

# SMT670-24

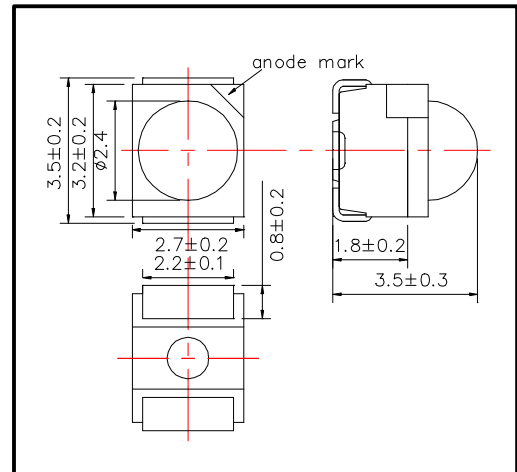
High Performance Red Color TOP IR LED with Lens

SMT670-24 consists of an AlGaAs LED mounted on the lead frame as TOP LED package with plastic ball lens and is 500mcd of brightness and 15mW/sr of radiant Intensity. It emits a spectral band of radiation at 670nm.

Outer dimension (Unit: mm)

## Specifications

- 1) Product Name TOP LED
- 2) Type No. SMT670-24
- 3) Chip
  - (1) Chip Material AlGaAs
  - (2) Peak Wavelength 670nm typ.
- 4) Package
  - (1) Lead Frame Die Silver Plated
  - (2) Package Resin PPA Resin
  - (3) Lens Epoxy and Styrene



## Absolute Maximum Rating

| Item                  | Symbol           | Maximum Rated Value | Unit | Ambient Temperature  |
|-----------------------|------------------|---------------------|------|----------------------|
| Power Dissipation     | P <sub>D</sub>   | 200                 | mW   | T <sub>a</sub> =25°C |
| Forward Current       | I <sub>F</sub>   | 100                 | mA   | T <sub>a</sub> =25°C |
| Pulse Forward Current | I <sub>FP</sub>  | 500                 | mA   | T <sub>a</sub> =25°C |
| Reverse Voltage       | V <sub>R</sub>   | 5                   | V    | T <sub>a</sub> =25°C |
| Operating Temperature | T <sub>OPR</sub> | -20 ~ +80           | °C   |                      |
| Storage Temperature   | T <sub>STG</sub> | -30 ~ +80           | °C   |                      |
| Soldering Temperature | T <sub>SOL</sub> | 240                 | °C   |                      |

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

‡Soldering condition: Soldering condition must be completed within 3 seconds at 230°C

## Electro-Optical Characteristics [T<sub>a</sub>=25°C]

| Item                 | Symbol           | Condition            | Minimum | Typical | Maximum | Unit  |
|----------------------|------------------|----------------------|---------|---------|---------|-------|
| Forward Voltage      | V <sub>F</sub>   | I <sub>F</sub> =50mA |         | 1.9     | 2.4     | V     |
| Reverse Current      | I <sub>R</sub>   | V <sub>R</sub> =5V   |         |         | 10      | uA    |
| Total Radiated Power | P <sub>O</sub>   | I <sub>F</sub> =50mA | 10      | 15      |         | mW    |
| Radiant Intensity    | I <sub>E</sub>   | I <sub>F</sub> =50mA | 8       | 15      |         | mW/sr |
| Brightness           | I <sub>v</sub>   | I <sub>F</sub> =50mA | 300     | 500     |         | mcd   |
| Peak Wavelength      | λ <sub>P</sub>   | I <sub>F</sub> =50mA | 660     | 670     | 685     | nm    |
| Half Width           | Δλ               | I <sub>F</sub> =50mA |         | 20      |         | nm    |
| Viewing Half Angle   | θ <sub>1/2</sub> | I <sub>F</sub> =50mA |         | ±18     |         | deg.  |
| Rise Time            | t <sub>r</sub>   | I <sub>F</sub> =50mA |         | 1000    |         | ns    |
| Fall Time            | t <sub>f</sub>   | I <sub>F</sub> =50mA |         | 1000    |         | ns    |

‡Total Radiated Power is measured by Photodyne #500

‡Radiant Intensity is measured by Tektronix J-6512.