

**SMT1200**

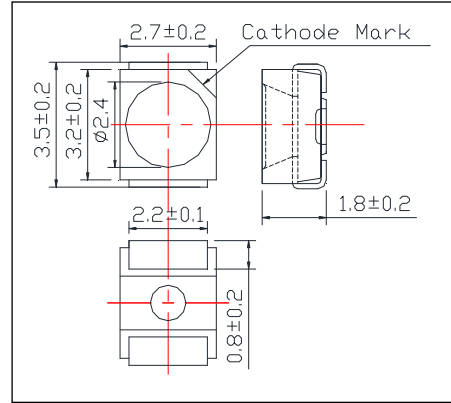
High Performance Infrared TOP NIR LED

SMT1200 consists of an InGaAsP LED mounted on the lead frame as TOP LED package. It is sealed with epoxy resin. It emits a spectral band of radiation at 1200nm.

<Specifications>

1. Product Name: TOP NIR LED
2. Type Number: SMT1200
3. Chip:
  - Chip Material: InGaAsP
  - Peak Wavelength: 1200nm
4. Package
  - Lead Frame Die: Silver Plated
  - Package Resin: PA6T
  - Lens: Epoxy or Solicone 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     | 100                 | mA   |
| Pulse Forward Current*            | IFP    | 1000                | mA   |
| Reverse Voltage                   | VR     | 5                   | V    |
| Thermal Resistance                | Rthja  | 80                  | K/W  |
| Junction Temperature              | Tj     | 120                 | °C   |
| Operating Temperature             | TOPR   | -40 ~ +100          | °C   |
| Storage Temperature               | TSTG   | -40 ~ +100          | °C   |
| Soldering Temperature**           | TSOL   | 250                 | °C   |

\* Duty=1% and Pulse Width=10us.

\*\*Soldering condition must be completed within 5 second at 250 °C.

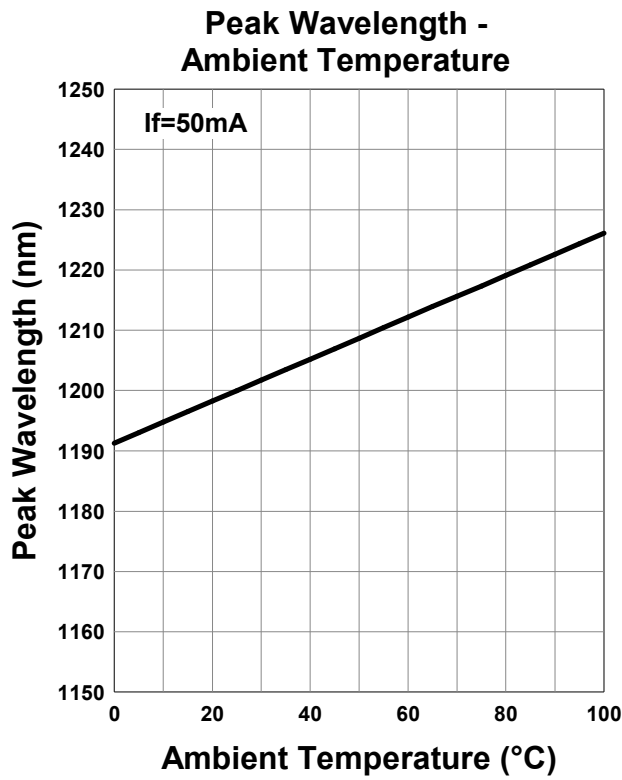
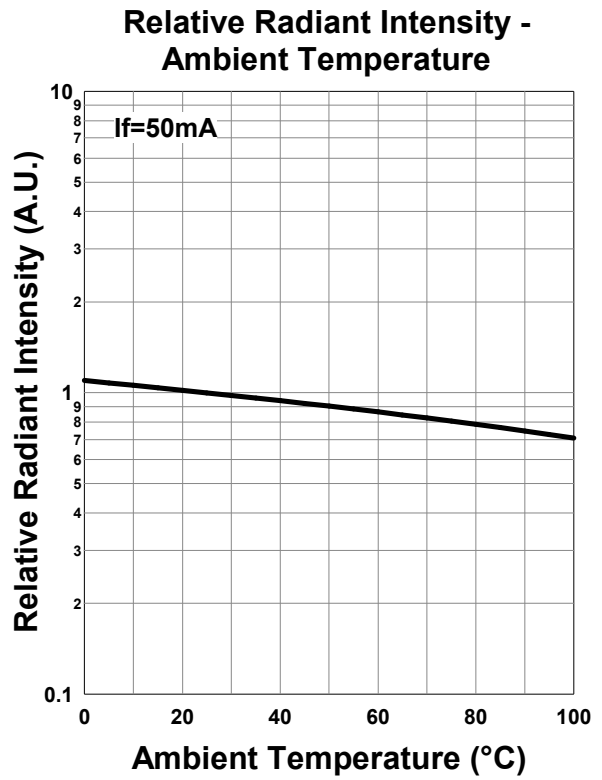
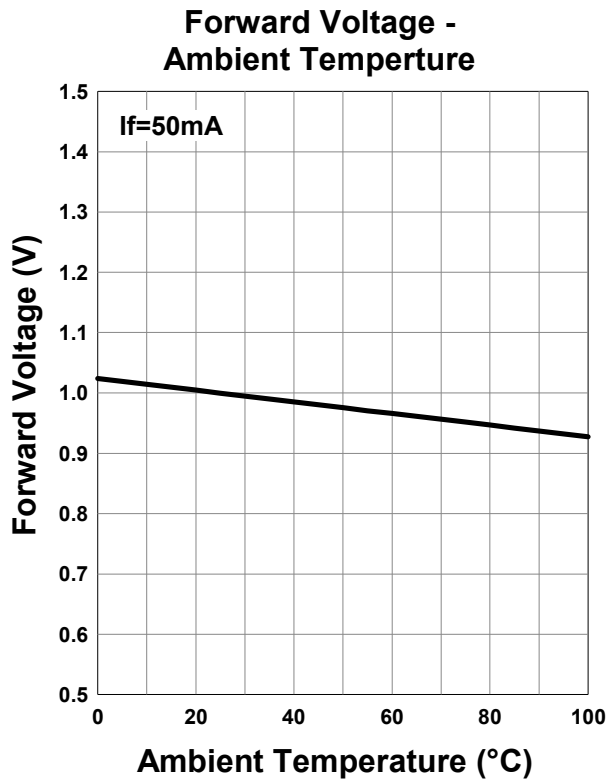
| Electro-Optical Characteristics [Ta=25°C] |        |           |         |         |         |       |
|---|--------|-----------|---------|---------|---------|-------|
| Item                                      | Symbol | Condition | Minimum | Typical | Maximum | Unit  |
| Forward Voltage                           | VF     | IF=50mA   |         | 1.0     | 1.3     | V     |
|   | VFP    | IFP=1A    |         | 1.6     |         |       |
| Radiated Power*                           | PO     | IF=50mA   |         | 5       |         | mW    |
|   |        | IFP=1A    |         | 34      |         |       |
| Radiant Intensity**                       | IE     | IF=50mA   |         | 3.5     |         | mW/sr |
|   |        | IFP=1A    |         | 24      |         |       |
| Peak Wavelength                           | λP     | IF=50mA   | 1150    |         | 1250    | nm    |
| Half Width                                | Δλ     | IF=50mA   |         | 75      |         | nm    |
| Viewing Half Angle                        | θ1/2   | IF=50mA   |         | ±65     |         | deg   |
| Rise Time                                 | tr     | IF=50mA   |         | 80      |         | ns    |
| Fall Time                                 | tf     | IF=50mA   |         | 30      |         | ns    |

\* Measured by G8370-85.

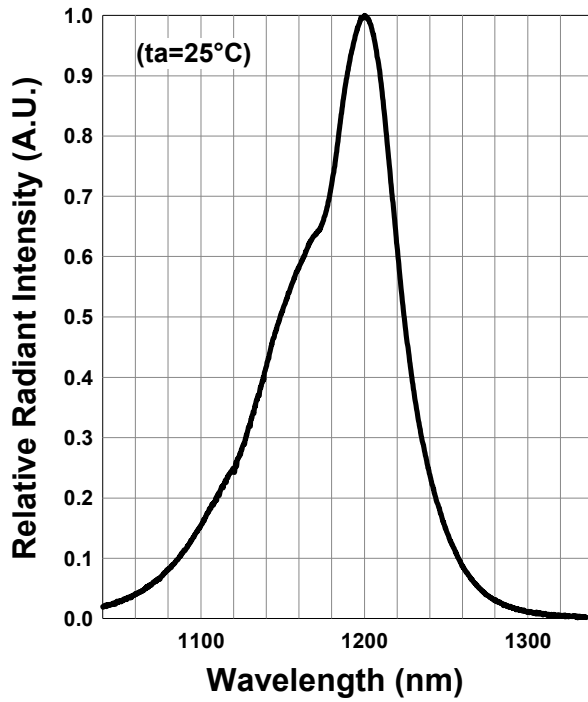
\*\* Measured by Ando Optical Multi Meter AQ2140 & AQ2742



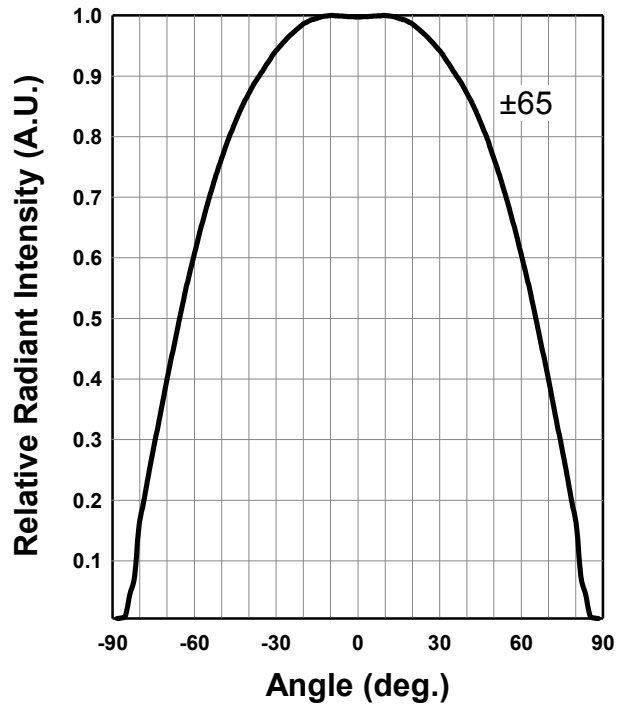




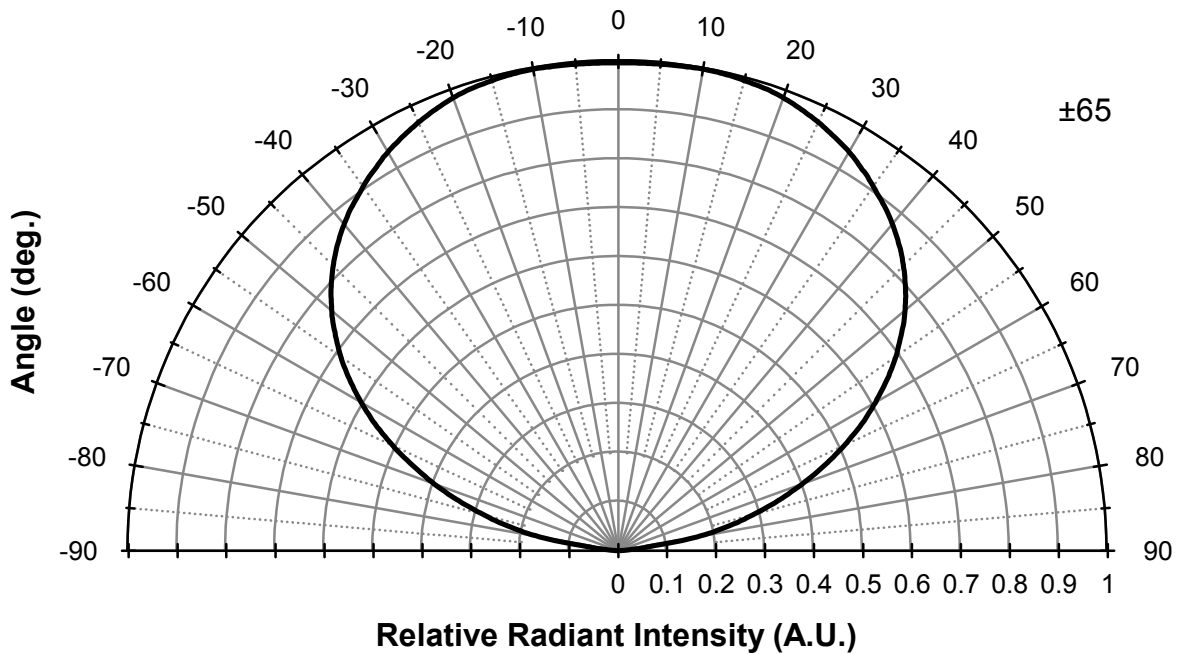
**Relative Spectral Emission**



**Radiation Characteristics**



**Radiation Characteristics**



**Disclaimer**

Product specifications and data shown in this product catalog are subject to change without notice for the purposes of improving product performance, reliability, design, or otherwise.

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.

Products shown in this catalog are intended to be used for general electronic equipment. Products are not guaranteed for applications where product malfunction or failure may cause personal injury or death, including but not limited to life-supporting / saving devices, medical devices, safety devices, airplanes, aerospace equipment, automobiles, traffic control systems, and nuclear reactor control systems.

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