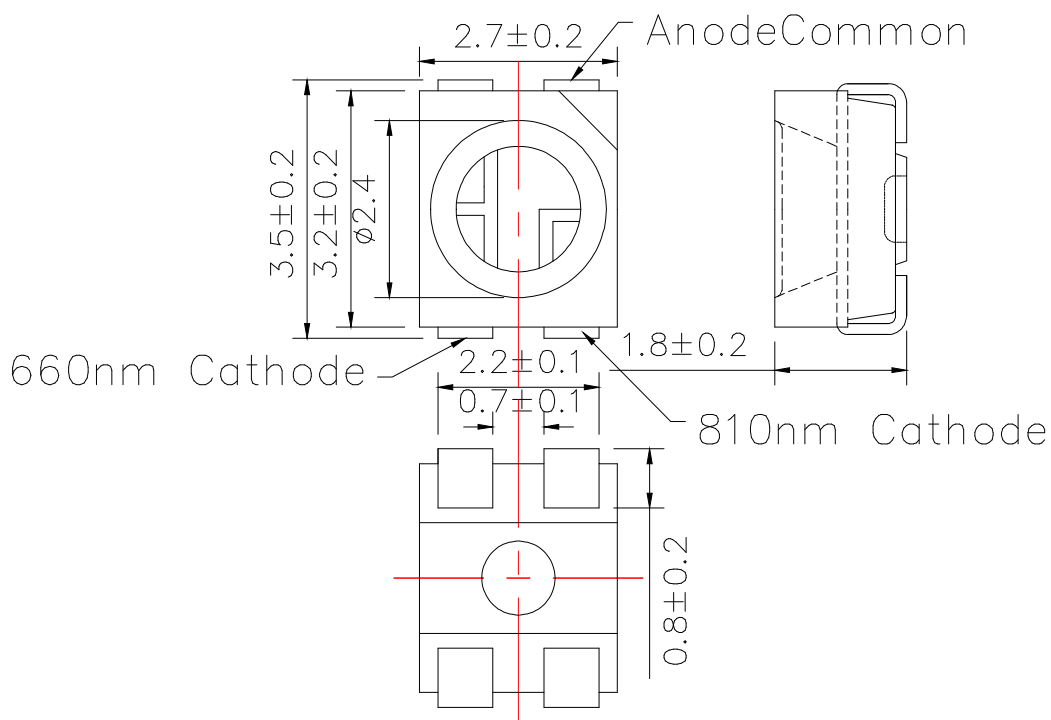


# SMT660D/810

Multi Wavelength LED

## Outline and Internal Circuit



(Unit : mm)

## Features

- Chip Material : AlGaInP (660nm) , AlGaAs (810nm)
- Chip Dimension : 350um \* 350um (660nm), 400um \* 400um (810nm)
- Number of Chips : 2pcs
- Peak Wavelength : 660 / 810nm typ.
- Lead Frame Die : Silver Plated on Copper
- Package Resin : Polyamide Resin
- Lens : Epoxy Resin

# SMT660D/810

## 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	Rthjs	80	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 : 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		1.9	2.4	V	IF=20mA*
	VFP		3.5			IFP=300mA**
Reverse Current	IR			10	uA	VR=5V*
Total Radiated Power	PO	9.0	13		mW	IF=20mA*
			170			IFP=300mA**
Luminous Flux	Φv		860		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.

## 810nm

## 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	Rthjs	80	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 : Refer to technical support information on the website.

## Optical and Electrical Characteristics (Tc=25°C)

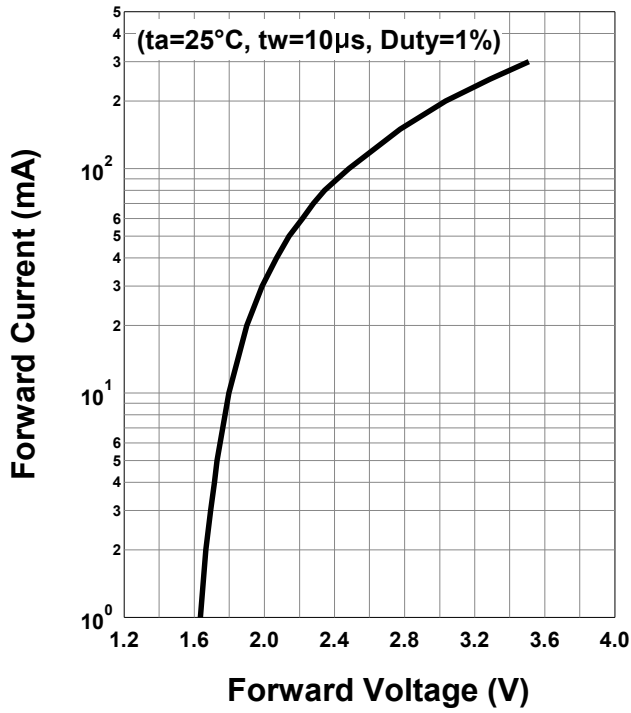
(\*: 100% testing, \*\*: reference value)

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage	VF		1.5	2.0	V	IF=20mA*
	VFP		2.6			IFP=500mA**
Reverse Current	IR			10	uA	VR=5V*
Total Radiated Power	PO	5.6	8.0		mW	IF=20mA*
			200			IFP=500mA**
Peak Wavelength	$\lambda_p$	800		820	nm	IF=20mA*
Half Width	$\Delta\lambda$		30		nm	IF=20mA**
Rise Time	tr		20		ns	IF=20mA**
Fall Time	tf		30		ns	IF=20mA**

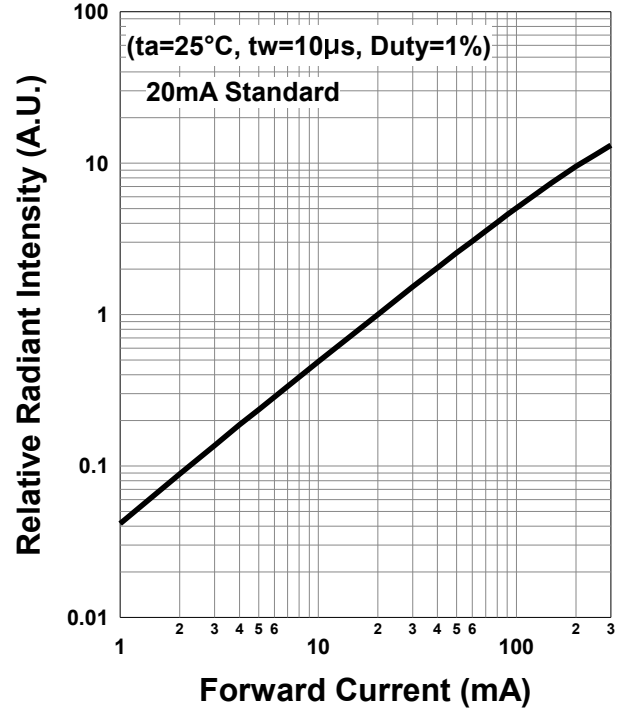
‡ Radiated Power is measured by S3584-08.

## Typical Characteristic Curves 660nm

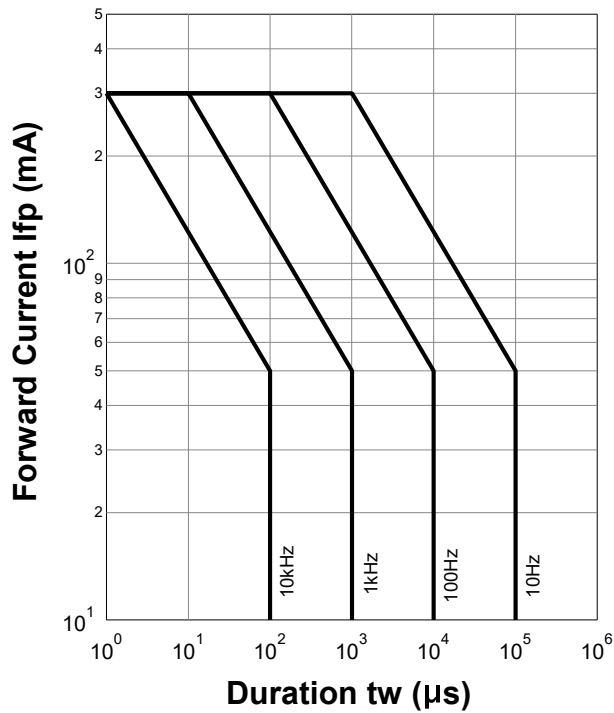
### Forward Current - Forward Voltage



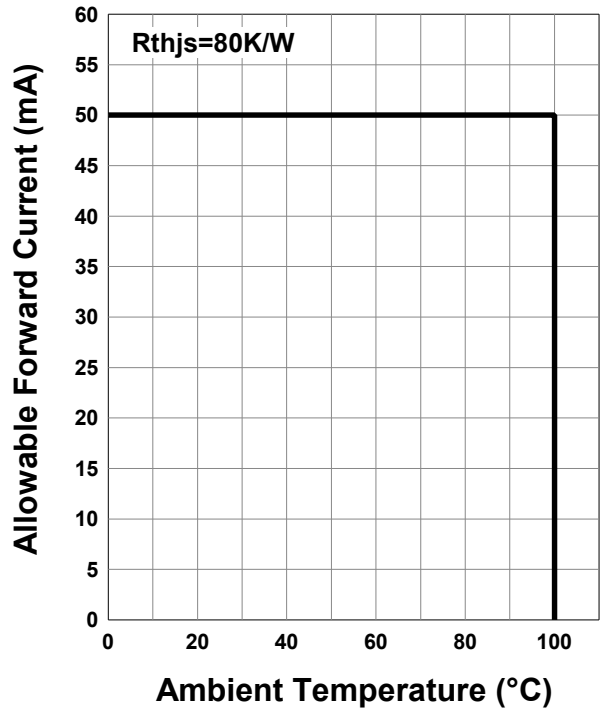
### Relative Radiant Intensity - Forward Current



### Forward Current - Pulse Duration

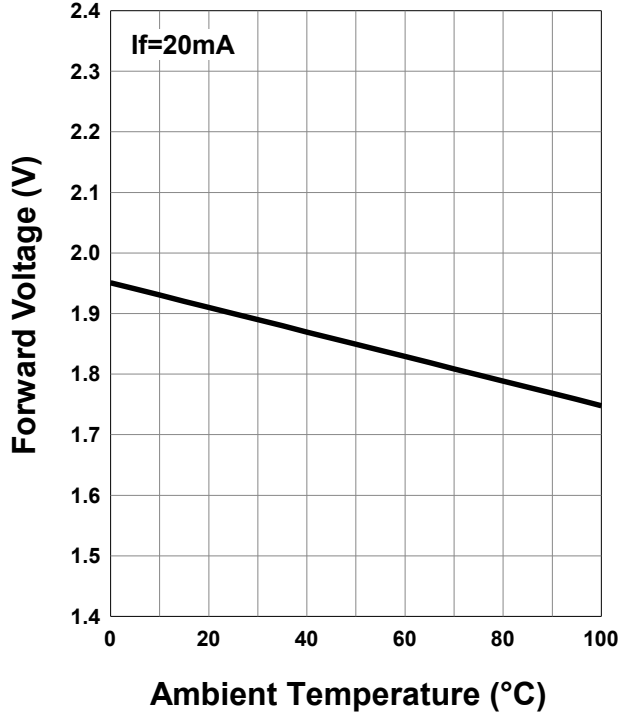


### Allowable Forward Current - Ambient Temperature

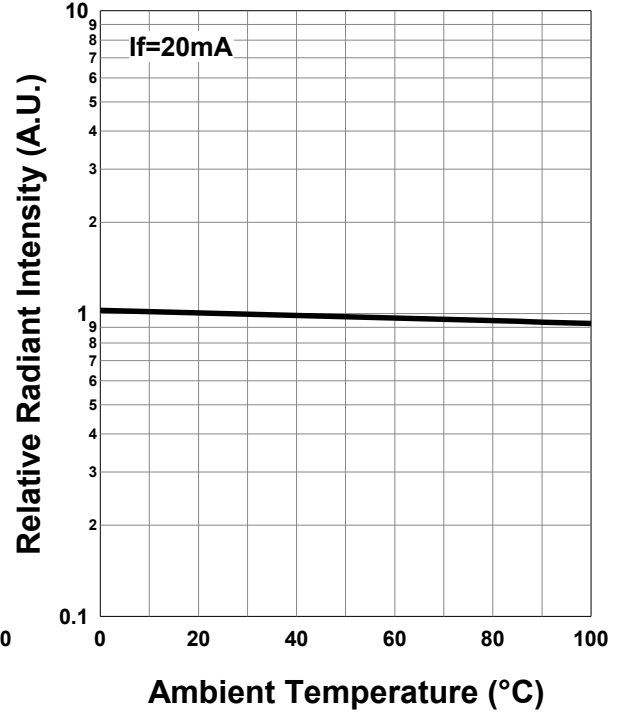


660nm

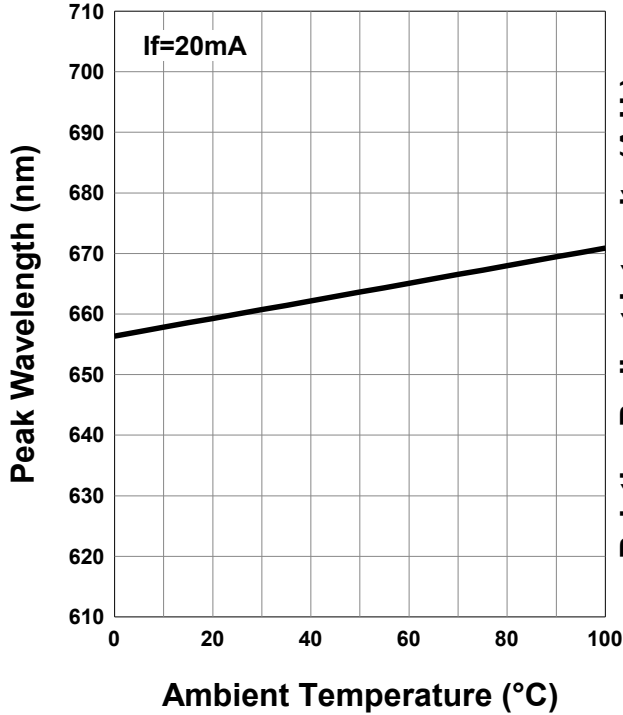
### Forward Voltage - Ambient Temperature



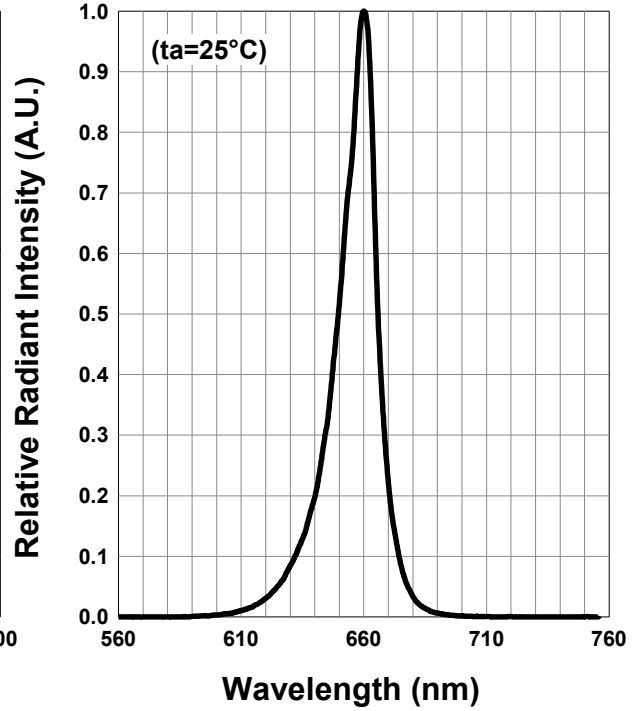
### Relative Radiant Intensity - Ambient Temperature



### Peak Wavelength - Ambient Temperature



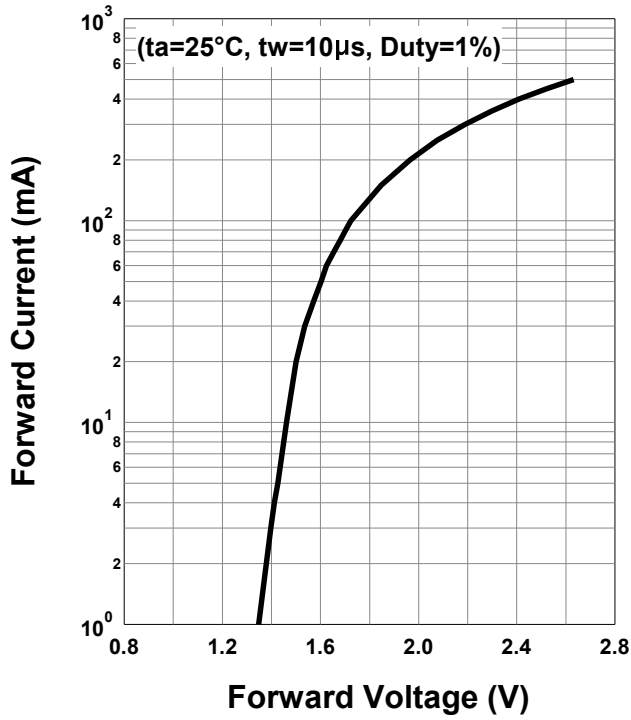
### Relative Spectral Emission



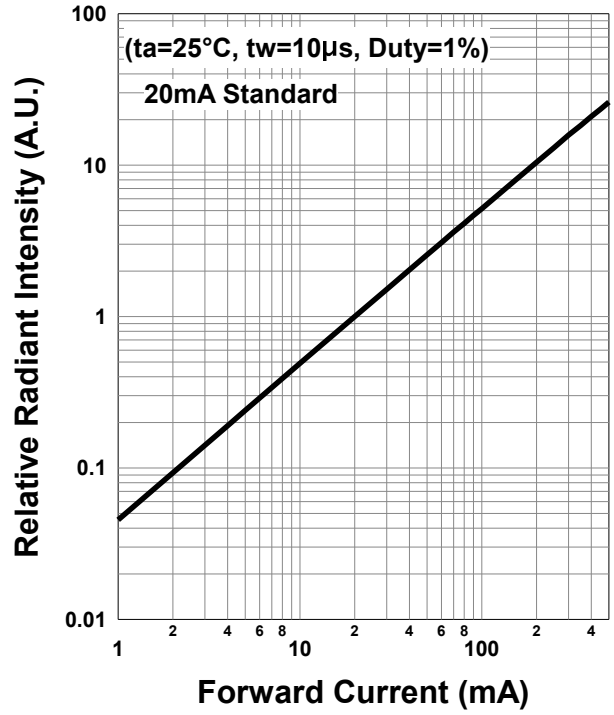
# SMT660D/810

## Typical Characteristic Curves 810nm

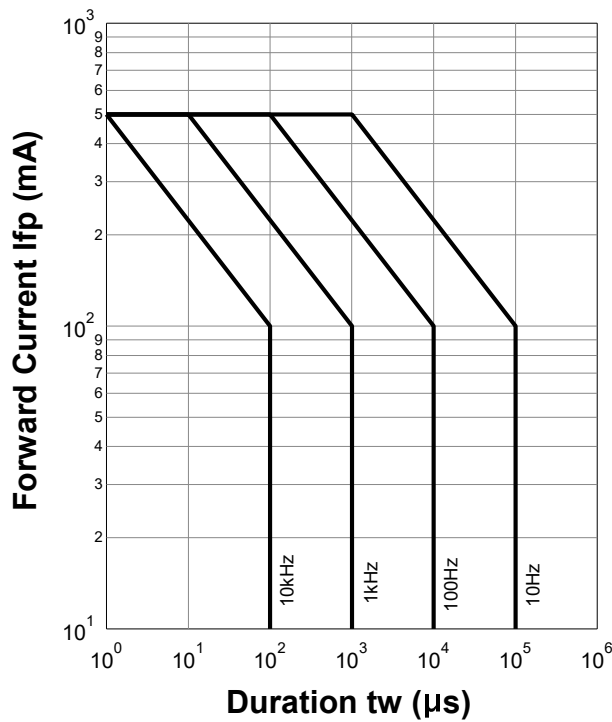
### Forward Current - Forward Voltage



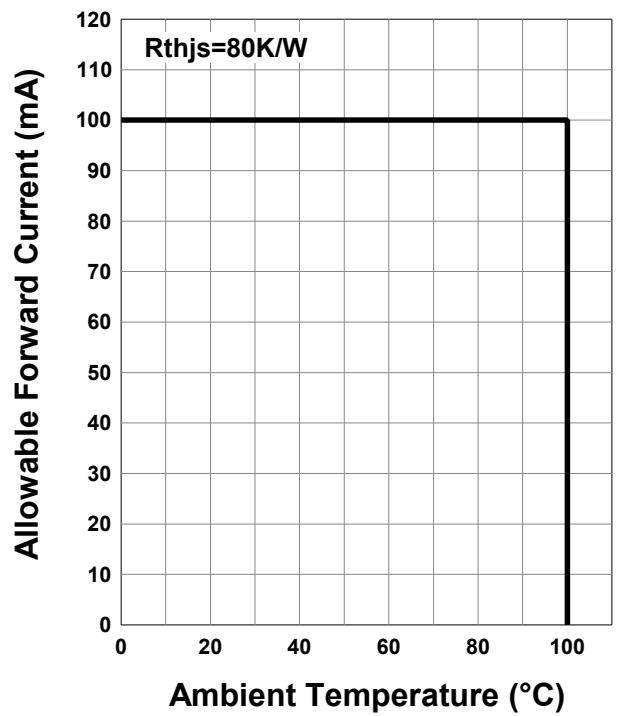
### Relative Radiant Intensity - Forward Current



### Forward Current - Pulse Duration

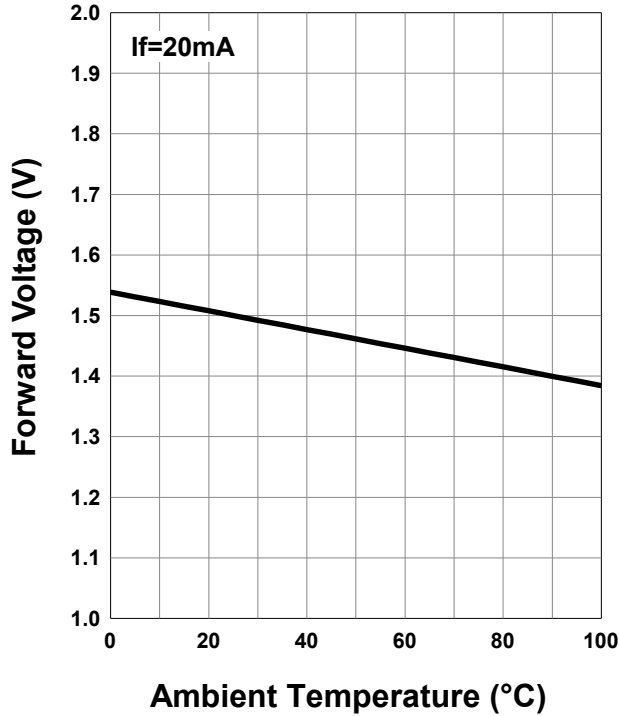


### Allowable Forward Current - Ambient Temperature

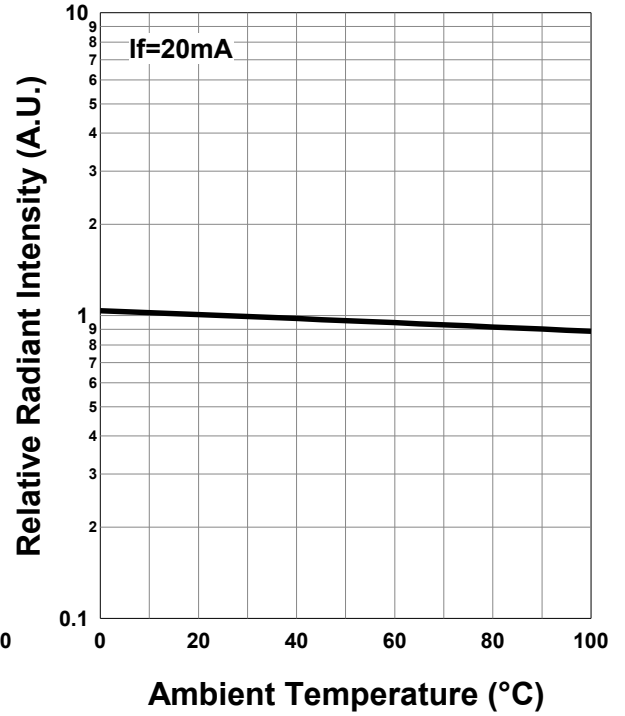


810nm

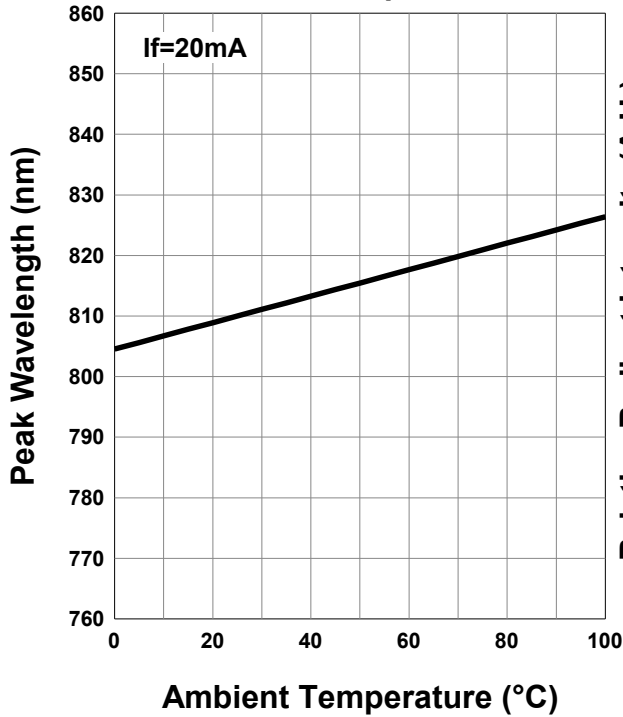
### Forward Voltage - Ambient Temperature



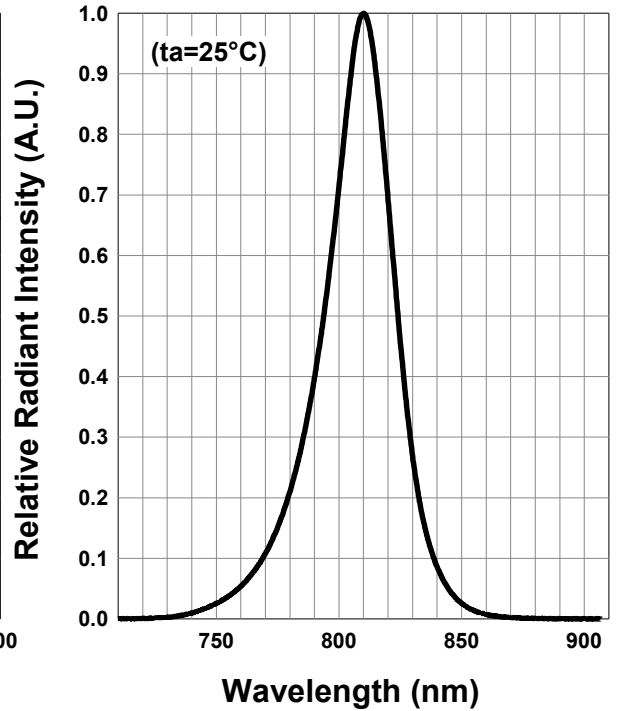
### Relative Radiant Intensity - Ambient Temperature



### Peak Wavelength - Ambient Temperature



### Relative Spectral Emission



## Wrapping

Moisture barrier bag aluminum laminated film with a desiccant to keep out the moisture absorption during the transportation and storage.

## SMD LED storage and handling precautions

### Storage Conditions before Opening a Moisture-Barrier Aluminum Bag

- Before opening a moisture-barrier aluminum bag, please store it at <30°C, <60%RH.
- Please note that the maximum shelf life is 12 months under these conditions.

### Storage Conditions after Opening a Moisture-Barrier Aluminum Bag

- After opening a moisture-barrier aluminum bag, store the aluminum bag and silica gel in a desiccator.
- After opening the bag, please solder the LEDs within 72 hours in a room with 5 - 30°C, <50%RH.
- Please put any unused, remaining LEDs and silica gel back in the same aluminum bag and then vacuum-seal the bag.
- It is recommended to keep the re-sealed bag in a desiccator at <30%RH.
- The 72-hour- long floor life does not include the time while LEDs are stored in the moisture-barrier aluminum bag. However, we strongly recommend to solder the LEDs as soon as possible after opening the aluminum bag.

### Notes about Re-sealing a Moisture-Barrier Aluminum Bag

- When vacuum-sealing an opened aluminum bag, if you find the moisture-indicator of the silica gel has changed to pink from blue (indicating a relative humidity of 30 % or more), please do not use the unused LEDs, the aluminum bag, or the silica gel.

### Notes about Opening a Re-sealed Moisture-Barrier Aluminum Bag

- When opening a vacuumed and re-sealed aluminum bag in order to use the remaining LEDs stored in the bag, if you find that the moisture-indicator of the silica has changed to pink, please do not use the LEDs.



**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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