

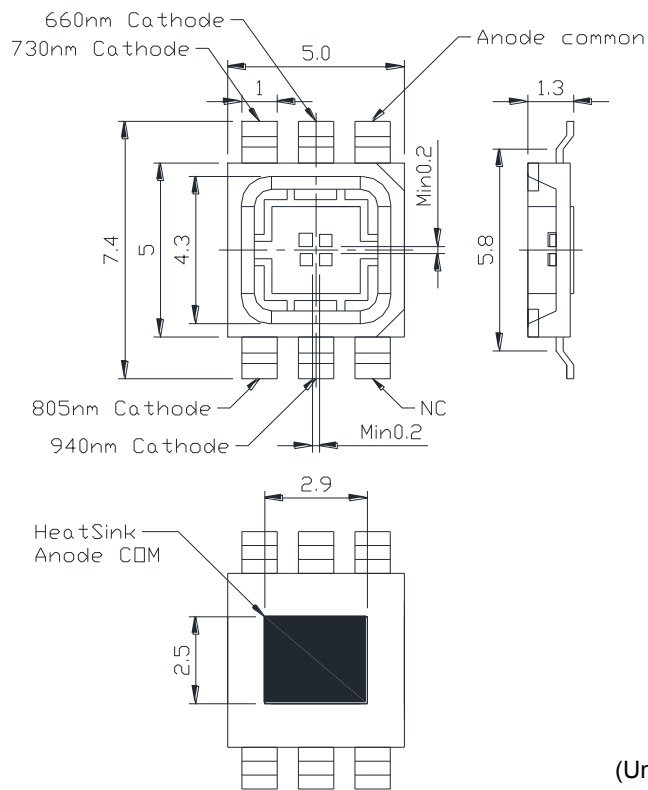
Data Sheet

SMB660D/730/805D/940-4040

Multi wavelength LED



Outline and Internal Circuit



(Unit : mm)

Features

- Chip Material : AlGaInP(660nm) , AlGaAs(730nm,805nm,940nm)
- Chip Dimension : 400um * 400um
- Number of Chips : 4pce
- Peak Wavelength : 660/730/805/940nm typ.
- Lead Frame Die : Silver Plated on Copper
- Package Resin : PA9T Resin
- Lens : Silicone Resin

Application

Absolute Maximum Ratings (Tc=25°C)

Item	Symbol	Ratings				Unit
		660	730	805	940	
Power Dissipation	PD	120	150	200	140	mW
Forward Current	IF	50	75	100	100	mA
Pulse Forward Current	IFP	200	500	500	1000	mA
Reverse Voltage	VR	5				V
Thermal Resistance	Rthja	10				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 with 5 seconds at 250°C.

Optical and Electrical Characteristics (Tc=25°C)

660nm

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage	VF		2.0	2.3	V	IF=20mA
Total Radiated Power	PO		12		mW	IF=20mA
Radiant Intensity	IE		10.5		mW/sr	IF=20mA
Peak Wavelength	λ_p	650		670	nm	IF=20mA
Half Width	$\Delta\lambda$		16		nm	IF=20mA
Viewing Half Angle	$\theta_{1/2}$		±64		deg.	IF=20mA
Rise Time	tr		35		ns	IF=20mA
Fall Time	tf		30		ns	IF=20mA

‡ Radiated Power is measured by S3584-08.

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

730nm

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage	VF		1.7	2.0	V	IF=20mA
Total Radiated Power	PO		8.7		mW	IF=20mA
Radiant Intensity	IE		7.1		mW/sr	IF=20mA
Peak Wavelength	λ_p	720		740	nm	IF=20mA
Half Width	$\Delta\lambda$		24		nm	IF=20mA
Viewing Half Angle	$\theta_{1/2}$		± 66		deg.	IF=20mA
Rise Time	tr		35		ns	IF=20mA
Fall Time	tf		60		ns	IF=20mA

‡ Radiated Power is measured by S3584-08.

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

805nm

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage	VF		1.7	1.9	V	IF=20mA
Total Radiated Power	PO		11		mW	IF=20mA
Radiant Intensity	IE		10		mW/sr	IF=20mA
Peak Wavelength	λ_p	795		815	nm	IF=20mA
Half Width	$\Delta\lambda$		22		nm	IF=20mA
Viewing Half Angle	$\theta_{1/2}$		± 62		deg.	IF=20mA
Rise Time	tr		35		ns	IF=20mA
Fall Time	tf		30		ns	IF=20mA

‡ Radiated Power is measured by S3584-08.

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

940nm

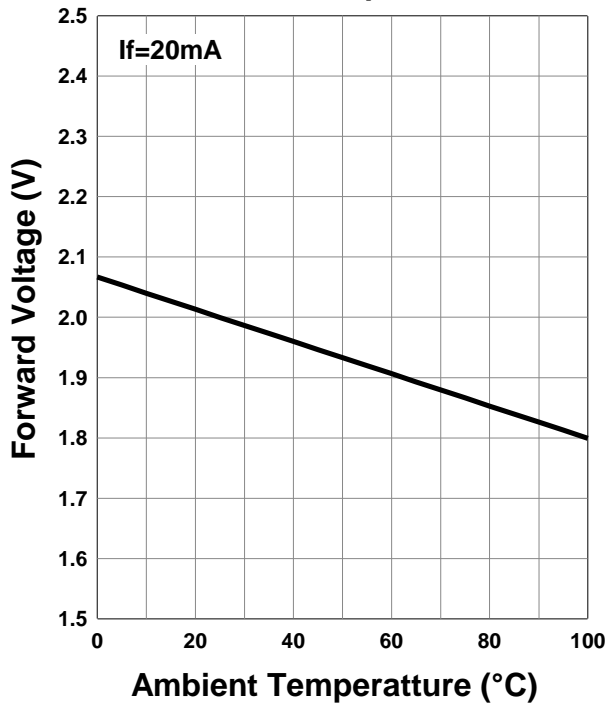
Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage	VF		1.2	1.4	V	IF=20mA
Total Radiated Power	PO		4.8		mW	IF=20mA
Radiant Intensity	IE		4.0		mW/sr	IF=20mA
Peak Wavelength	λ_p	930		950	nm	IF=20mA
Half Width	$\Delta\lambda$		50		nm	IF=20mA
Viewing Half Angle	$\theta_{1/2}$		± 67		deg.	IF=20mA
Rise Time	tr		200		ns	IF=20mA
Fall Time	tf		800		ns	IF=20mA

‡ Radiated Power is measured by S3584-08.

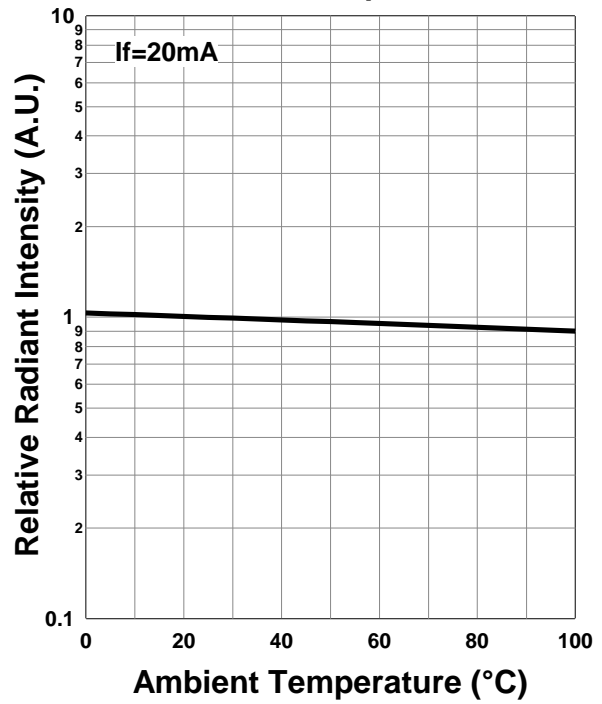
‡ Radiant Intensity is measured by CIE127-2007 Condition B.

660nm

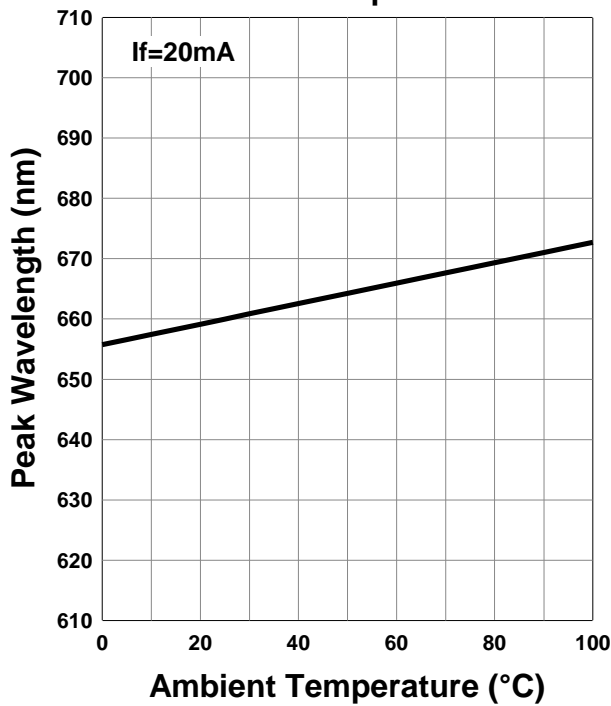
Forward Voltage - Ambient Temperature



Relative Radiant Intensity - Ambient Temperature

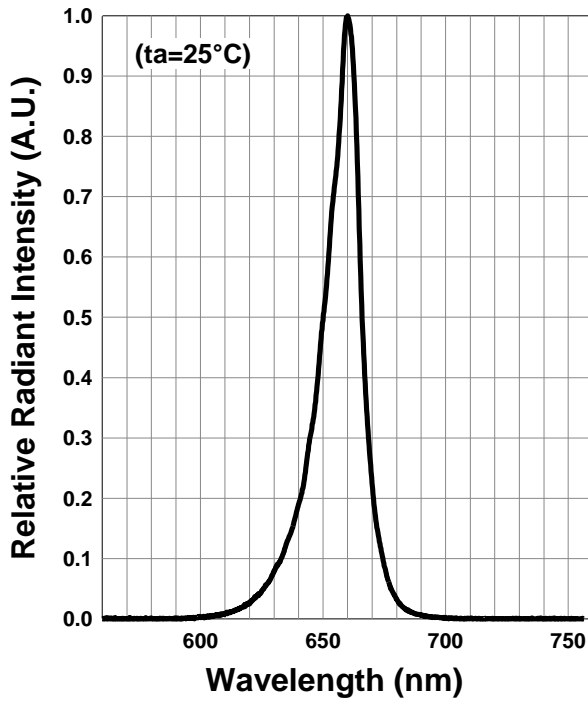


Peak Wavelength - Ambient Temperature

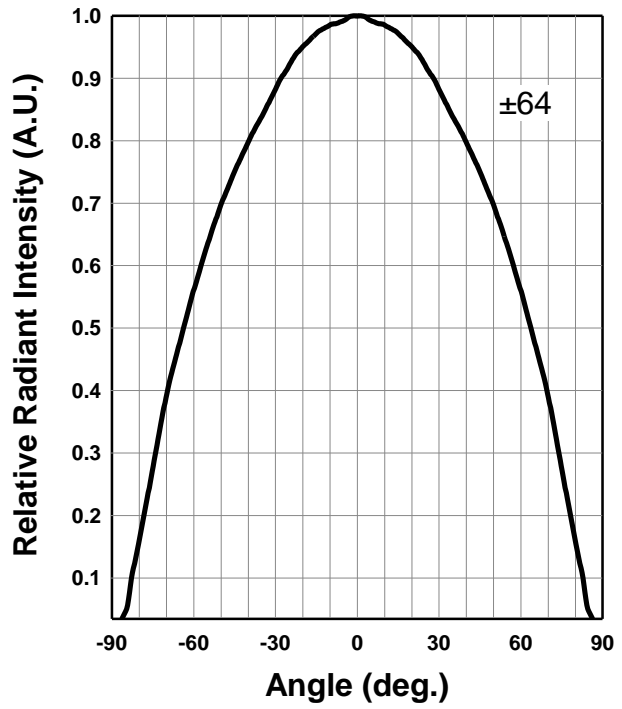


660nm

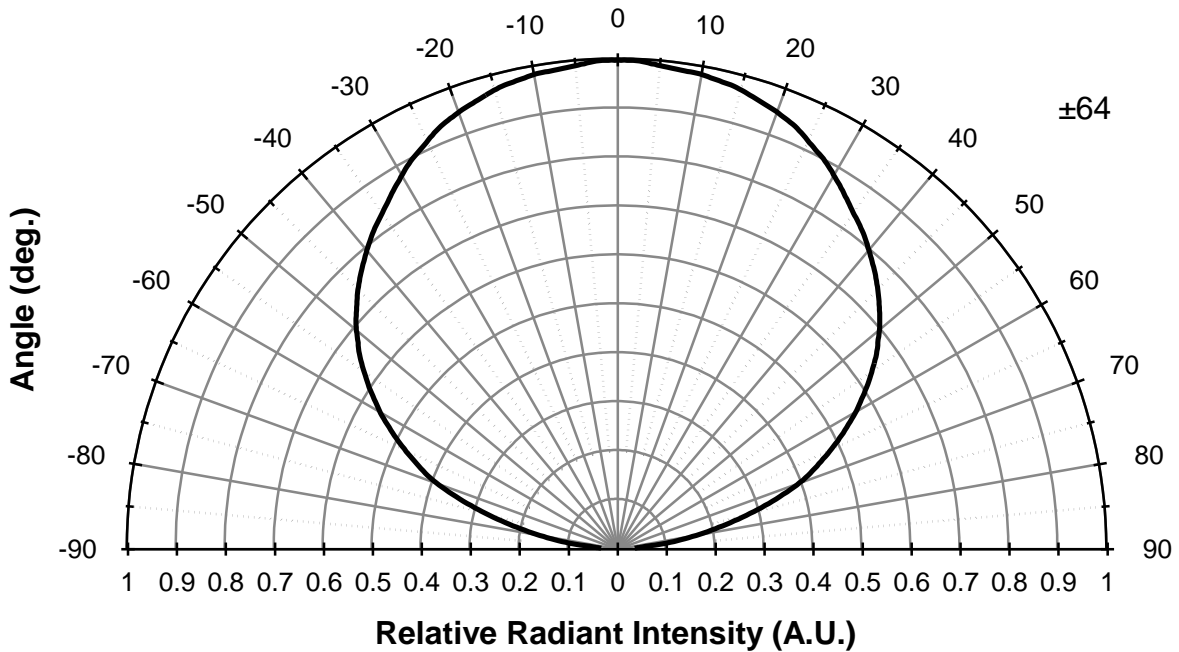
Relative Spectral Emission



Radiation Characteristics



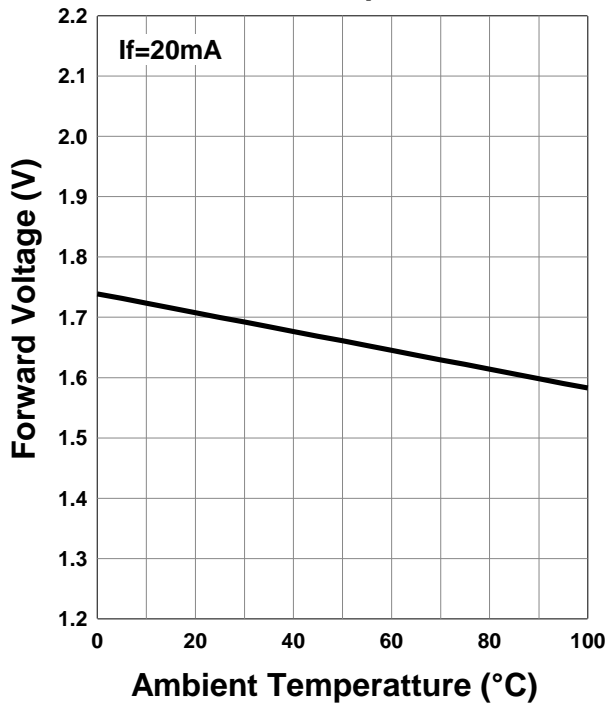
Radiation Characteristics



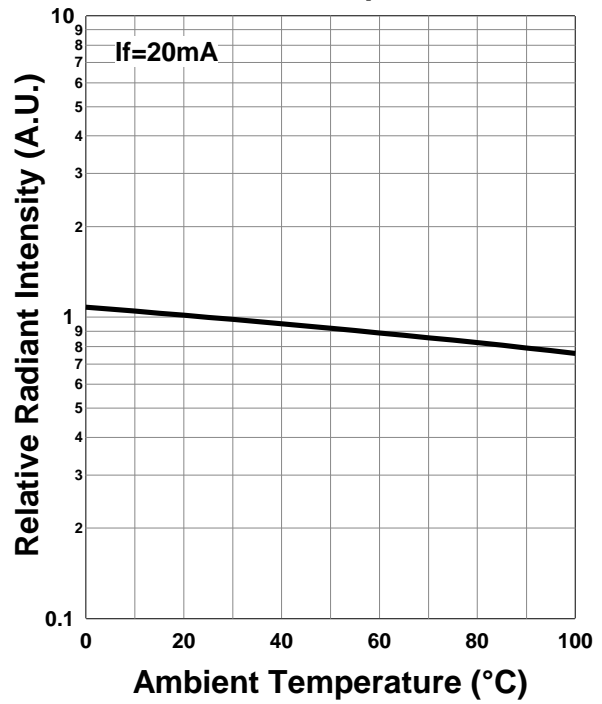
Data Sheet SMB660D/730/805D/940-4040

730nm

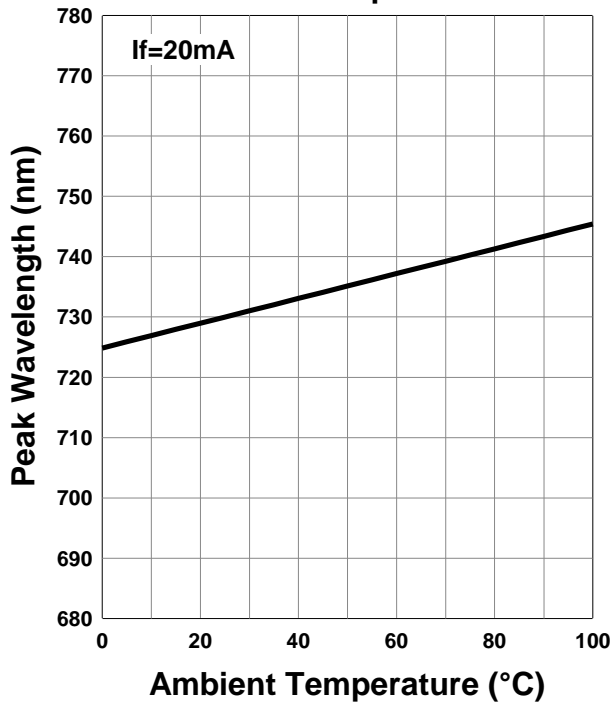
Forward Voltage - Ambient Temperature



Relative Radiant Intensity - Ambient Temperature

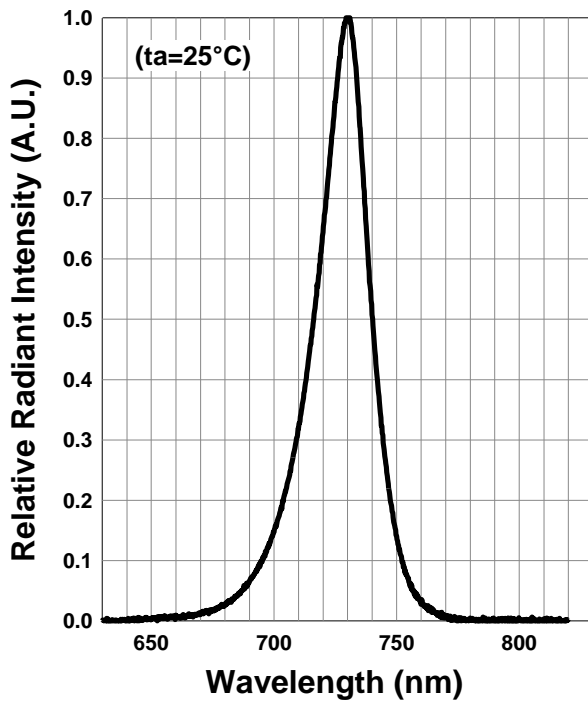


Peak Wavelength - Ambient Temperature

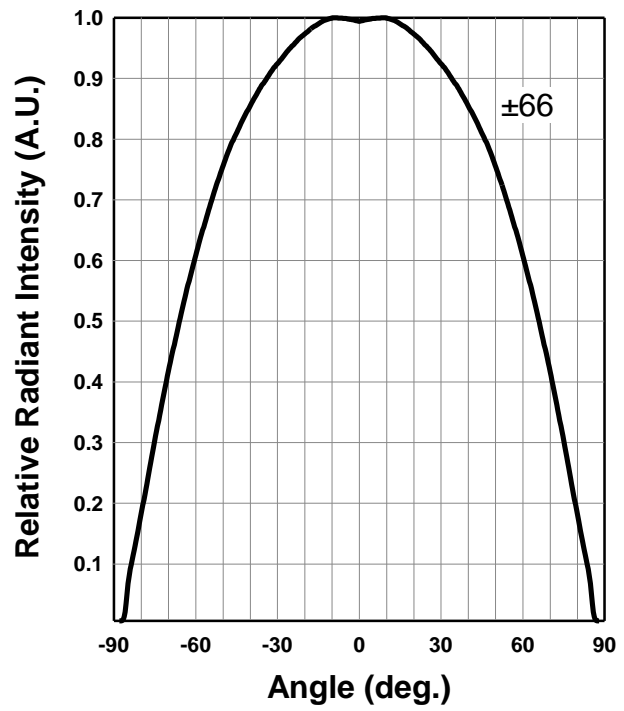


730nm

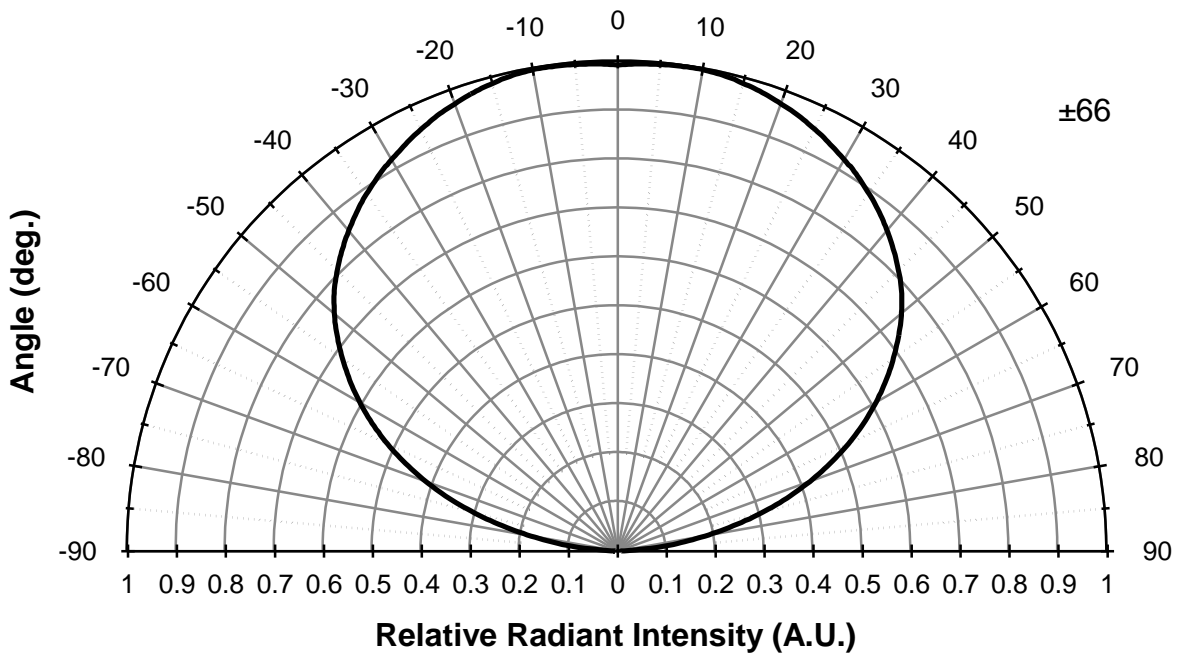
Relative Spectral Emission



Radiation Characteristics



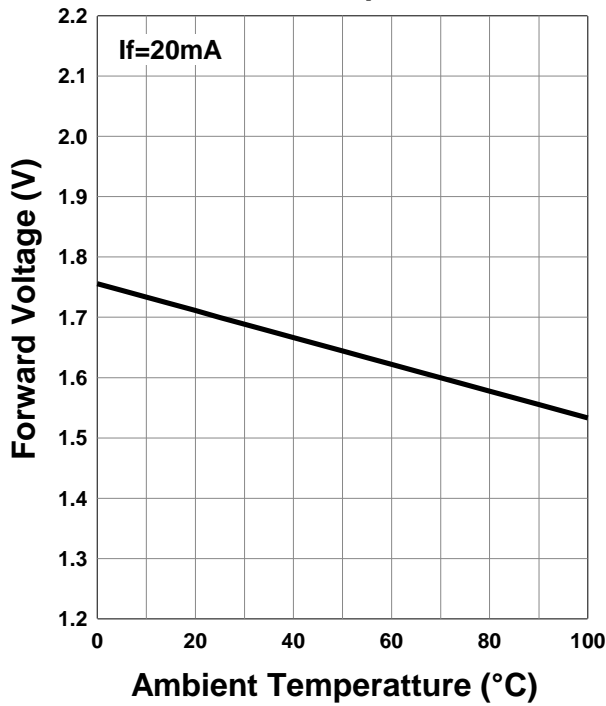
Radiation Characteristics



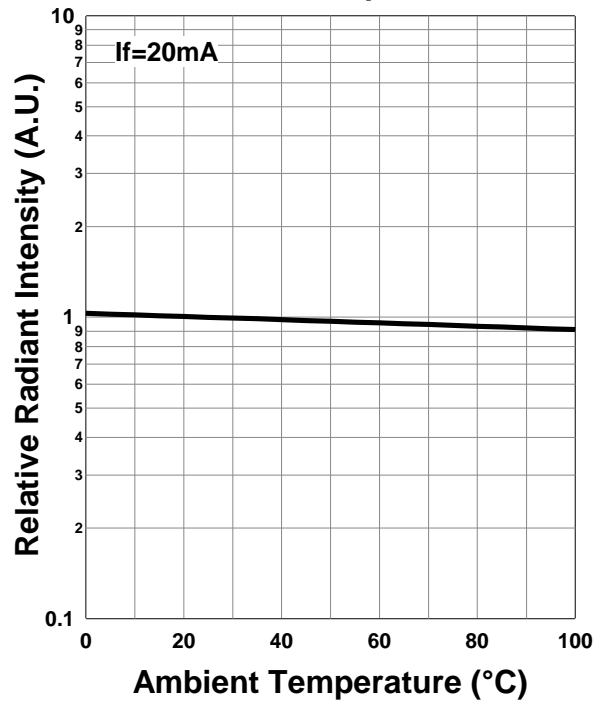
Data Sheet SMB660D/730/805D/940-4040

805nm

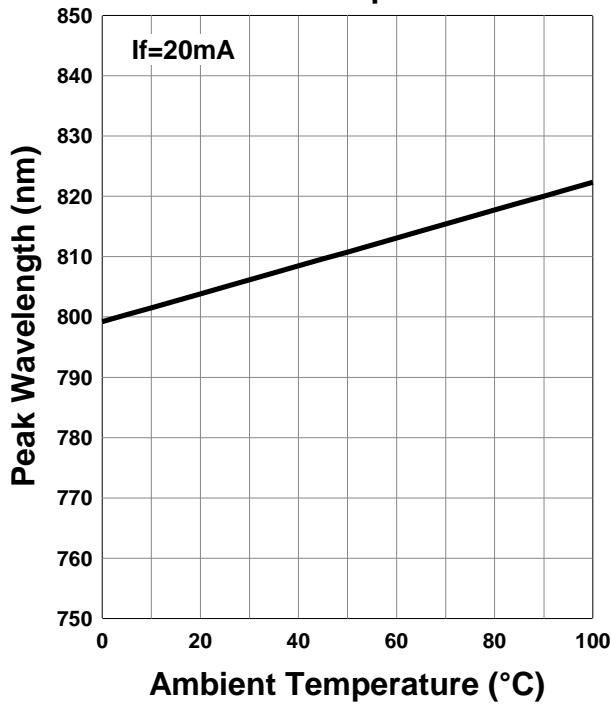
Forward Voltage - Ambient Temperature



Relative Radiant Intensity - Ambient Temperature

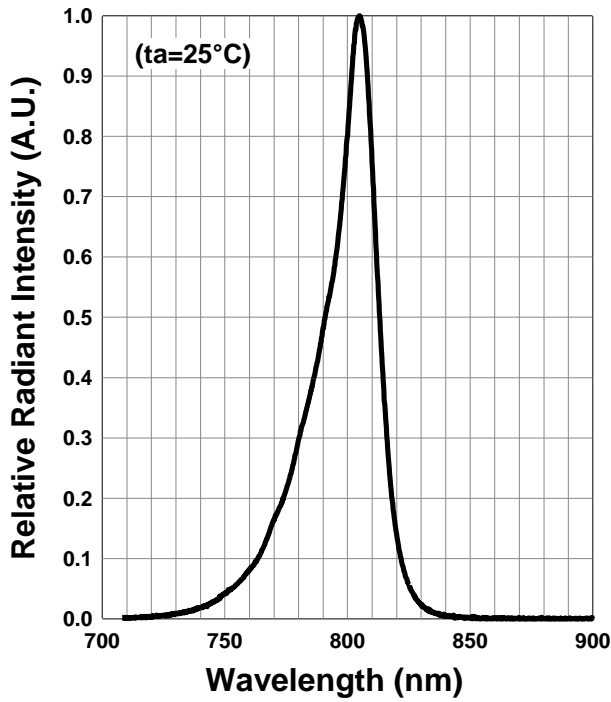


Peak Wavelength - Ambient Temperature

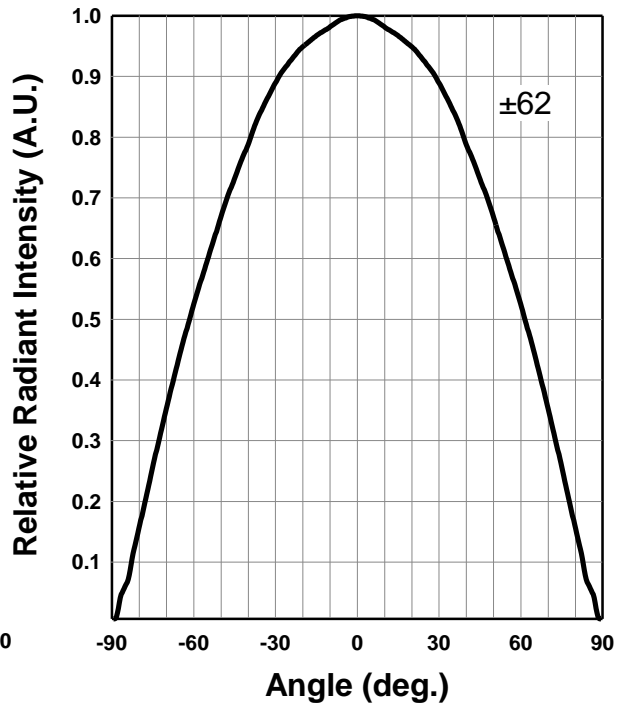


805nm

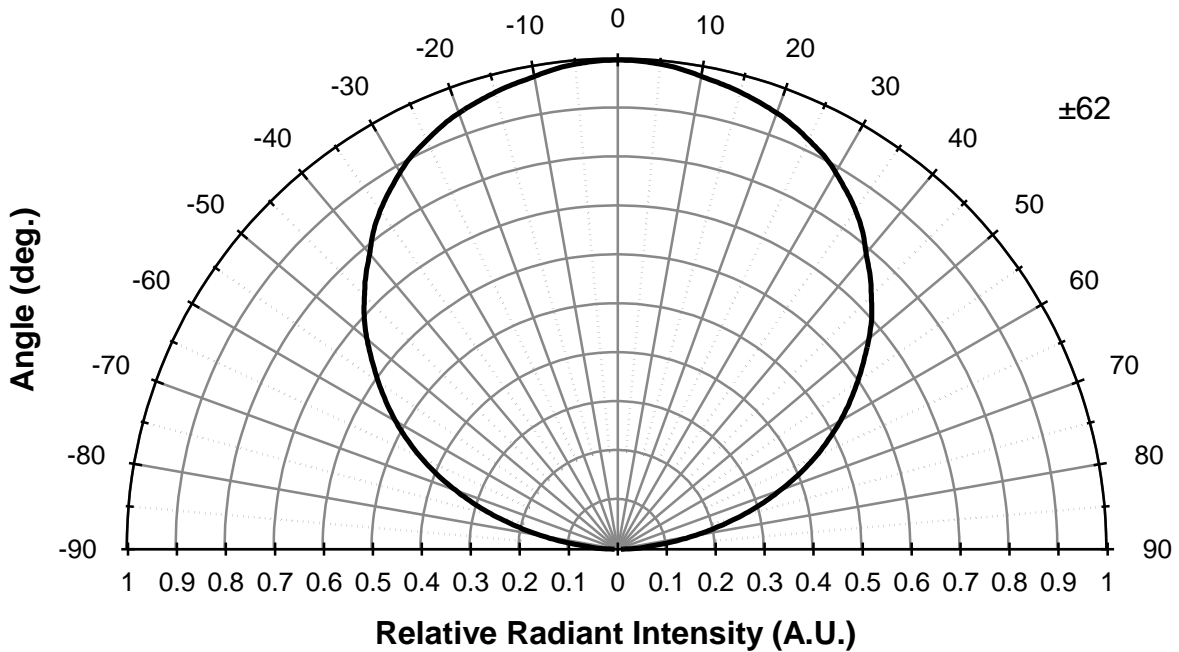
Relative Spectral Emission



Radiation Characteristics

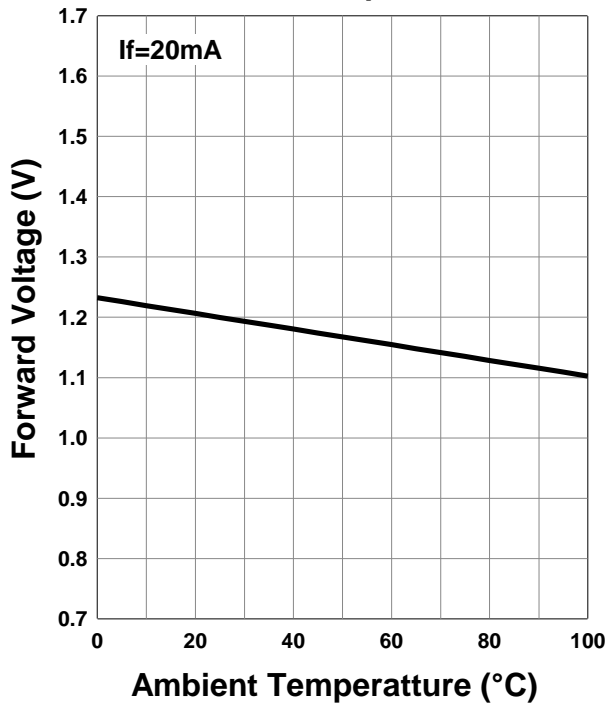


Radiation Characteristics

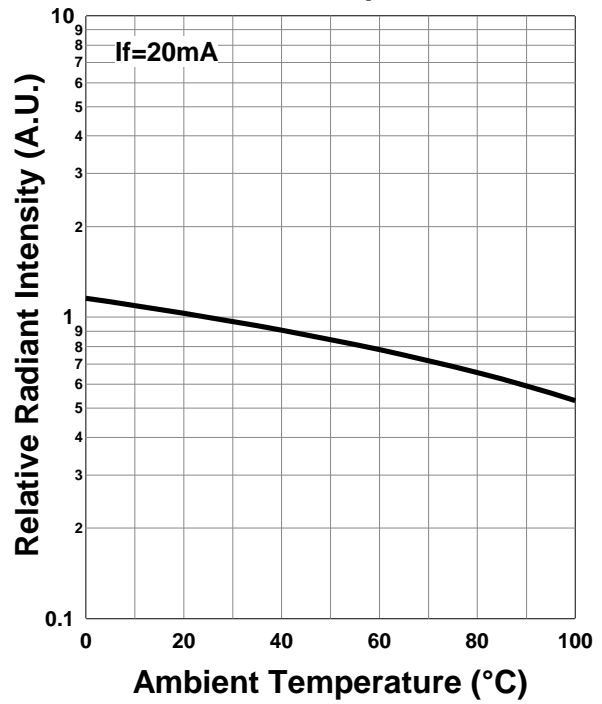


940nm

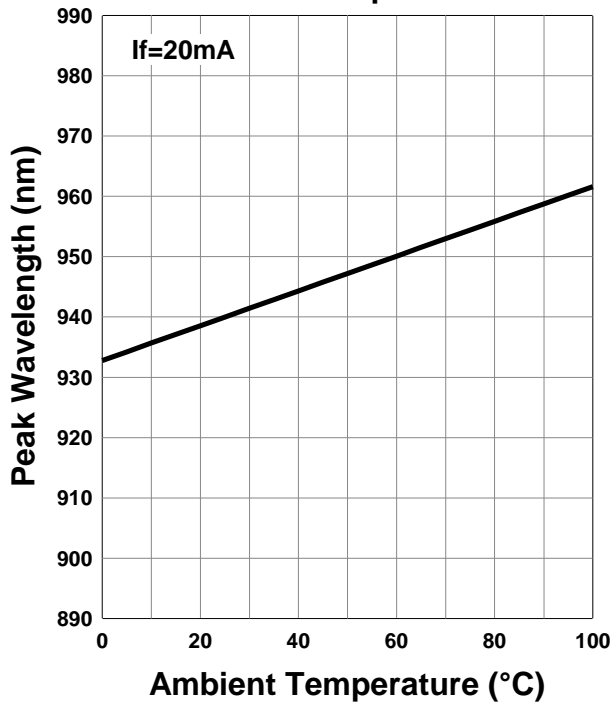
Forward Voltage - Ambient Temperature



Relative Radiant Intensity - Ambient Temperature

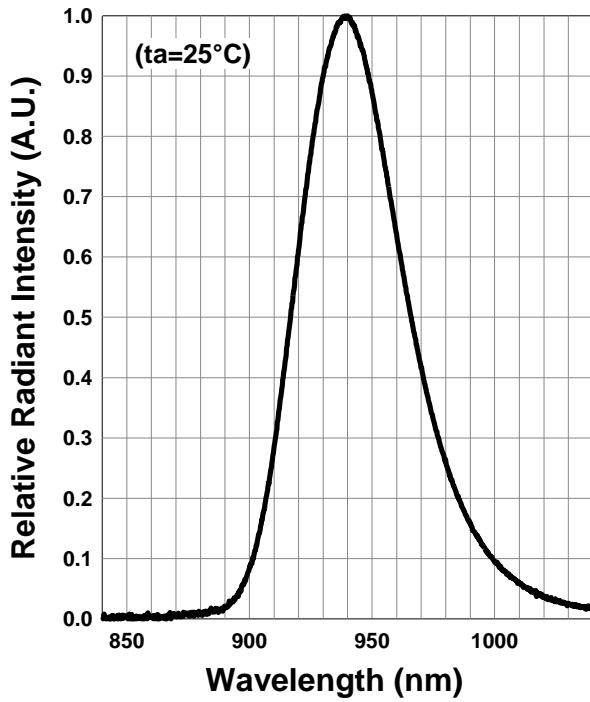


Peak Wavelength - Ambient Temperature

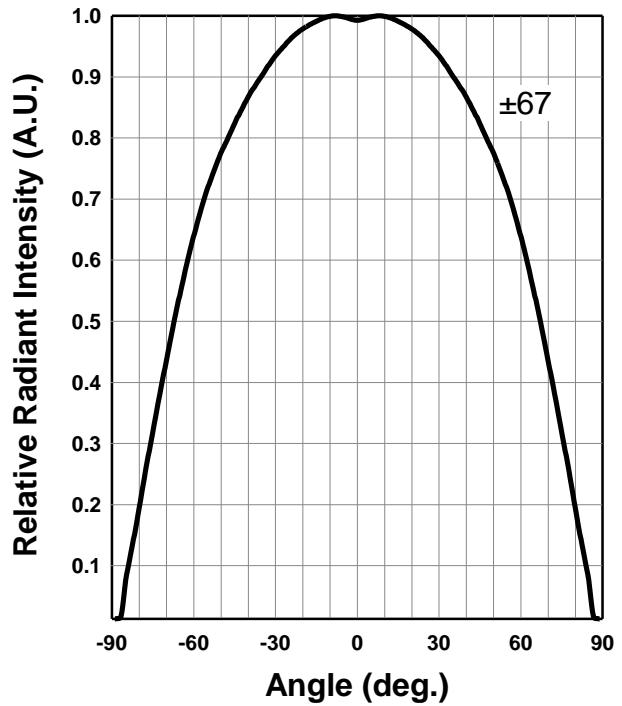


940nm

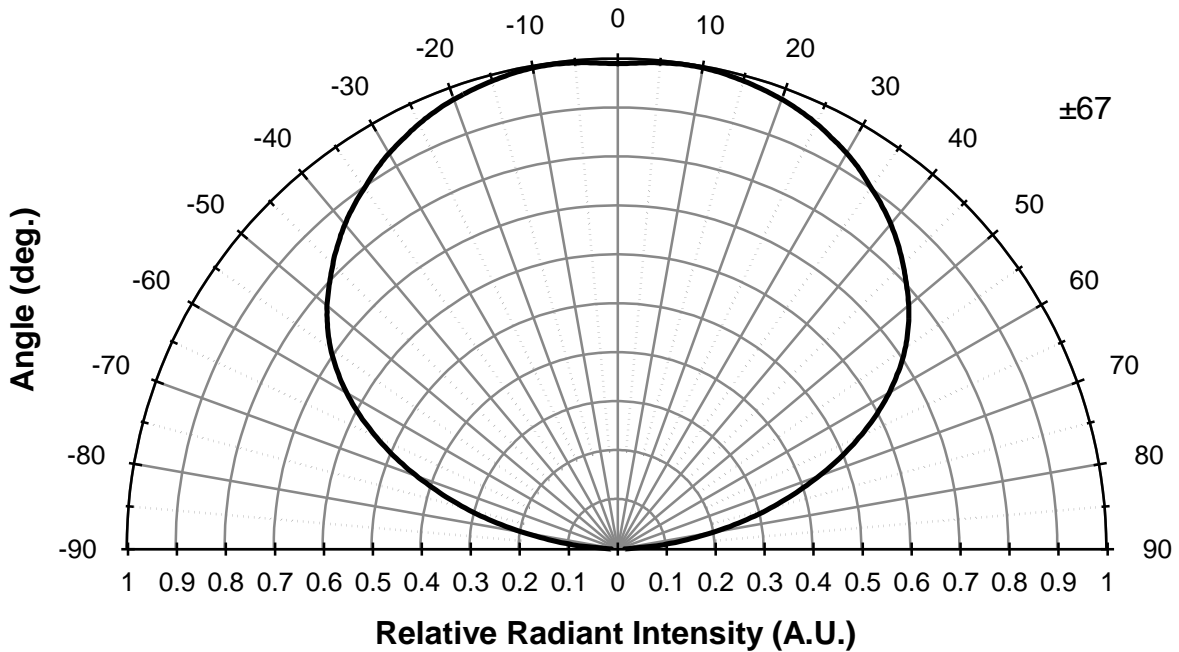
Relative Spectral Emission



Radiation Characteristics



Radiation Characteristics



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

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.

Products shown in this catalog are intended to be used for general electronic equipment.

Products are not guaranteed for applications where product malfunction or failure may cause personal injury or death, including but not limited to life-supporting / saving devices, medical devices, safety devices,



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