epitex Opto-Device & Custom LED

MOLD LED LAMP L1450series Lead(Pb)Free Product-RoHS Compliant

# L1450-_ _ Infrared LED Lamp

This series of L1300-_ _ is an InGaAsP LED mounted on a lead frame and encapsulated in various types of epoxy lens which offer different design settings.
On forward bias, it emits a high power radiation of typical 2.5mW with a peak wavelength at 1450nm.

**Specifications**

1. Chip material InGaAsP
2. Peak wavelength 1450nm
3. Resin Material Epoxy resin
4. Solder Lead free

**Absolute Maximum Ratings**

| 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 | $I_{FP}$ | 1000 | mA | Ta=25°C |
| Reverse Voltage | $V_R$ | 5 | V | Ta=25°C |
| Operating Temperature | $T_{OPR}$ | -30 ~ +85 | °C | |
| Storage Temperature | $T_{STG}$ | -40 ~ +100 | °C | |
| Soldering Temperature | $T_{SOL}$ | 265 | °C | |

**Electro-Optical Characteristics (**Ta=25°C)

| Item | Symbol | Condition | Minimum | Typical | Maximum | Unit |
|---|---|---|---|---|---|---|
| Forward Voltage | $V_F$ | IF=50mA | | 1.0 | 1.5 | V |
| Reverse Current | $I_R$ | VR=5V | | | 10 | uA |
| Radiated Power | $P_O$ | IF=50mA | 1.3 | 2.5 | | mW |
| Peak Wavelength | $\lambda_P$ | IF=50mA | 1400 | 1450 | 1500 | nm |
| Half Width | $\Delta\lambda$ | IF=50mA | | 100 | | nm |
| Rise Time | tr | IF=50mA | | 10 | | ns |
| Fall Time | tf | IF=50mA | | 10 | | ns |

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**Characteristics of Radiant Intensity (**Ta=25°C)

| Type | Viewing Half Angle | Radiant Intensity $I_F$=50mA Unit : mW/sr | | | Outer Dimension | Dimension Figure |
|---|---|---|---|---|---|---|
| | | Minimum | Typical | Maximum | | |
| L1450-01 | | | | | Φ5 | 1 |
| L1450-02 | | | | | Φ5 | 2 |
| L1450-03 | ±10° | | 18 | | Φ5 | 3 |
| L1450-04 | | | | | Φ5 | 4 |
| L1450-05 | | | | | Φ5 | 5 |
| L1450-06 | ±7° | | 32 | | Φ5 | 6 |
| L1450-09 | | | | | Φ5 Oval | 7 |
| L1450-46 | | | | | Φ5 | 8 |
| L1450-41 | | | | | Φ4 | 9 |
| L1450-42 | | | | | Φ4 | 10 |
| L1450-31 | | | | | Φ3 | 11 |
| L1450-33 | ±18° | | 9 | | Φ3 | 12 |
| L1450-34 | | | | | Φ3 | 13 |
| L1450-36 | ±33° | | 3 | | Φ3 | 14 |

Radiant Power is measured by G8370-85
Brightness is measured by Tektronix J-16

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**Outer Dimension of LED Lamp**

**Figure-1 Φ5Mold (Type01)**

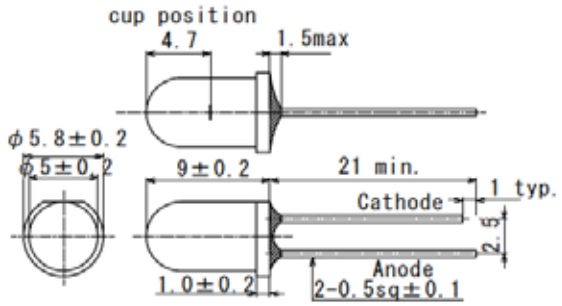



**Figure-2 Φ5Mold (Type02)**

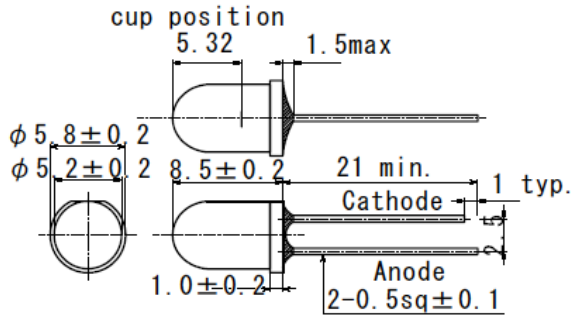



**Figure-3 Φ5Mold (Type03)**

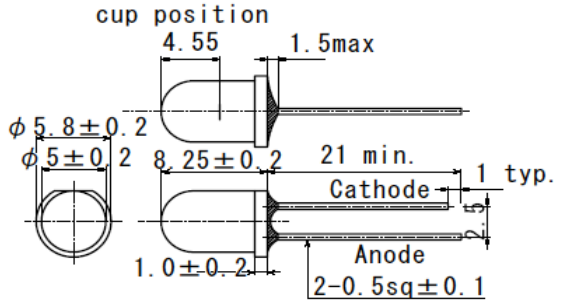



**Figure-4 Φ5Mold (Type04)**

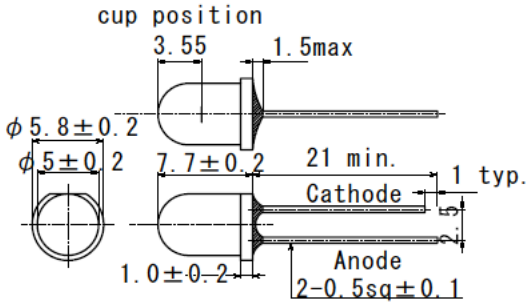



**Figure-5 Φ5Mold (Type05)**

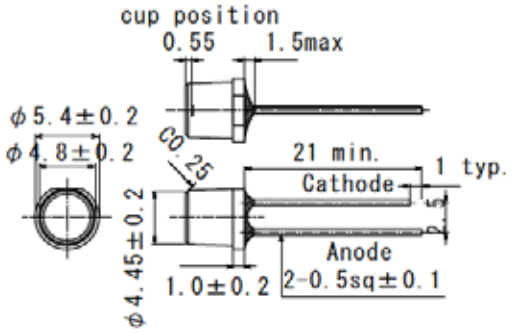



**Figure-6 Φ5Mold (Type06)**

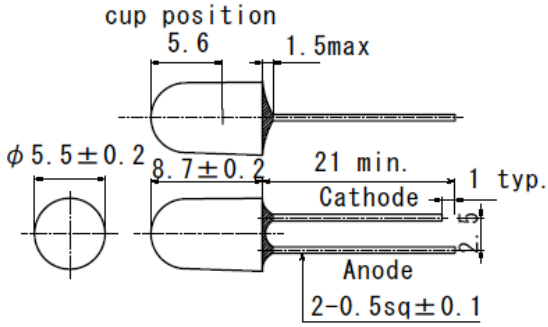



**Figure-7 Φ5Mold (Type09)**

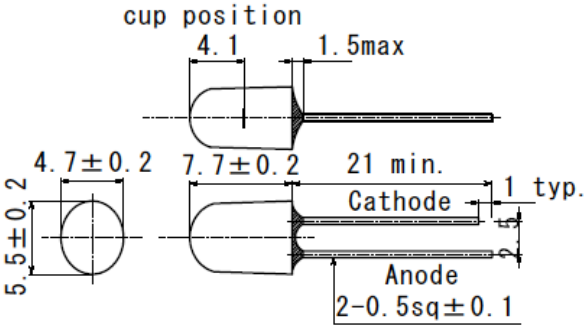



**Figure-8 Φ5Mold (Type46)**

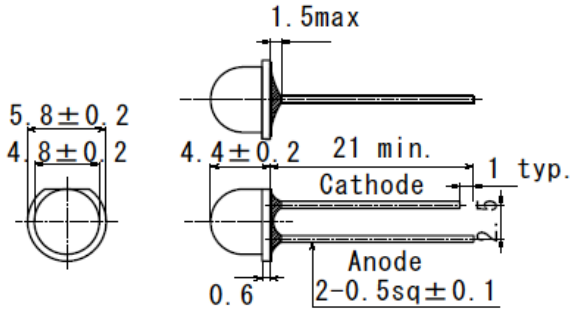



**Figure-9 Φ4Mold (Type41)**

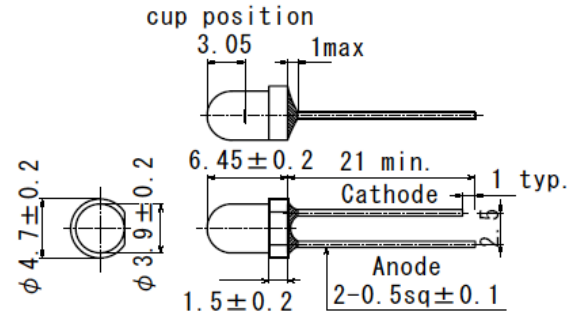
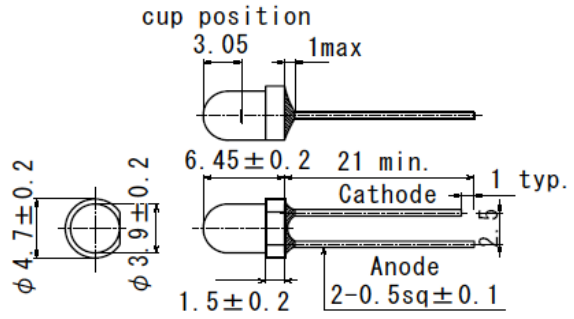



**Figure-10 Φ4Mold (Type42)**

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**Outer Dimension of LED Lamp**

**Figure-11 Φ3Mold (Type31)**

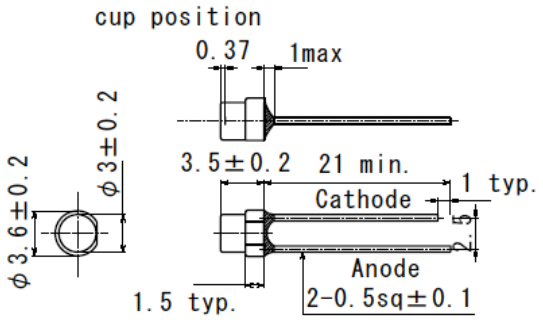


**Figure-12 Φ3Mold (Type33)**

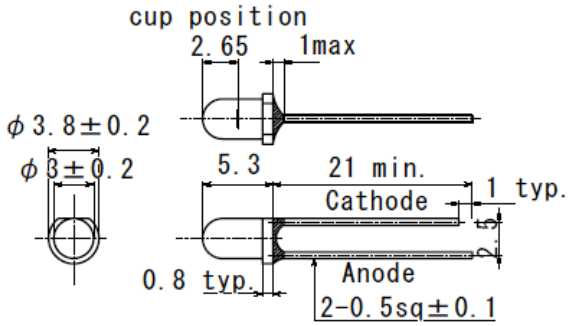


**Figure-13 Φ3Mold (Type34)**

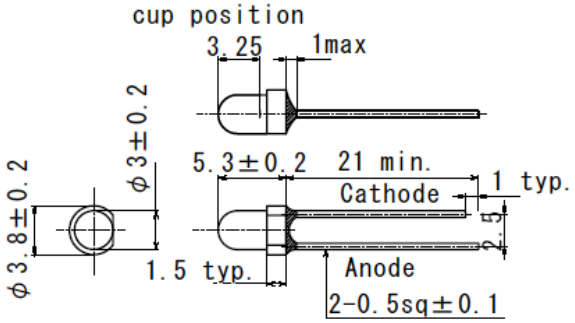


**Figure-14 Φ3Mold (Type36)**

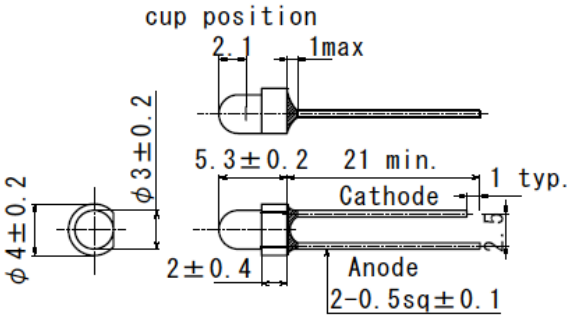


**Figure-15**

**Figure-16**

**Figure-17**

**Figure-18**

**Figure-19**

**Figure-20**

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**The Viewing half angle**

**Figure-1 Φ5Mold (Type01)**

**Figure-2 Φ5Mold (Type02)**

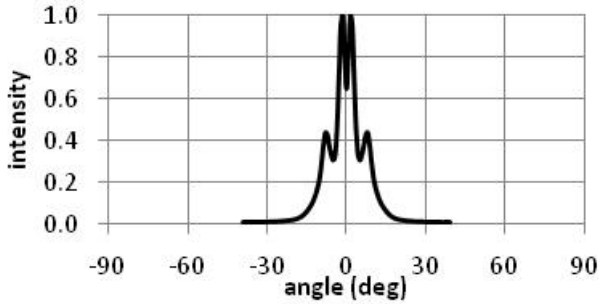


**Figure-3 Φ5Mold (Type03)**

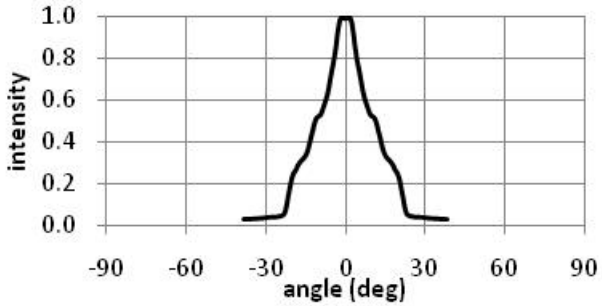


**Figure-4 Φ5Mold (Type04)**

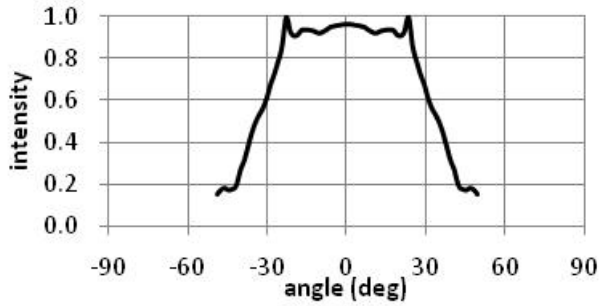


**Figure-5 Φ5Mold (Type05)**

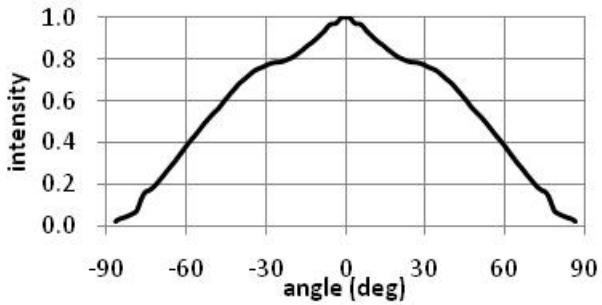


**Figure-6 Φ5Mold (Type06)**

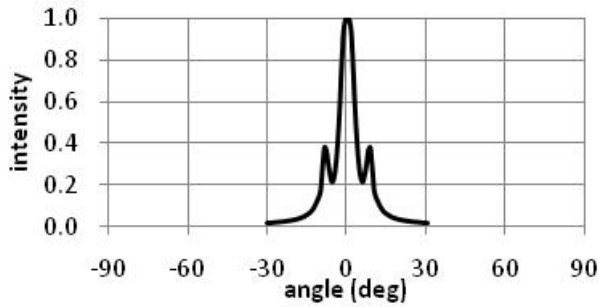


**Figure-7 Φ5Mold (Type09)**

**Figure-8 Φ5Mold (Type46)**

**Figure-9 Φ4Mold (Type41)**

**Figure-10 Φ4Mold (Type42)**

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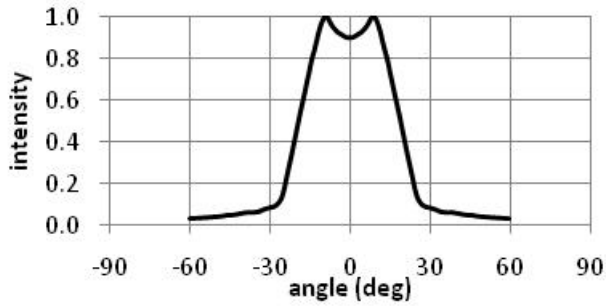
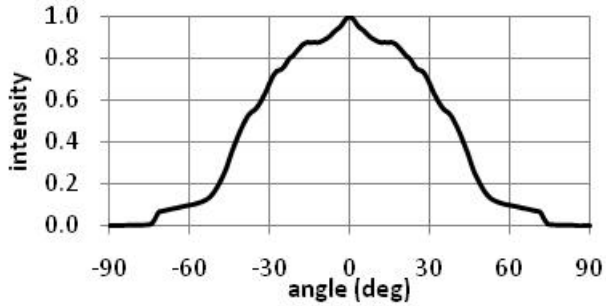
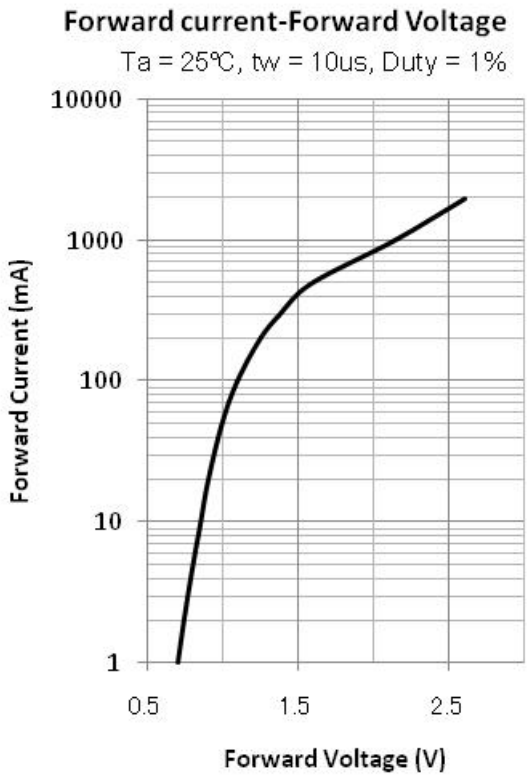
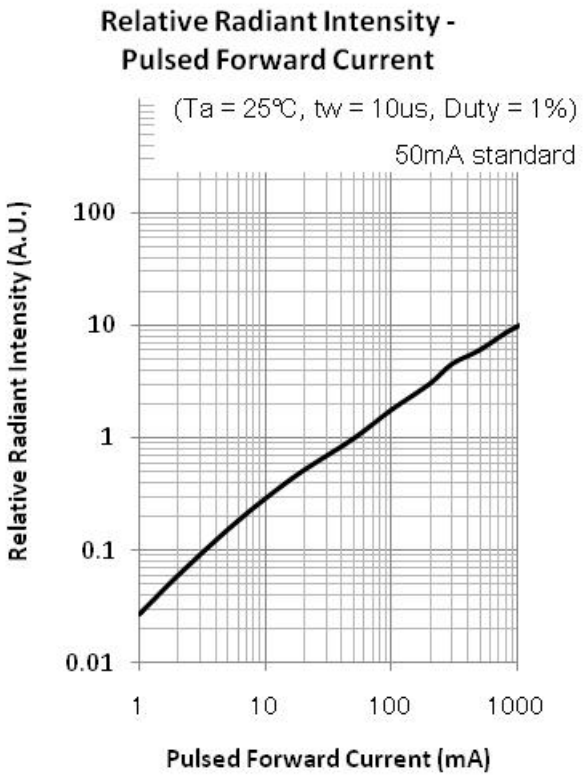
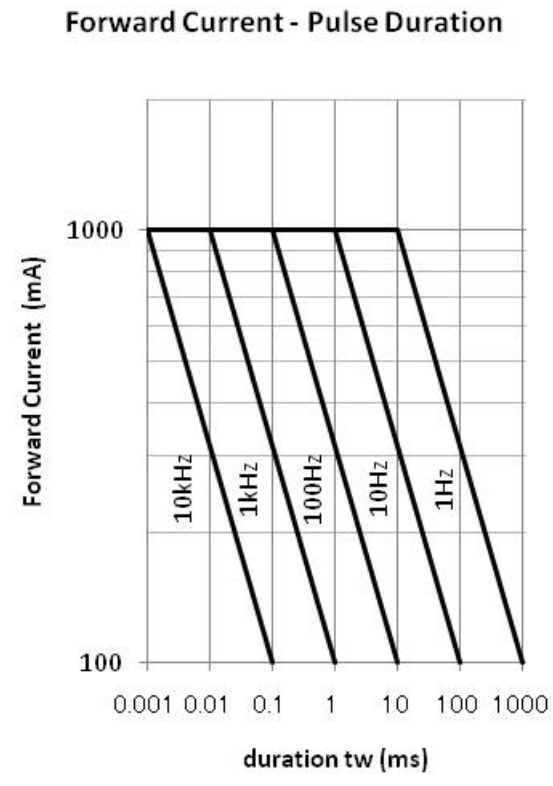
**The Viewing half angle**

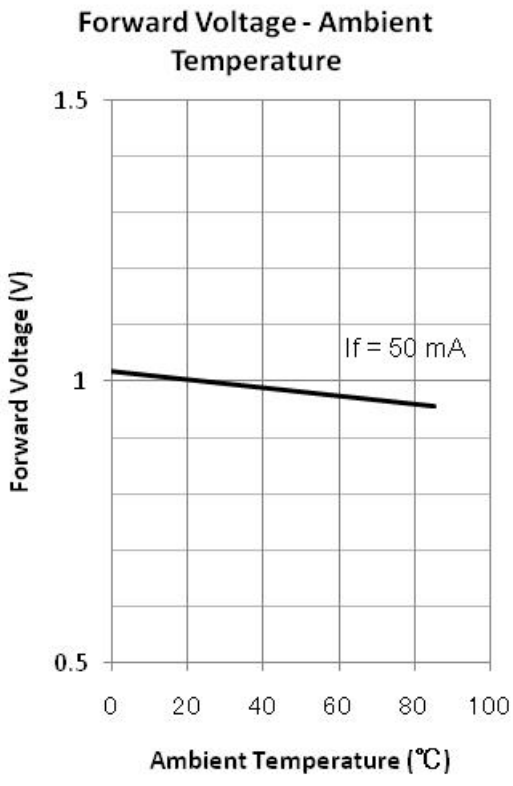
| | |
|---|---|
| **Figure-11 Φ3Mold (Type31)** | **Figure-12 Φ3Mold (Type33)**   |
| **Figure-13 Φ3Mold (Type34)** | **Figure-14 Φ3Mold (Type36)**   |
| **Figure-15** | **Figure-16** |
| **Figure-17** | **Figure-18** |
| **Figure-19** | **Figure-20** |

**L1450 –series**

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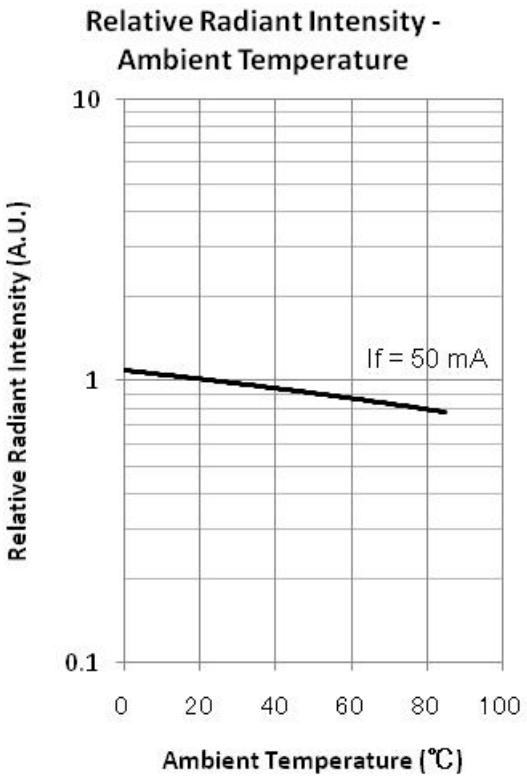


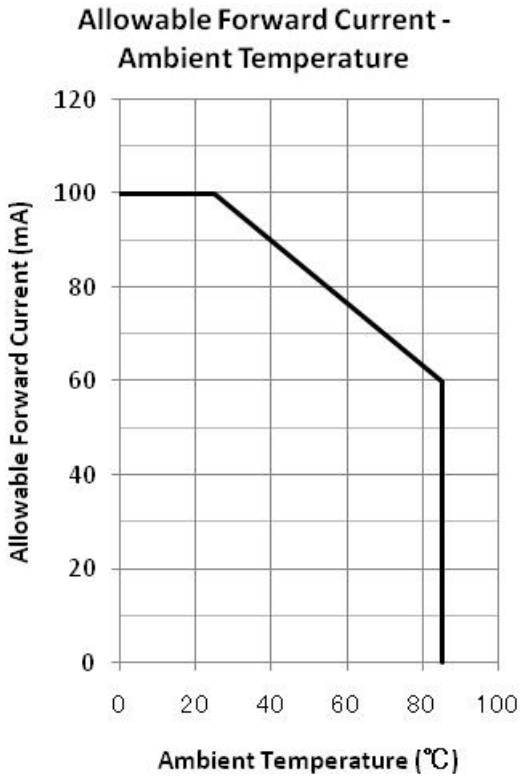


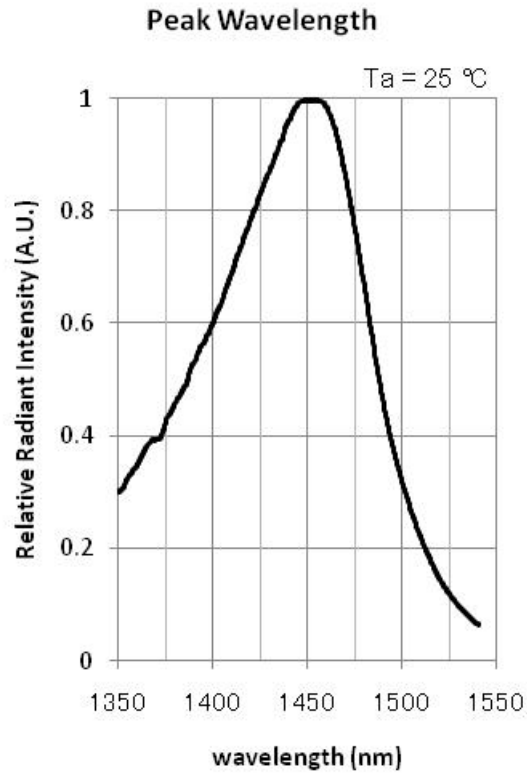


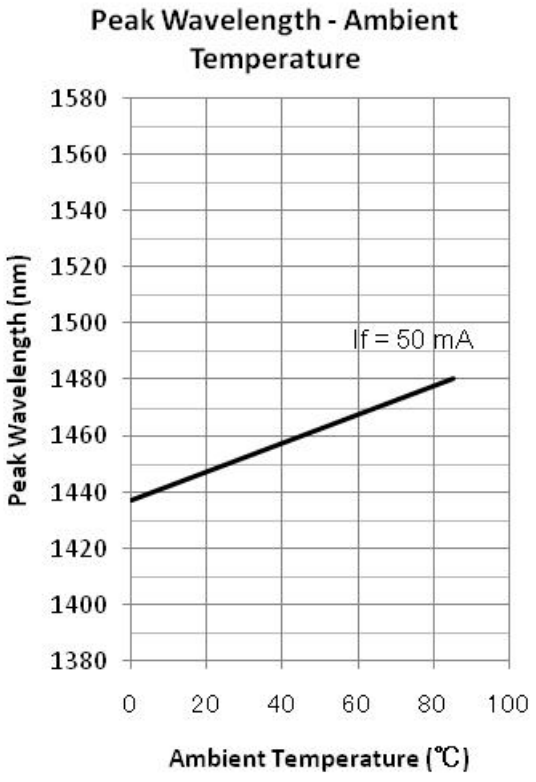


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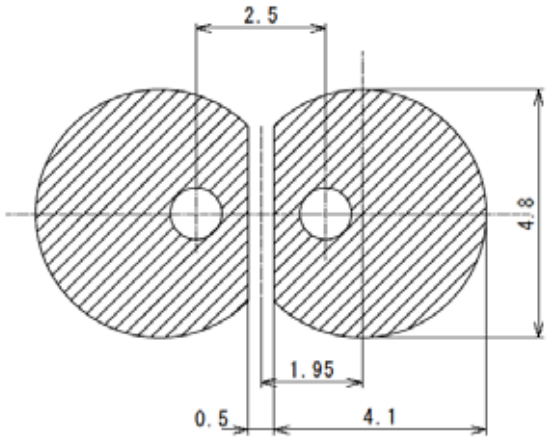
**Recommended Land Layout (unit: mm)**




**Soldering Conditions**