

# SMC660N

High Performance Red Color SMD LED on ceramics

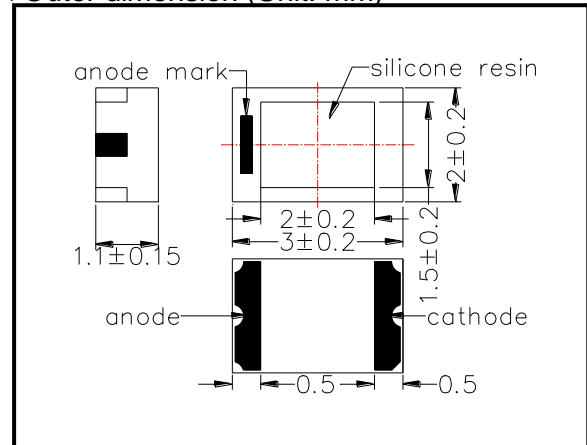
SMC660N consists of an AlGaInP LED mounted on the ceramics package and is sealed with silicone or epoxy resin.

It emits a spectral band of radiation at 660nm.

### ◆ Specifications

- 1) Product Name      SMD type Red Color LED
- 2) Type No.            SMC660N
- 3) Chip
  - (1) Chip Material      AlGaInP
  - (2) Chip Dimension    350um\*350um
  - (3) Peak Wavelength  660nm typ.
- 4) Package
  - (1) Package Resin     Ceramics
  - (2) Lens                 Silicone or Epoxy resin

### ◆ Outer dimension (Unit: mm)



### ◆ Absolute Maximum Ratings [Ta=25°C]

Item	Symbol	Maximum Rated Value	Unit
Power Dissipation	PD	130	mW
Forward Current	IF	50	mA
Pulse Forward Current	IFP	200	mA
Reverse Voltage	VR	5	V
Thermal Resistance	Rthja	110	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

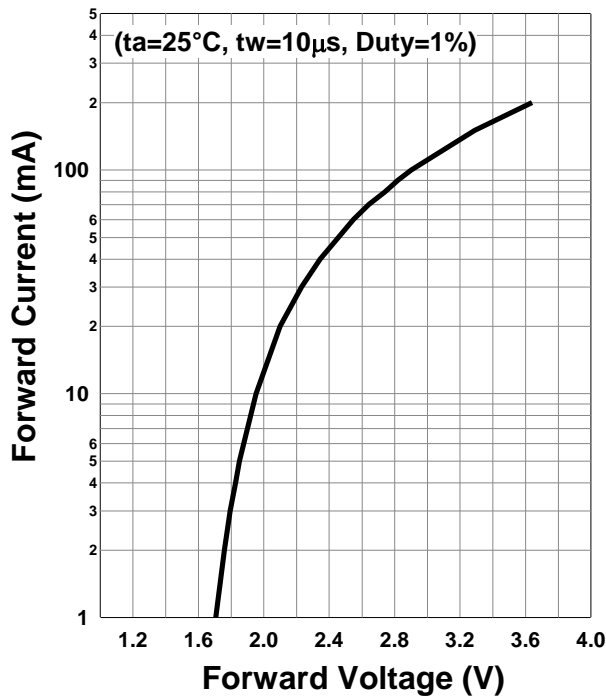
### ◆ Electro-Optical Characteristics [Ta=25°C typ.]

Item	Symbol	Condition	Minimum	Typical	Maximum	Unit
Forward Voltage	VF	IF=20mA		2.1	2.5	V
	VFP	IFP=200mA		3.6		
Radiated Power	Po	IF=20mA		11		mW
		IFP=200mA		115		
Radiant Intensity	IE	IF=20mA		4.5		mW/sr
		IFP=200mA		47		
Peak Wavelength	λP	IF=20mA	650	660	670	nm
Half Width	Δλ	IF=20mA		16		nm
Viewing Half Angle	θ 1/2	IF=20mA		±59		deg.
Rise Time	tr	IF=20mA		35		ns
Fall Time	tf	IF=20mA		35		ns

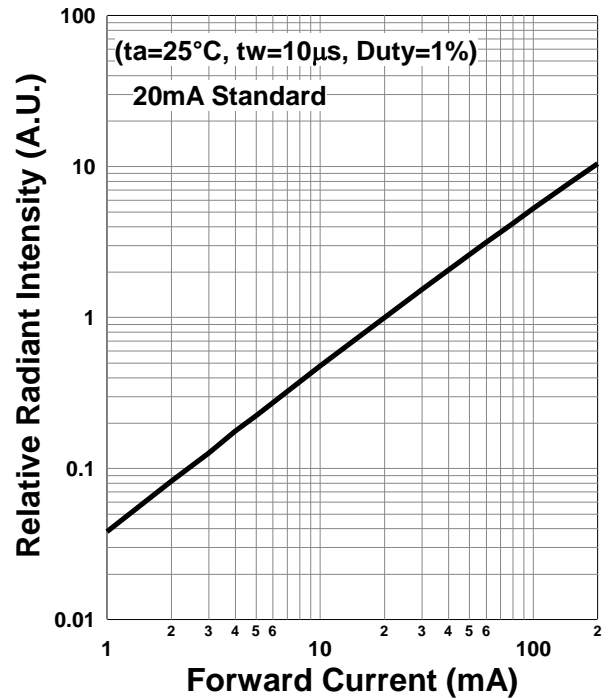
‡Radiated Power is measured by S3584-08.

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

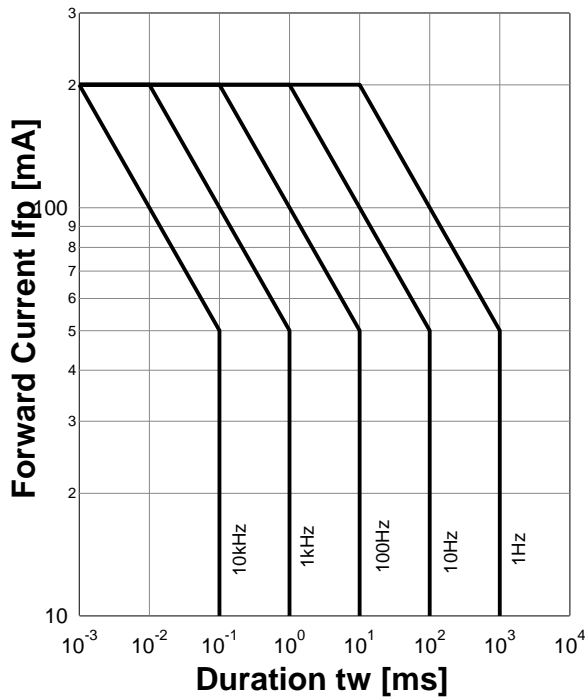
**Forward Current - Forward Voltage**



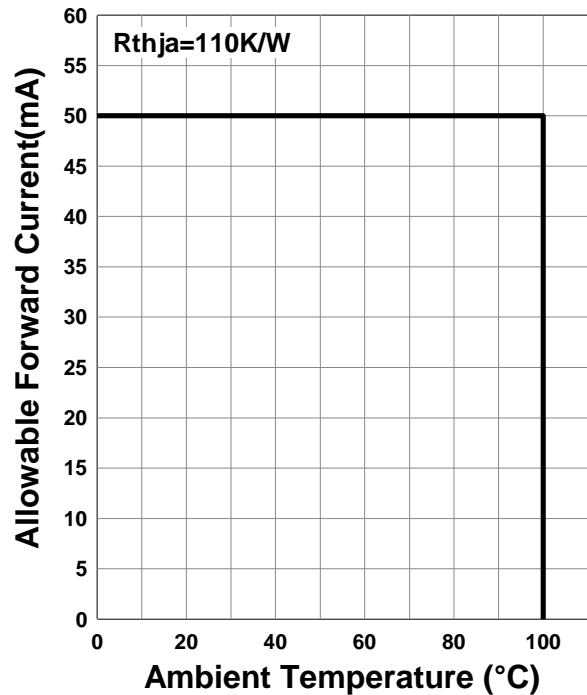
**Relative Radiant Intensity - Forward Current**



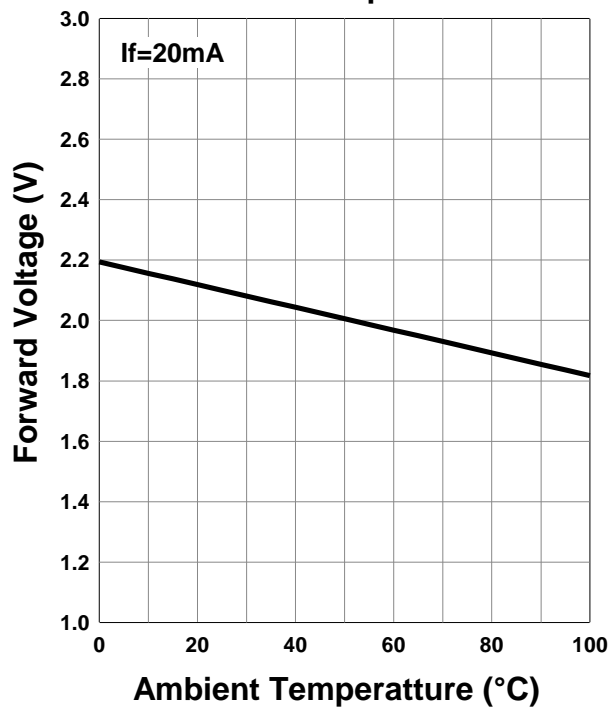
**Forward Current - Pulse Duration**



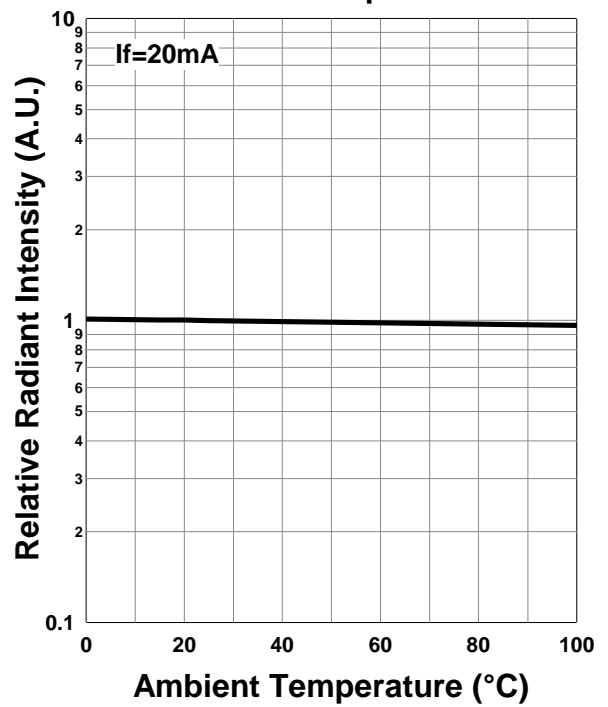
**Allowable Forward Current - Ambient Temperature**



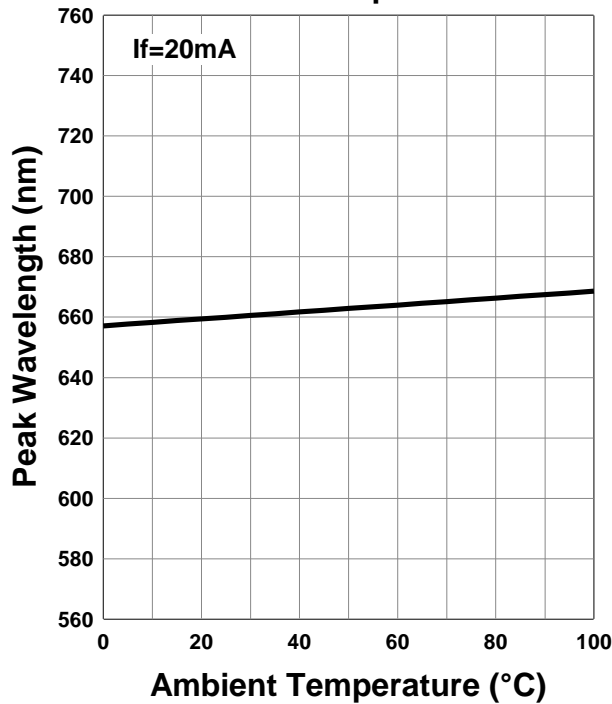
**Forward Voltage - Ambient Temperature**



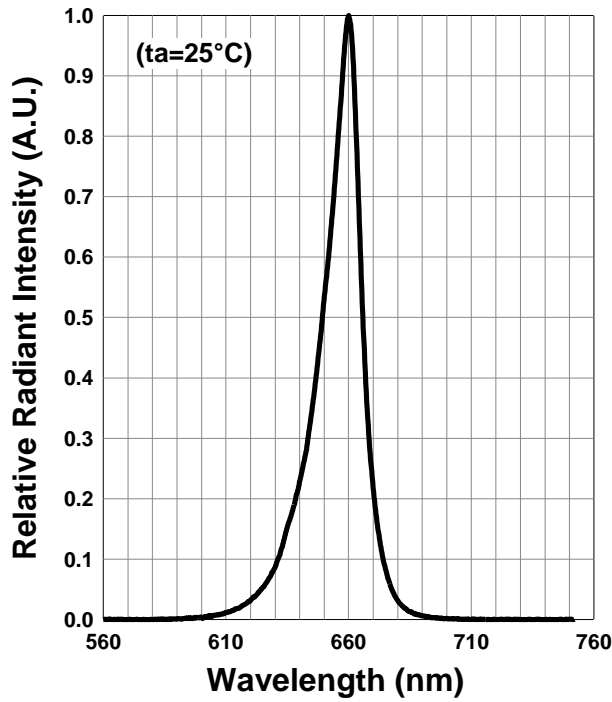
**Relative Radiant Intensity - Ambient Temperature**



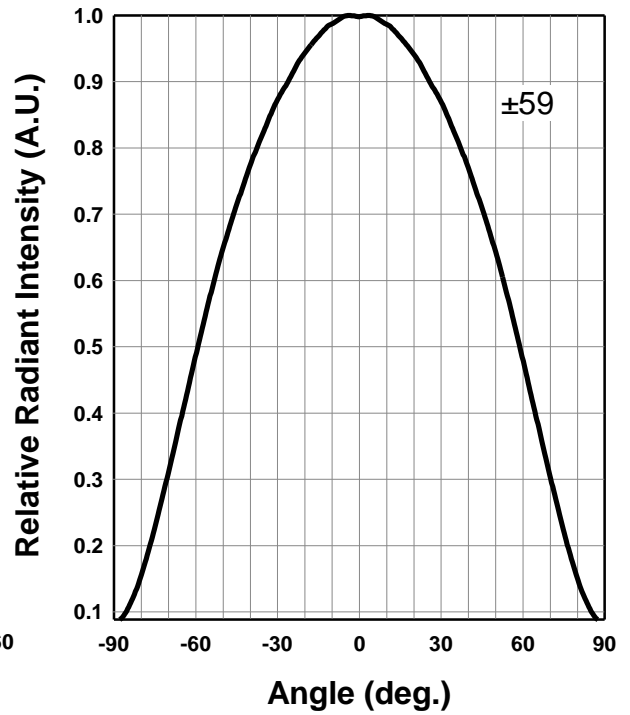
**Peak Wavelength - Ambient Temperature**



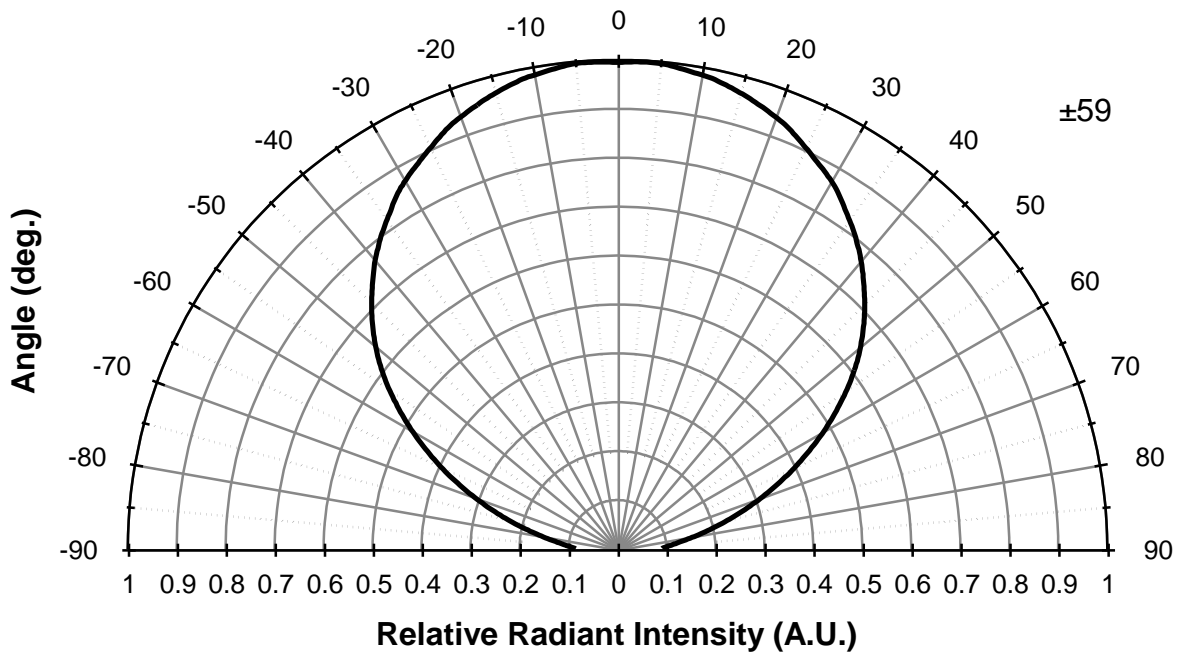
Relative Spectral Emission



Radiation Characteristics

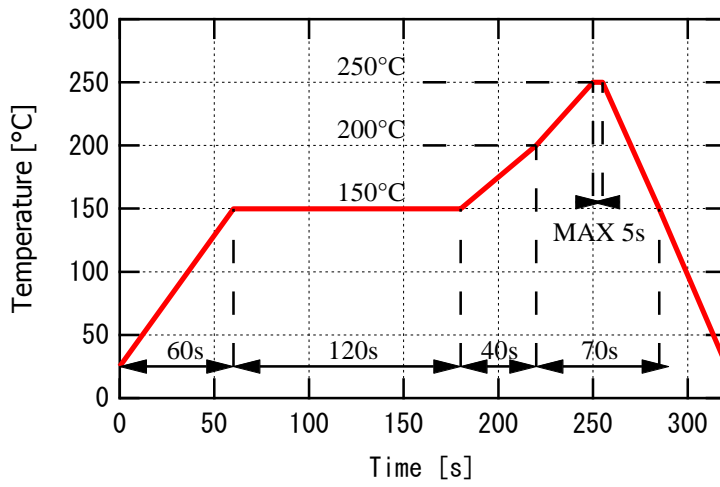


Radiation Characteristics



◆ SMD Application

IR-Reflow Soldering Profile for lead free soldering



Don't put stress on SMD and a circuit board after soldering.

## ◆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**

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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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