

# SMT840

High Performance Infrared TOP IR LED

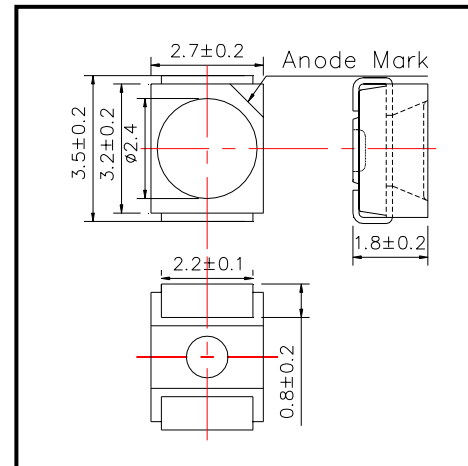
SMT840 consists of an AlGaAs LED mounted on the lead frame as TOP LED package and is 15mW typical of output power.

It emits a spectral band of radiation at 840nm.

### ◆ Specifications

|                     |               |
|---------------------|---------------|
| 1) Product Name     | TOP IR LED    |
| 2) Type No.         | SMT840        |
| 3) Chip             |               |
| (1) Chip Material   | AlGaAs        |
| (2) Peak Wavelength | 840nm typ.    |
| 4) Package          |               |
| (1) Lead Frame Die  | Silver Plated |
| (2) Package Resin   | PPA Resin     |
| (3) Lens            | Epoxy Resin   |

### ◆ Outer dimension (Unit: mm)



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

| Item                  | Symbol           | Maximum Rated Value | Unit | Ambient Temperature |
|-----------------------|------------------|---------------------|------|---------------------|
| Power Dissipation     | P <sub>D</sub>   | 170                 | mW   | Ta=25°C             |
| Forward Current       | I <sub>F</sub>   | 100                 | mA   | Ta=25°C             |
| Pulse Forward Current | I <sub>FP</sub>  | 500                 | mA   | Ta=25°C             |
| Reverse Voltage       | V <sub>R</sub>   | 5                   | V    | Ta=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 [Ta=25°C]

| Item                 | Symbol          | Condition            | Minimum | Typical | Maximum | Unit  |
|----------------------|-----------------|----------------------|---------|---------|---------|-------|
| Forward Voltage      | V <sub>F</sub>  | I <sub>F</sub> =50mA |         | 1.60    | 1.80    | 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 | 10.0    | 18.0    |         | mW    |
| Radiant Intensity    | I <sub>E</sub>  | I <sub>F</sub> =50mA | 5.0     | 8.0     |         | mW/sr |
| Peak Wavelength      | $\lambda_P$     | I <sub>F</sub> =50mA |         | 840     |         | nm    |
| Half Width           | $\Delta\lambda$ | I <sub>F</sub> =50mA |         | 40      |         | nm    |
| Viewing Half Angle   | $\theta_{1/2}$  | I <sub>F</sub> =50mA |         | ±55     |         | deg.  |
| Rise Time            | t <sub>r</sub>  | I <sub>F</sub> =50mA |         | 60      |         | ns    |
| Fall Time            | t <sub>f</sub>  | I <sub>F</sub> =50mA |         | 40      |         | ns    |

‡Total Radiated Power is measured by Photodyne #500

‡Radiant Intensity is measured by Tektronix J-6512.