

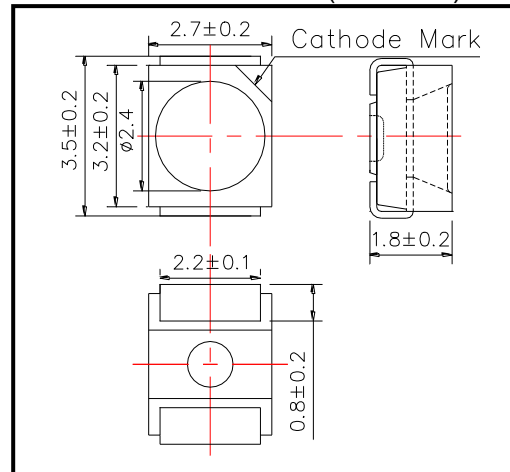
SMT450 High Performance Blue color TOP LED

SMT450 consists of an InGaN LED mounted on the lead frame as TOP LED package and is 200mcd typical of Brightness. It emits a spectral band of radiation at 450nm.

◆ Specifications

- 1) Product Name TOP LED
- 2) Type No. SMT450
- 3) Chip
 - (1) Chip Material InGaN
 - (2) Peak Wavelength 450nm typ.
- 4) Package
 - (1) Lead Frame Die Silver Plated
 - (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 | P _D | 190 | mW | T _a =25°C |
| Forward Current | I _F | 50 | mA | T _a =25°C |
| Pulse Forward Current | I _{FP} | 200 | mA | T _a =25°C |
| Reverse Voltage | V _R | 5 | V | T _a =25°C |
| Operating Temperature | T _{OPR} | -30 ~ +80 | °C | |
| Storage Temperature | T _{STG} | -40 ~ +80 | °C | |
| Soldering Temperature | T _{SOL} | 255 | °C | |

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

‡Soldering condition: Soldering condition must be completed within 10 seconds at 255°C

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

| Item | Symbol | Condition | Minimum | Typical | Maximum | Unit |
|--------------------|------------------|----------------------|---------|---------|---------|-------|
| Forward Voltage | V _F | I _F =20mA | | 3.3 | 4.0 | V |
| Reverse Current | I _R | V _R =5V | | | 10 | uA |
| Radiated Power | P _O | I _F =20mA | | 16 | | mW |
| Radiant Intensity | I _E | I _F =20mA | | 4 | | mW/sr |
| Brightness | I _V | I _F =20mA | 100 | 200 | | mcd |
| Peak Wavelength | λ _P | I _F =20mA | 440 | 450 | 460 | nm |
| Half Width | Δλ | I _F =20mA | | 20 | | nm |
| Viewing Half Angle | θ _{1/2} | I _F =20mA | | ±55 | | deg. |

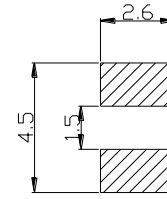
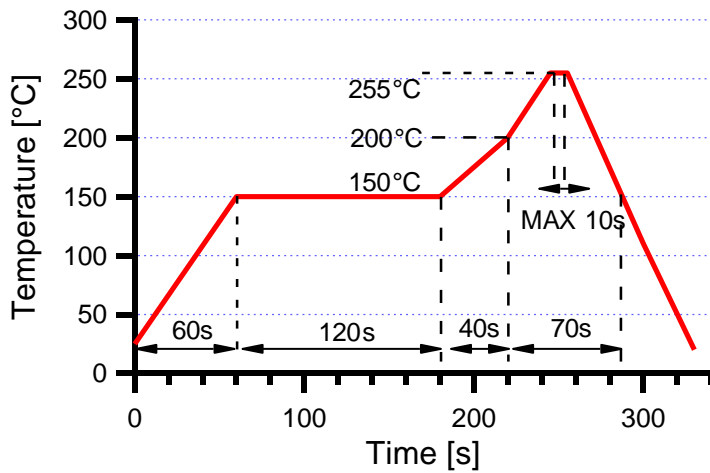
‡Radiated Power is measured by S3584-08.

‡Radiant Intensity is measured by Tektronix J-6512.

‡Brightness is measured by Tektronix J-16.

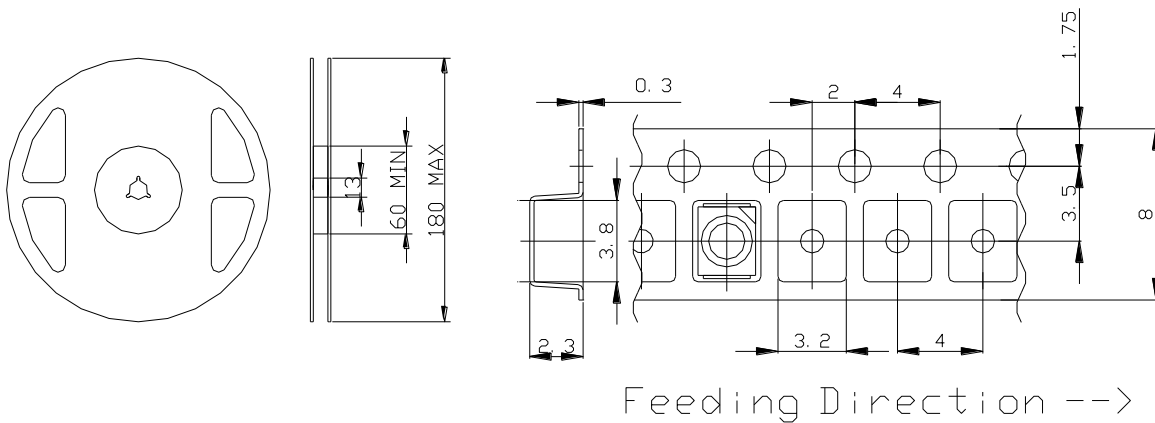
◆ SMD Application
IR-Reflow Soldering Profile for lead free soldering

Recommended Land Layout (Unit: mm)



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

◆ SMD Packing
Tape and Reel Dimensions (Unit: mm)



◆ 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 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.