

Lead (Pb) Free Product – RoHS Compliant

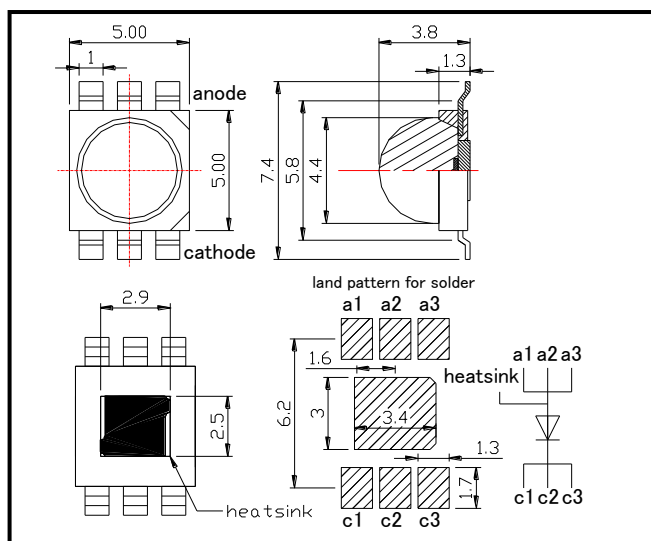
# SMB660N-1100-05 High Power type Top LED with Lens

SMB660N-1100-05 is an AlGaInP LED mounted on copper heat sink with a 5\*5 mm package. These devices are available to be operated and 850mW/sr at IFP=2A.

◆ Specifications

- 1) Product Name High Power Top LED
- 2) Type No. SMB660N-1100-05
- 3) Chip
  - (1) Chip Material AlGaInP
  - (2) Chip Dimension 1000um\*1000um
  - (3) Chip Number 1pce
  - (4) Peak Wavelength 660nm typ.
- 4) Package
  - (1) Lead Frame Die Silver Plated on Copper
  - (2) Package Resin PPA Resin
  - (3) Lens Epoxy Resin

◆ Outer dimension (Unit: mm)



◆ Absolute Maximum Ratings

Item	Symbol	Maximum Rated Value	Unit	Ambient Temperature
Power Dissipation	PD	1600	mW	Ta=25°C
Forward Current	IF	600	mA	Ta=25°C
Pulse Forward Current	IFP	2000	mA	Ta=25°C
Reverse Voltage	VR	5	V	Ta=25°C
Thermal Resistance	Rthja	10	K/W	
Junction Temperature	Tj	100	°C	
Operating Temperature	TOPR	-30 ~ +85	°C	
Storage Temperature	TSTG	-30 ~ +100	°C	
Soldering Temperature	TSOL	255	°C	

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

‡Soldering condition: Soldering condition must be completed within 5 seconds at 255°C

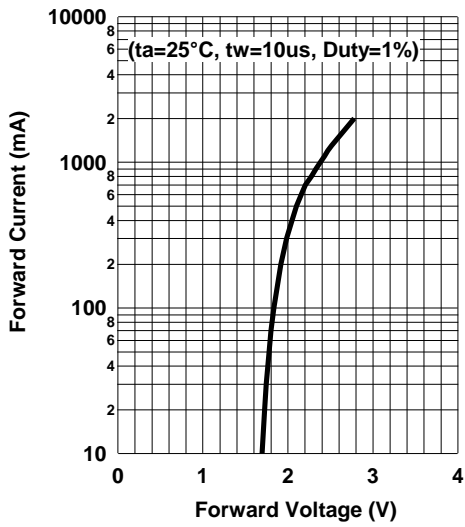
◆ Electro-Optical Characteristics [Ta=25°C]

Item	Symbol	Condition	Minimum	Typical	Maximum	Unit
Forward Voltage	VF	IF=500mA		2.1	2.4	V
	VFP	IFP=2A		2.8	3.3	V
Radiated Power	Po	IF=500mA		350		mW
		IFP=2A		1400		mW
Radiant Intensity	IE	IF=500mA		250		mW/sr
		IFP=2A		850		mW/sr
Brightness	Iv	IF=500mA		19500		mcd
		IFP=2A		66000		mcd
Peak Wavelength	λP	IF=100mA		660		nm
Half Width	Δλ	IF=100mA		14		nm
Viewing Half Angle	θ 1/2	IF=100mA		±37		deg.
Rise Time	tr	IF=100mA		300		ns
Fall Time	tf	IF=100mA		30		ns

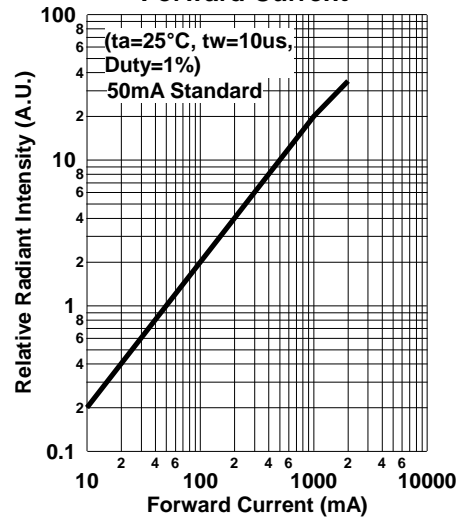
‡Radiated Power is measured by S3584-08.

‡Radiant Intensity is measured by Tektronix J-6512.

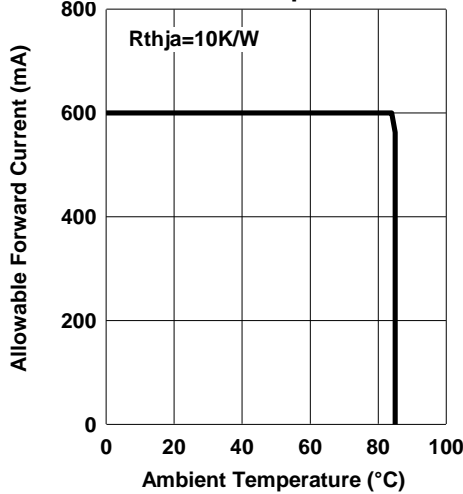
**Forward Current - Forward Voltage**



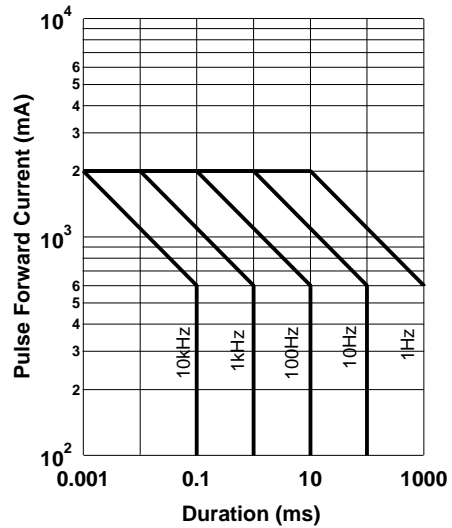
**Relative Radiant Intensity - Forward Current**



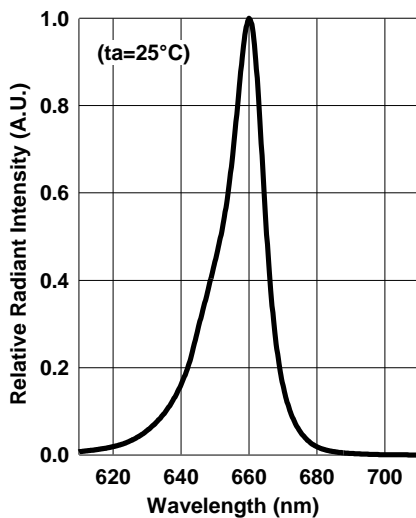
**Allowable Forward Current - Ambient Temperature**



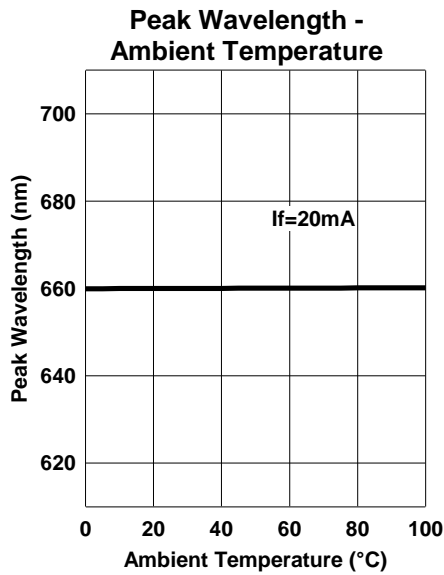
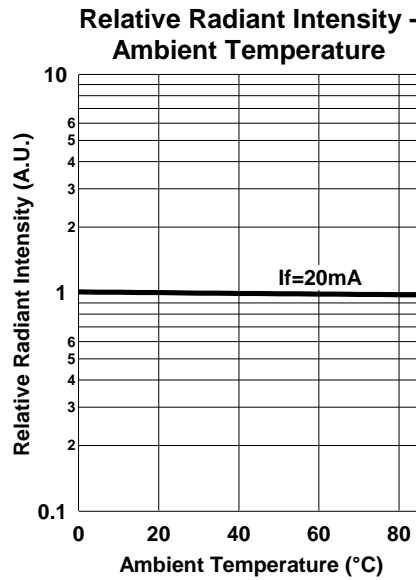
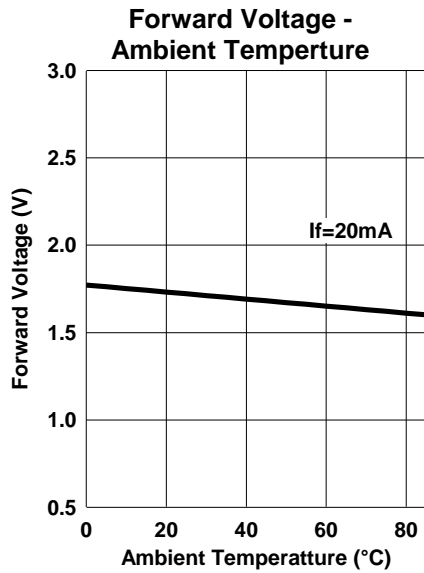
**Forward Current-Pulse Duration**



**Relative Spectral Emission**



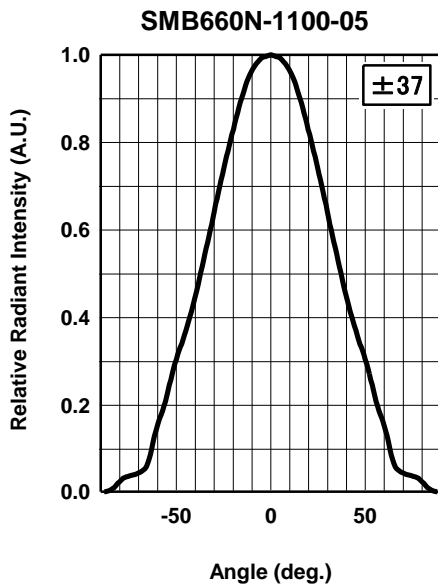
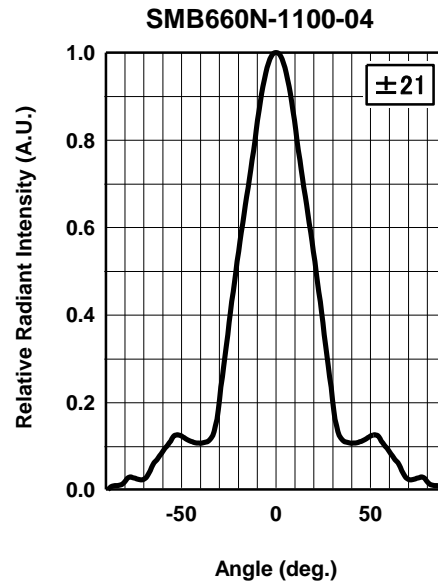
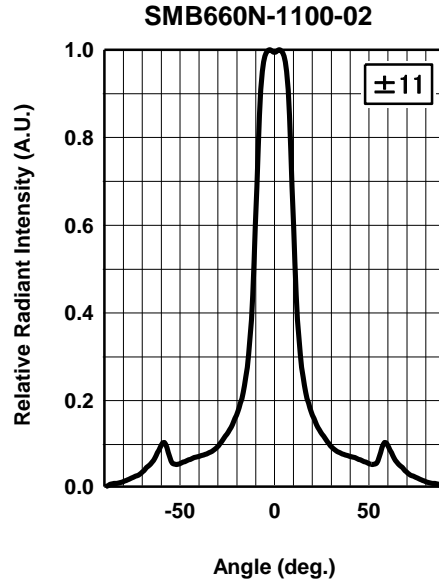
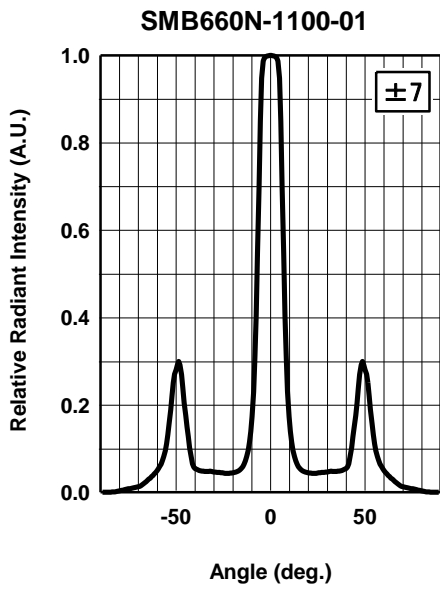
**Lead ( Pb ) Free Product – RoHS Compliant**



◆ Wrapping

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

Radiation Pattern



## 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 48 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 48-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.