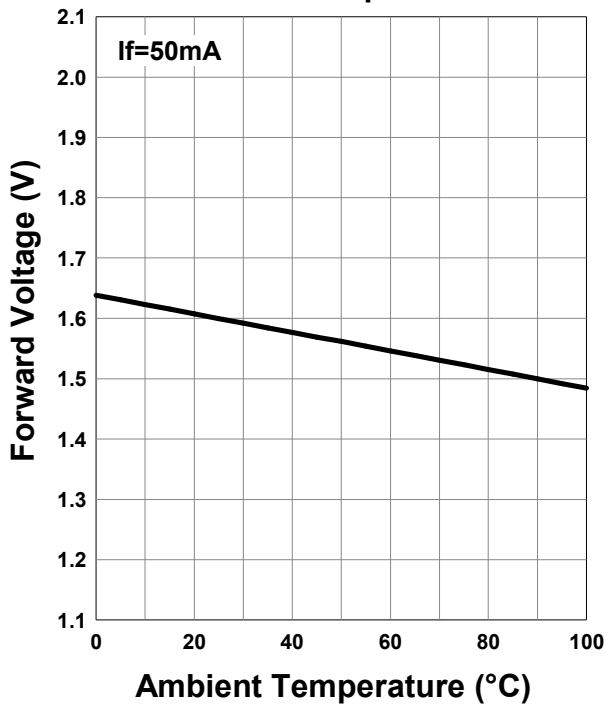


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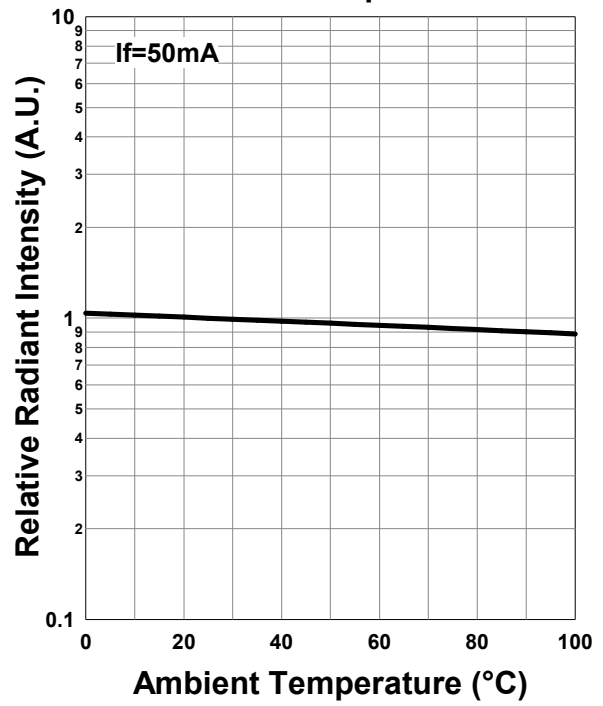
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805nm

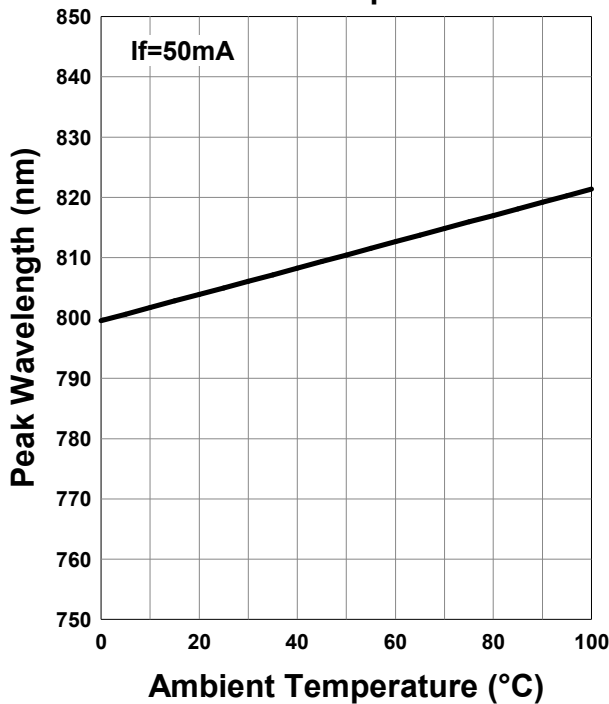
Forward Voltage - Ambient Temperature



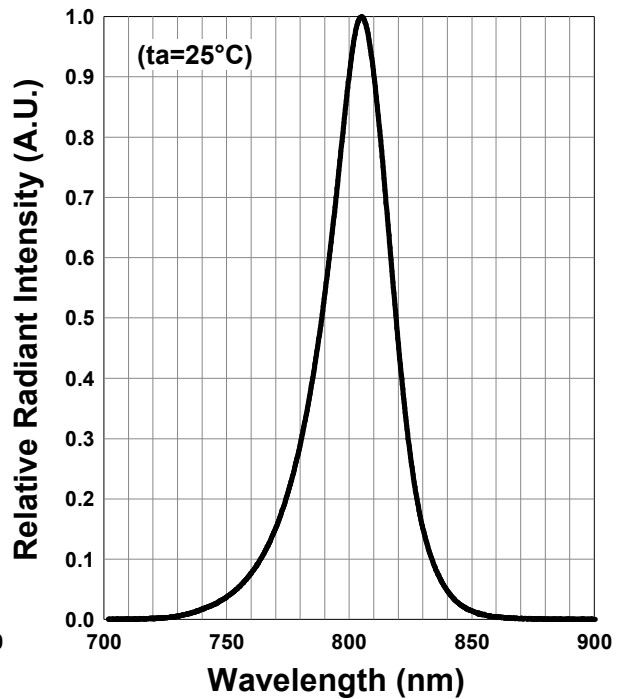
Relative Radiant Intensity - Ambient Temperature



Peak Wavelength - Ambient Temperature



Relative Spectral Emission

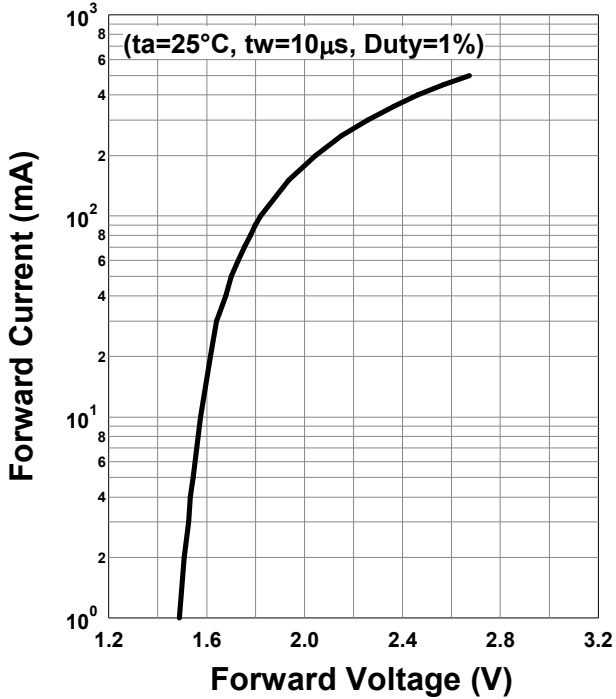


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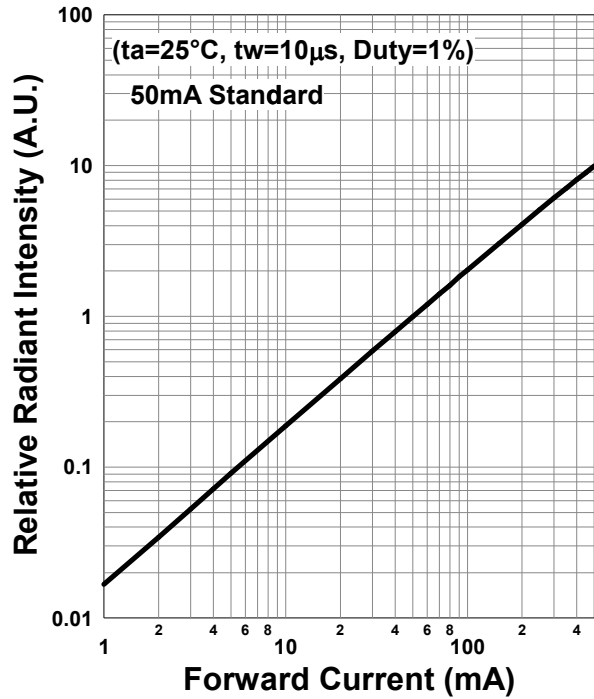
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Typical Characteristic Curves 850nm

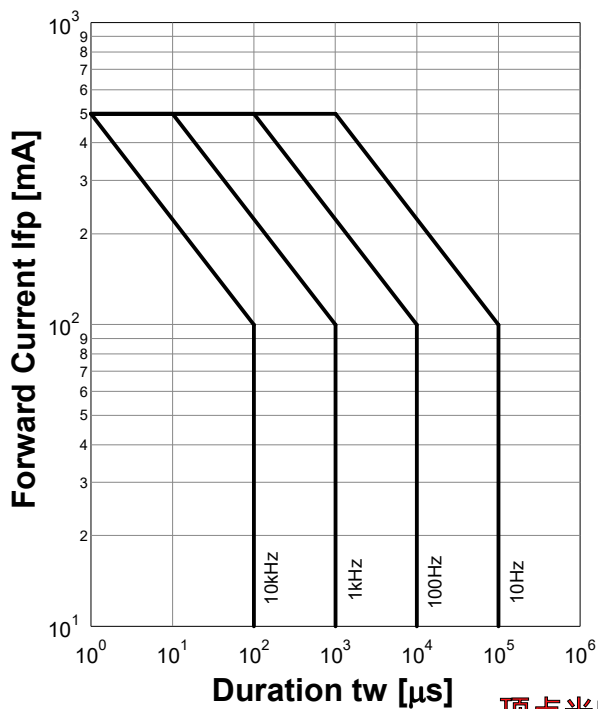
Forward Current - Forward Voltage



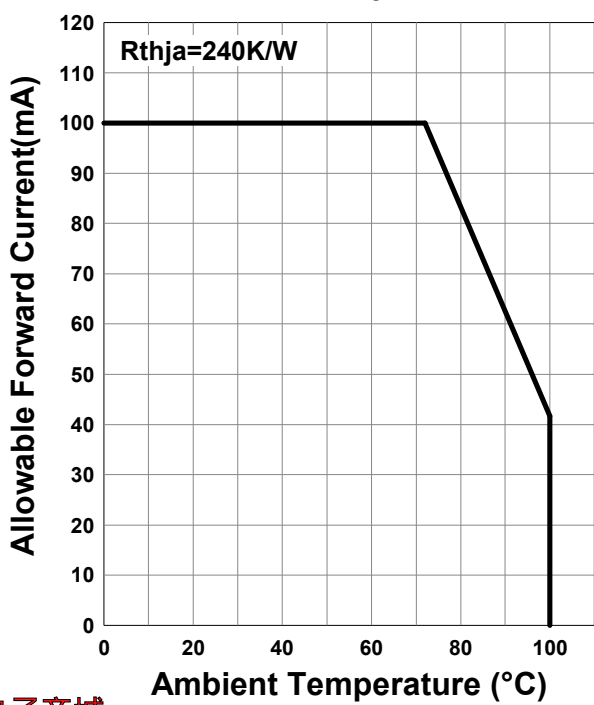
Relative Radiant Intensity - Forward Current



Forward Current - Pulse Duration



Allowable Forward Current - Ambient Temperature

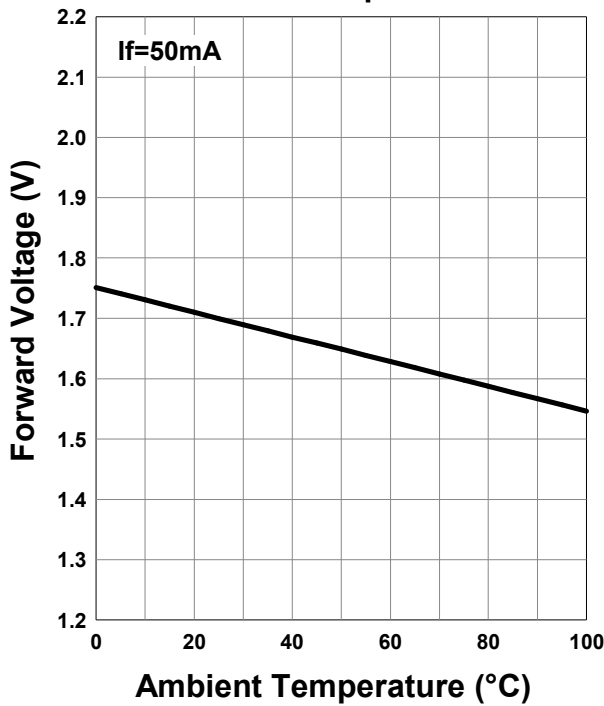


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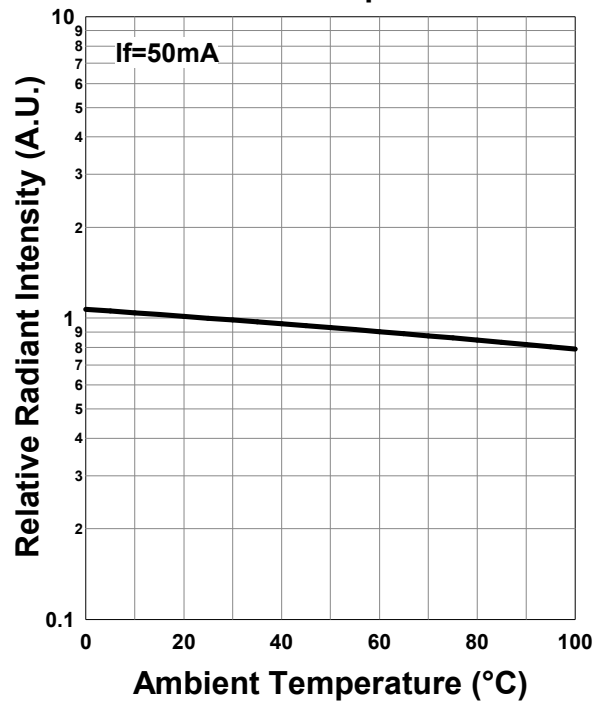
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850nm

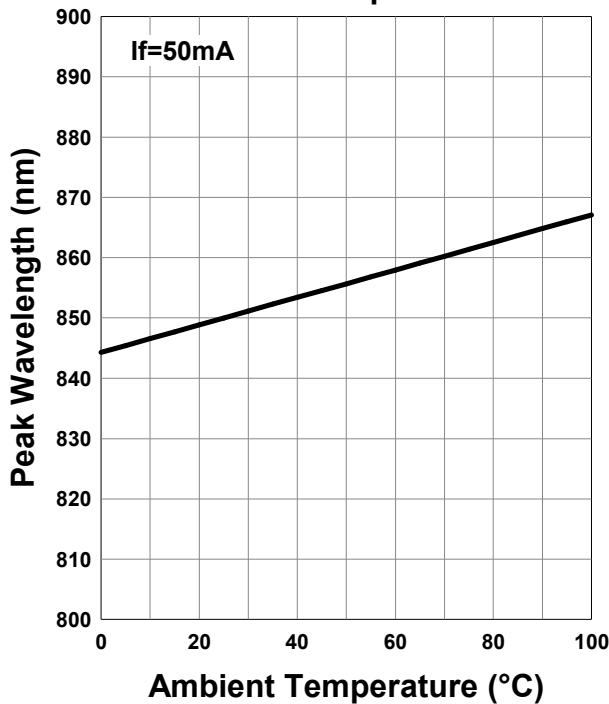
Forward Voltage - Ambient Temperature



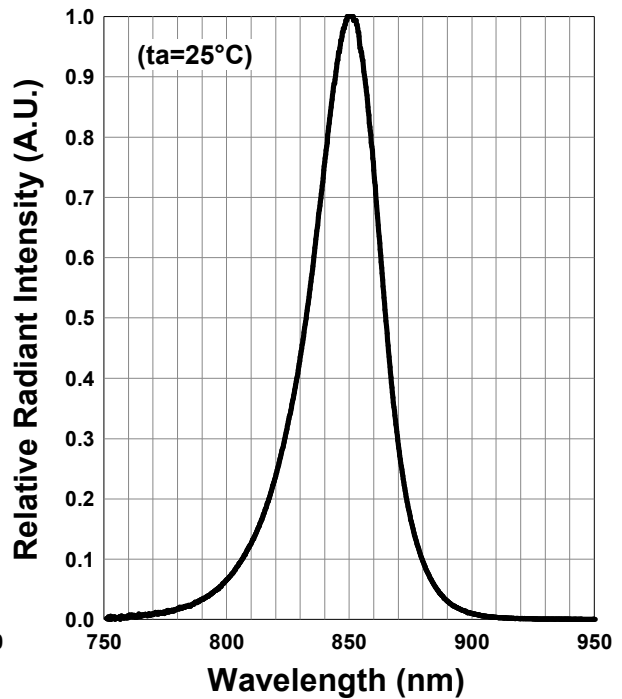
Relative Radiant Intensity - Ambient Temperature



Peak Wavelength - Ambient Temperature



Relative Spectral Emission



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Disclaimer

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