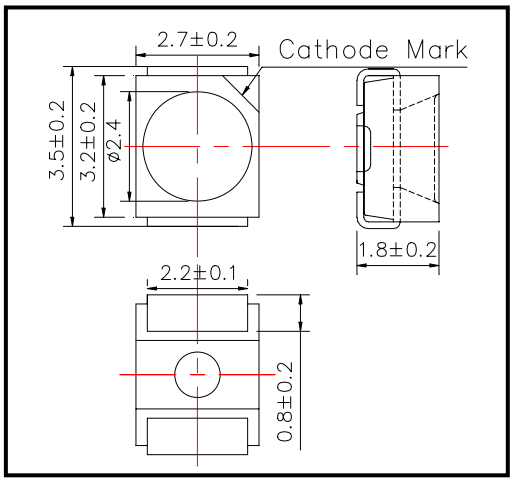
Marubeni

# SMT940 High Performance Infrared TOP IR LED

SMT940 consists of a GaAs LED mounted on the lead frame as TOP LED package and is 10mW typical of output power.
It emits a spectral band of radiation at 940nm.

♦Outer dimension (Unit: mm)




♦Specifications

| | |
|---|---|
| 1) Product Name | TOP IR LED |
| 2) Type No. | SMT940 |
| 3) Chip | |
| (1) Chip Material | GaAs |
| (2) Peak Wavelength | 940nm typ. |
| 4) Package | |
| (1) Lead Frame Die | Silver Plated |
| (2) Package Resin | PPA Resin |
| (3) Lens | Epoxy Resin |

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

| Item | Symbol | Maximum Rated Value | Unit | Ambient Temperature |
|---|---|---|---|---|
| Power Dissipation | $P_D$ | 140 | mW | Ta=25°C |
| Forward Current | $I_F$ | 100 | mA | Ta=25°C |
| Pulse Forward Current | $I_{FP}$ | 500 | mA | Ta=25°C |
| Reverse Voltage | $V_R$ | 5 | V | Ta=25°C |
| Operating Temperature | $T_{OPR}$ | -20 ~ +80 | °C | |
| Storage Temperature | $T_{STG}$ | -30 ~ +800 | °C | |
| Soldering Temperature | $T_{SOL}$ | 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 | $V_F$ | $I_F$=50mA | | 1.30 | 1.45 | V |
| Reverse Current | $I_R$ | $V_R$=5V | | | 10 | uA |
| Total Radiated Power | $P_O$ | $I_F$=50mA | 5.0 | 10.0 | | mW |
| Radiant Intensity | $I_E$ | $I_F$=50mA | | 4 | | mW/sr |
| Peak Wavelength | $\lambda_P$ | $I_F$=50mA | 930 | 940 | 950 | nm |
| Half Width | $\Delta\lambda$ | $I_F$=50mA | | 50 | | nm |
| Viewing Half Angle | $\theta_{1/2}$ | $I_F$=50mA | | ±55 | | deg. |
| Rise Time | tr | $I_F$=50mA | | 1000 | | ns |
| Fall Time | tf | $I_F$=50mA | | 500 | | ns |

‡Total Radiated Power is measured by Photodyne #500
‡Radiant Intensity is measured by Tektronix J-6512.

**Marubeni America Corporation**
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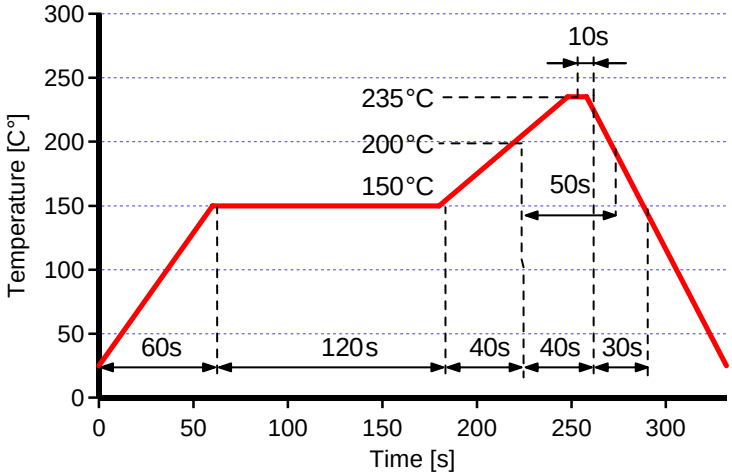
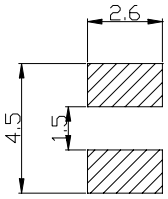
**408-330-0650 (Ext. 323), 408-330-0655 (Fax), sales@tech-led.com**

♦SMD Application

Recommended reflow soldering profile



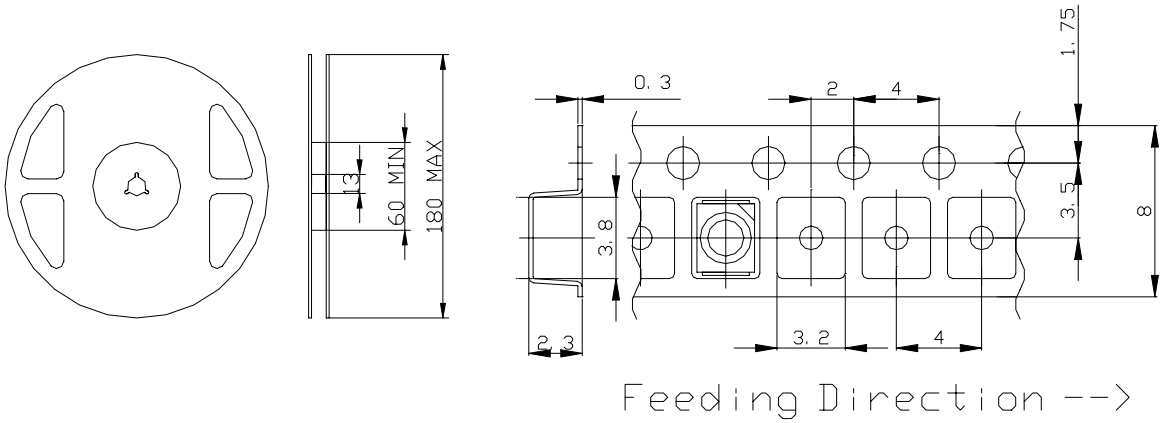

Recommended Land Layout (Unit: mm)




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.

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