

SMBB470V-1100

High Power Top LED

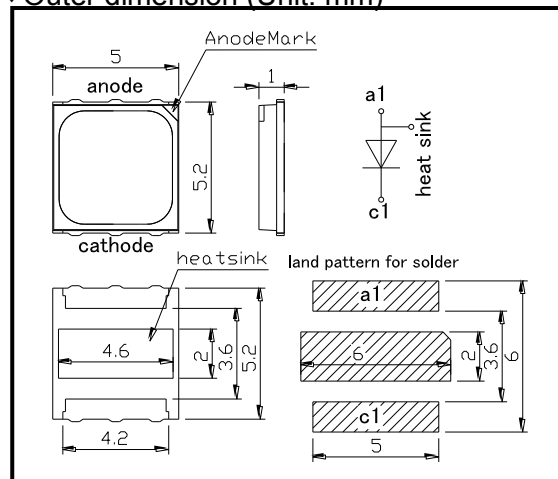
SMBB470V-1100 is a InGaN LED mounted on copper heat sink with a 5x5 mm package.

It emits peak wavelength at 470nm and brightness 14,000mcd typical respectively at $\pm 64^\circ$ of viewing angle.

◆ Specifications

- | | |
|---------------------|-------------------------|
| 1) Product Name | High Power Top LED |
| 2) Type No. | SMB470V-1100 |
| 3) Chip | |
| (1) Chip Material | InGaN |
| (2) Chip Dimension | 1000um*1000um |
| (3) Chip Number | 1pce |
| (4) Peak Wavelength | 470nm typ. |
| 4) Package | |
| (1) Lead Frame Die | Silver Plated on Copper |
| (2) Package Resin | PPA Resin |
| (3) Lens | Silicone Resin |

◆ Outer dimension (Unit: mm)



◆ Absolute Maximum Ratings [Ta=25°C]

Item	Symbol	Maximum Rated Value	Unit
Power Dissipation	P _D	2000	mW
Forward Current	I _F	500	mA
Pulse Forward Current	I _{FP}	800	mA
Reverse Voltage	V _R	5	V
Thermal Resistance	R _{thja}	10	K/W
Junction Temperature	T _j	100	°C
Operating Temperature	T _{OPR}	-40 ~ +85	°C
Storage Temperature	T _{STG}	-40 ~ +100	°C
Soldering Temperature	T _{SOL}	250	°C

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

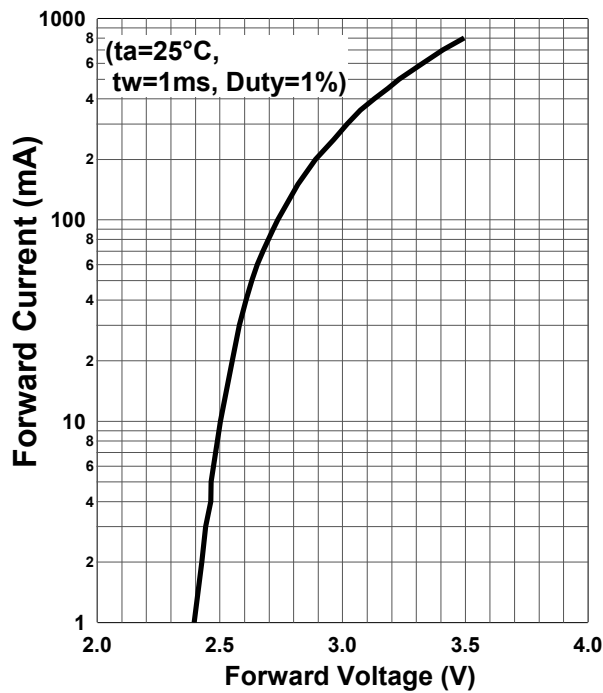
‡Soldering condition: Soldering condition must be completed within 5 seconds at 250°C

◆ Electro-Optical Characteristics [Ta=25°C typ.]

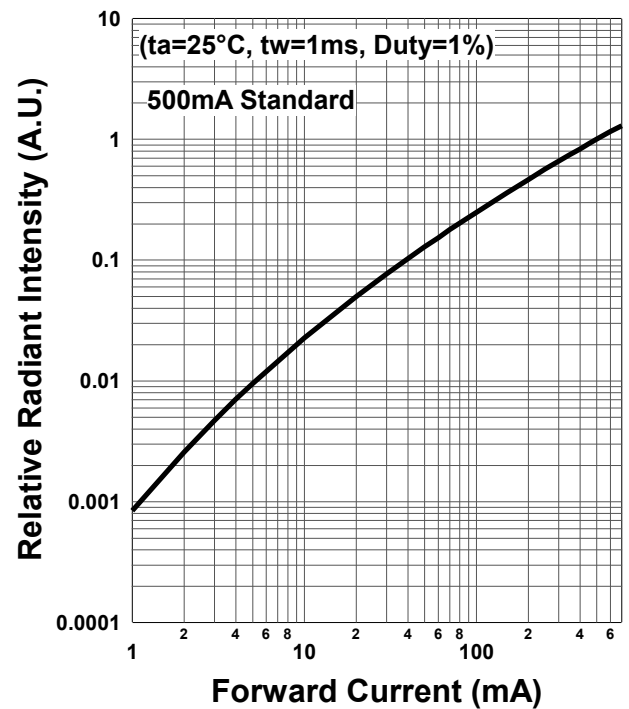
Item	Symbol	Condition	Minimum	Typical	Maximum	Unit
Forward Voltage	V _F	I _F =350mA		3.2	3.6	V
		I _F =500mA		3.4		
	V _{FP}	I _{FP} =800mA		4.0		V
Radiated Power	P _O	I _F =500mA		360		mW
		I _{FP} =800mA		600		mW
Brightness	I _v	I _F =500mA		14,000		mcd
Peak Wavelength	λ _P	I _F =500mA	460	470	480	nm
Half Width	Δλ	I _F =500mA		22		nm
Viewing Half Angle	θ _{1/2}	I _F =100mA		±64		deg.
Rise Time	t _r	I _F =500mA		120		ns
Fall Time	t _f	I _F =500mA		70		ns

‡Radiated Power is measured by S3584-08.

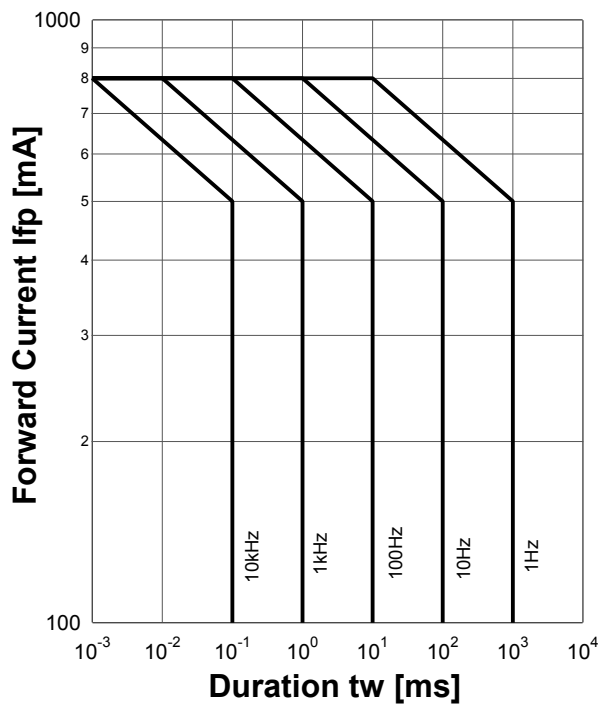
Forward Current - Forward Voltage



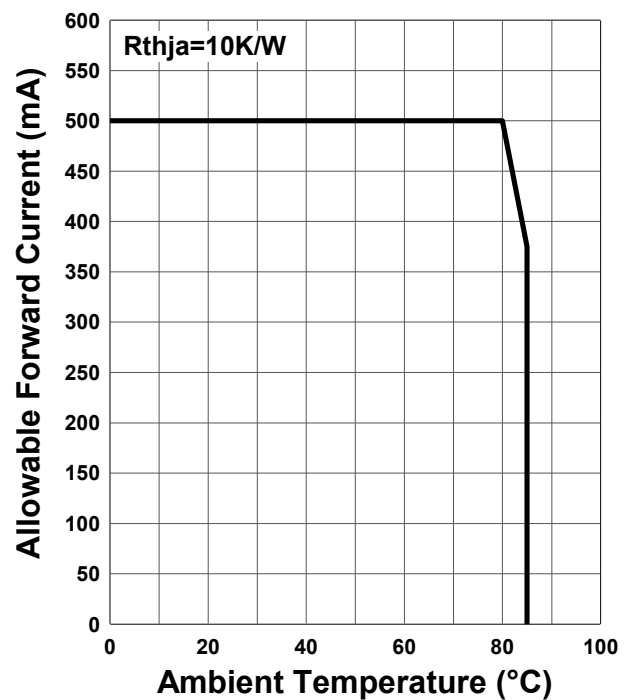
Relative Radiant Intensity - Forward Current

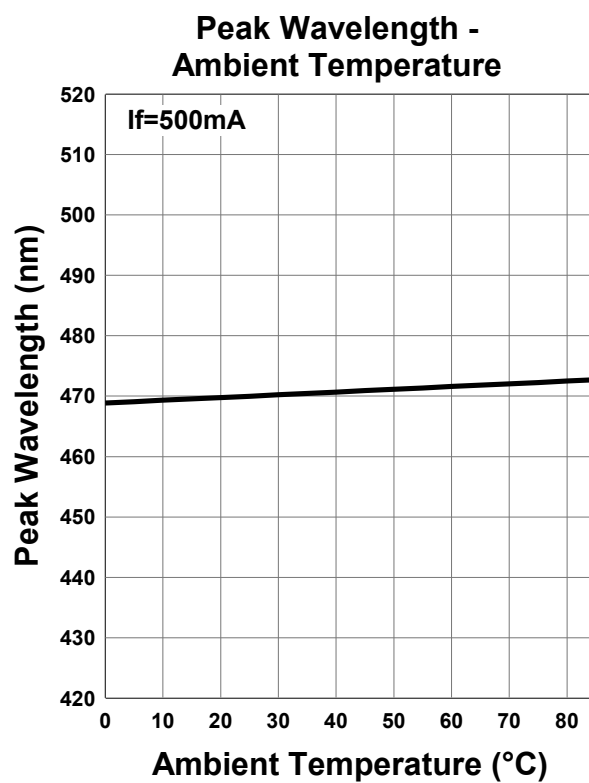
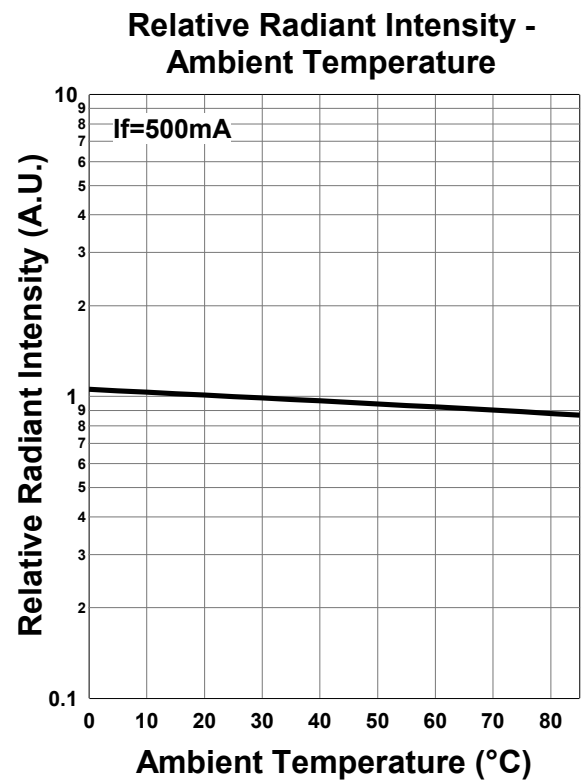
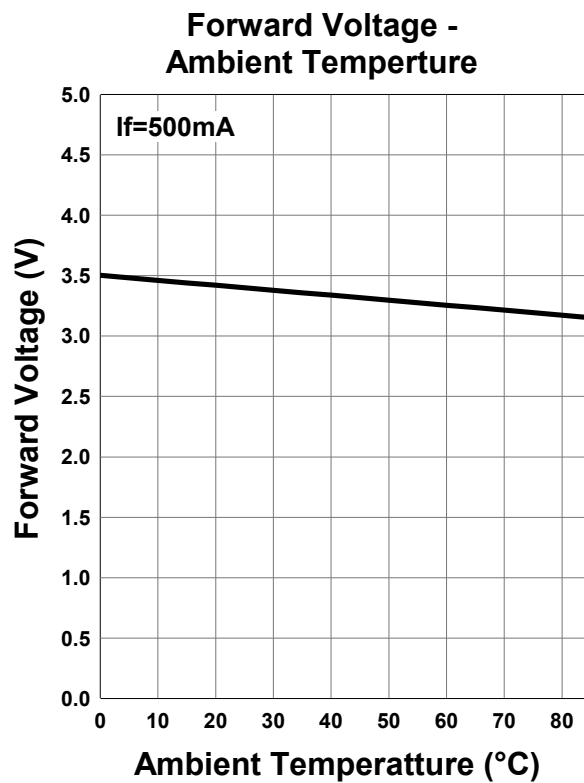


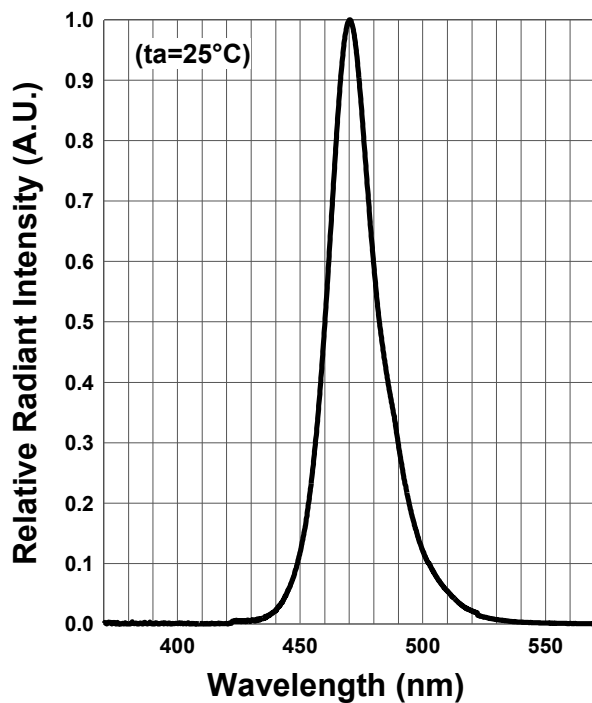
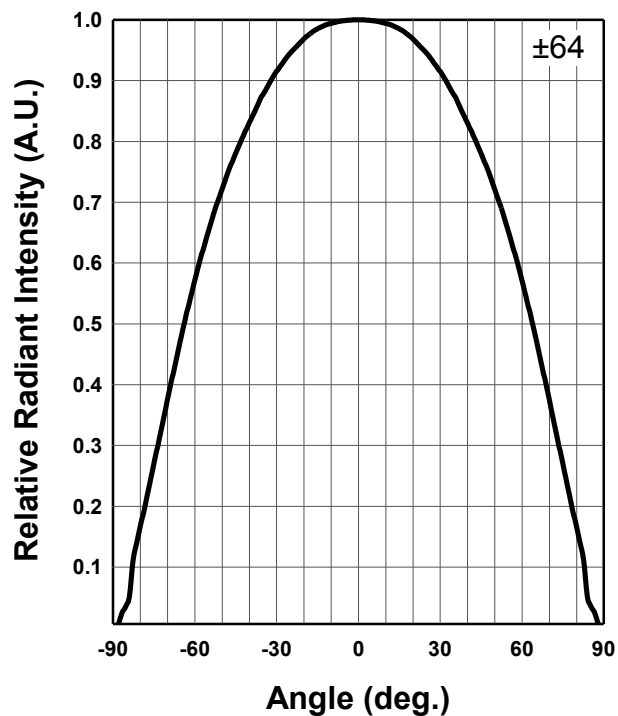
Forward Current - Pulse Duration



Allowable Forward Current - Ambient Temperature





Relative Spectral Emission**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.

<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.

※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.

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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