

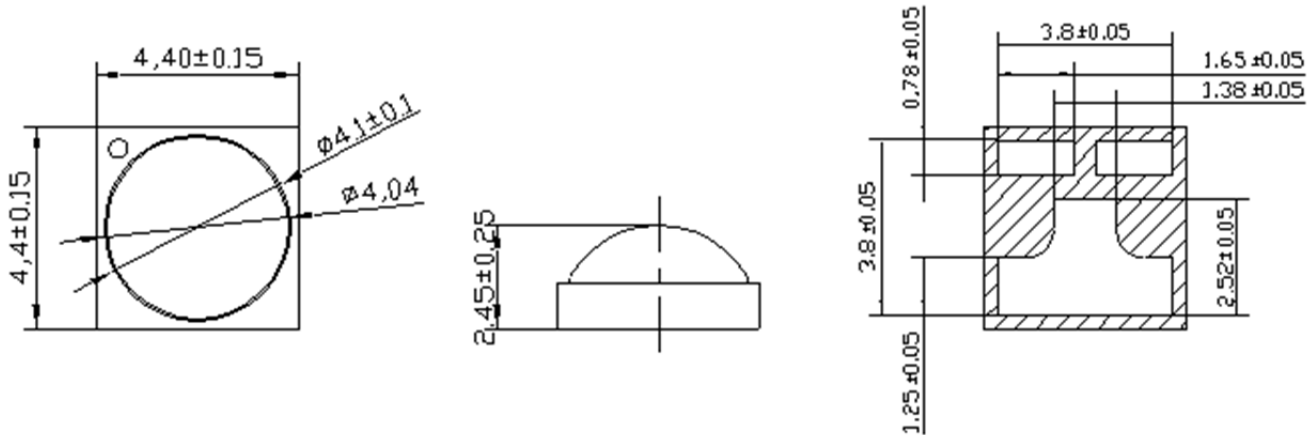


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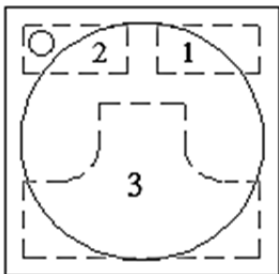
L944-UV385-2

4 x 4 x 2.4 mm Dome Lens Power UV LED

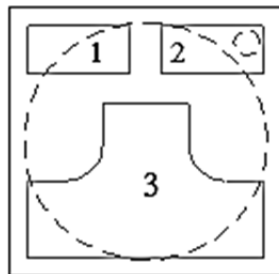
PACKAGE OUTLINES



PAD CONFIGURATION



TOP



BOTTOM

| Pad | Function |
|-----|----------|
| 1 | Cathode |
| 2 | Anode |
| 3 | Thermal |

FEATURES

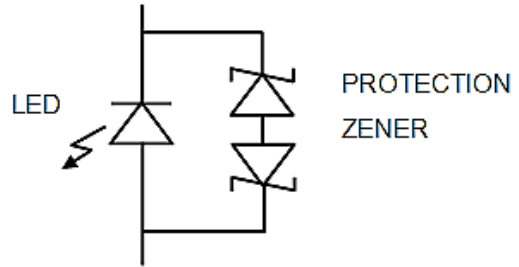
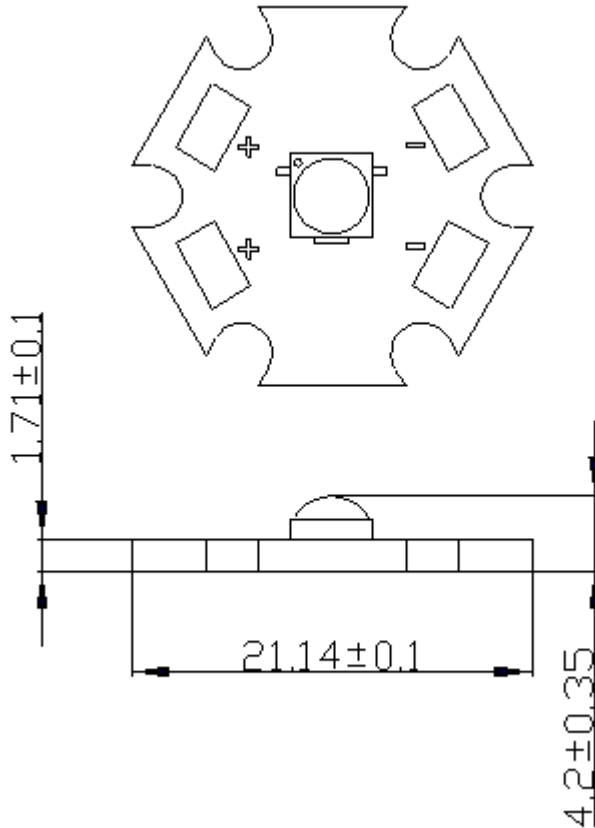
- High Efficacy 3W UV LED
- All metal design Cu Substrate / Al Reflector with Quartz Glass Lens
- View Angle 120°
- Low Thermal Resistance
- InGaN Chip Inside
- Superior LED Protection



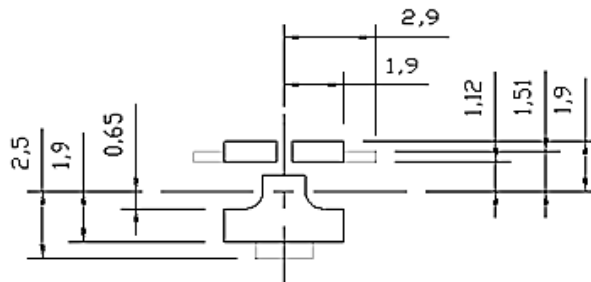
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4 x 4 x 2.4 mm Dome Lens Power UV LED



RECOMMENDED SOLDER PATTERN



SOLDER MASK



COPPER LAYER





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ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

| Parameter | Symbol | Value | Unit |
|---|-----------------------|---------------------|------|
| Forward Current | I _F | 700 | mA |
| Power Dissipation | P | 3 | W |
| Peak Pulse Current (1/10 Duty Cycle, 400msec Pulse Width) | I _{FP} | 1000 | mA |
| Thermal Resistance, Junction-Case | R _{th, J-C1} | 5 | °C/W |
| LED Junction Temperature | T _J | 125 | °C |
| Operating Temperature Range | T _{OPR} | -40~+80 | °C |
| Storage Temperature Range | T _{STG} | -40~+120 | °C |
| Soldering Condition | T _{SOL} | 260°C for 5 seconds | |

OPTICAL-ELECTRO CHARACTERISTICS

(Ta=25°C)

| Parameter | Test Condition | Symbol | Min | Typ | Max | Unit |
|--------------------|-----------------------|----------------|------|-----|------|------|
| Forward Voltage | I _F =700mA | V _F | 3.03 | 3.8 | 4.47 | V |
| Radiant Flux | | Φ _E | 600 | 800 | -- | mW |
| Peak Wavelength | | λ _P | -- | 385 | -- | Nm |
| Spectra Half-Width | | Δλ | -- | 15 | -- | Nm |



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4 x 4 x 2.4 mm Dome Lens Power UV LED

BIN CODE LIST FOR REFERENCE

| Item | Bin Code | Symbol | Condition | Min | Max | Unit |
|-----------------|----------|----------|--------------------|------|------|------|
| Forward Voltage | H | V_F | $I_F=700\text{mA}$ | 3.03 | 3.27 | V |
| | J | | | 3.27 | 3.51 | |
| | K | | | 3.51 | 3.75 | |
| | L | | | 3.75 | 3.99 | |
| | M | | | 3.99 | 4.23 | |
| | N | | | 4.23 | 4.47 | |
| Radiant Flux | D | Φ_E | $I_F=700\text{mA}$ | 350 | 425 | mW |
| | E | | | 425 | 500 | |
| | F | | | 500 | 600 | |
| | G | | | 600 | 700 | |
| | H | | | 700 | 800 | |
| | J | | | 800 | 900 | |

Notes:

1. Forward Voltage measurement allowance is $\pm 0.1\text{V}$.
2. Radiant Flux measurement allowance is $\pm 10\%$.
3. Wavelength measurement allowance is $\pm 2\text{nm}$.



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CHARACTERISTIC DIAGRAM

Fig. Forward Current vs. Forward Voltage

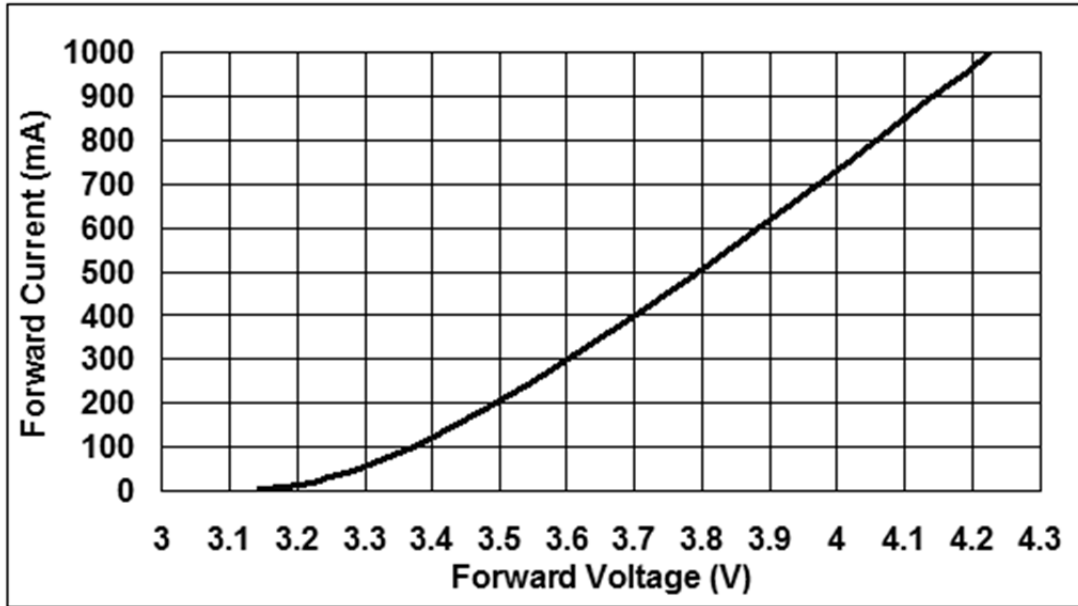
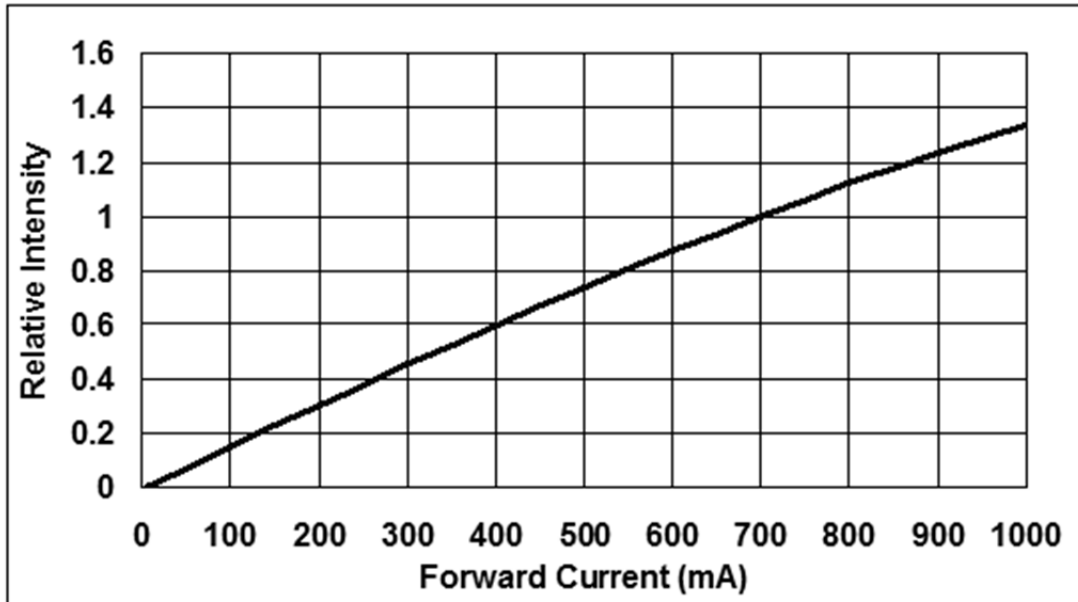


Fig. Relative Intensity vs. Forward Current





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Fig. Typical Relative Intensity vs. wavelength

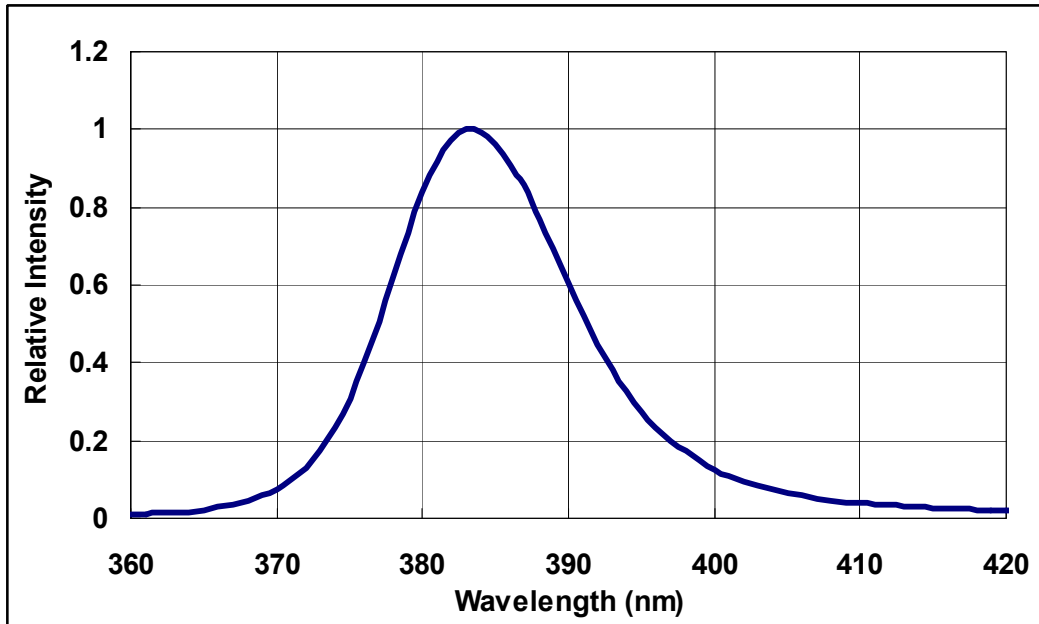
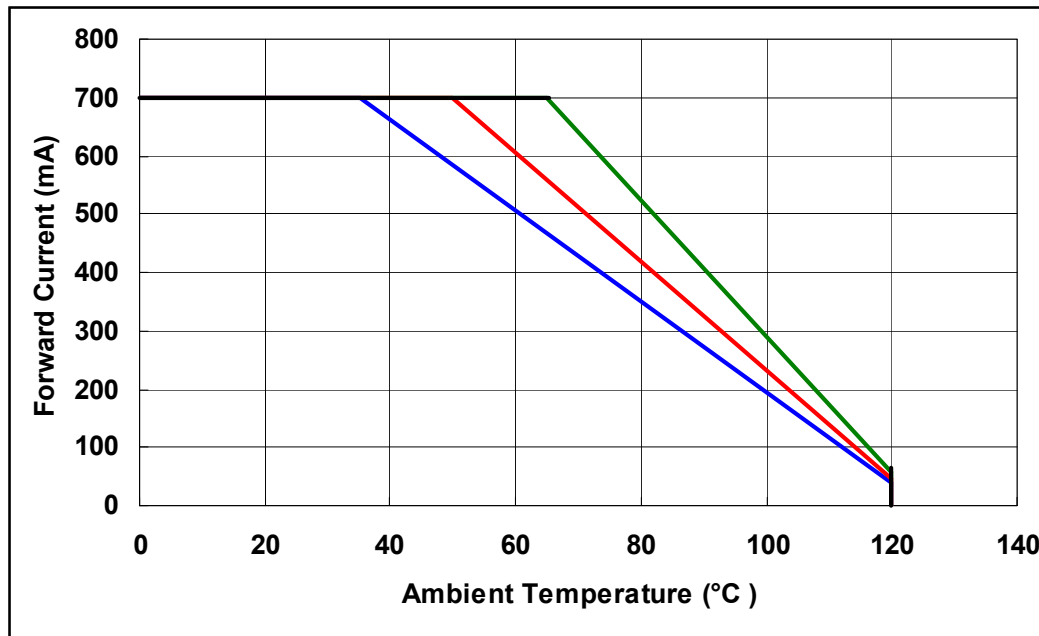


Fig. Forward Current Degrading Curve





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Fig. Relative Intensity vs. Case Temperature

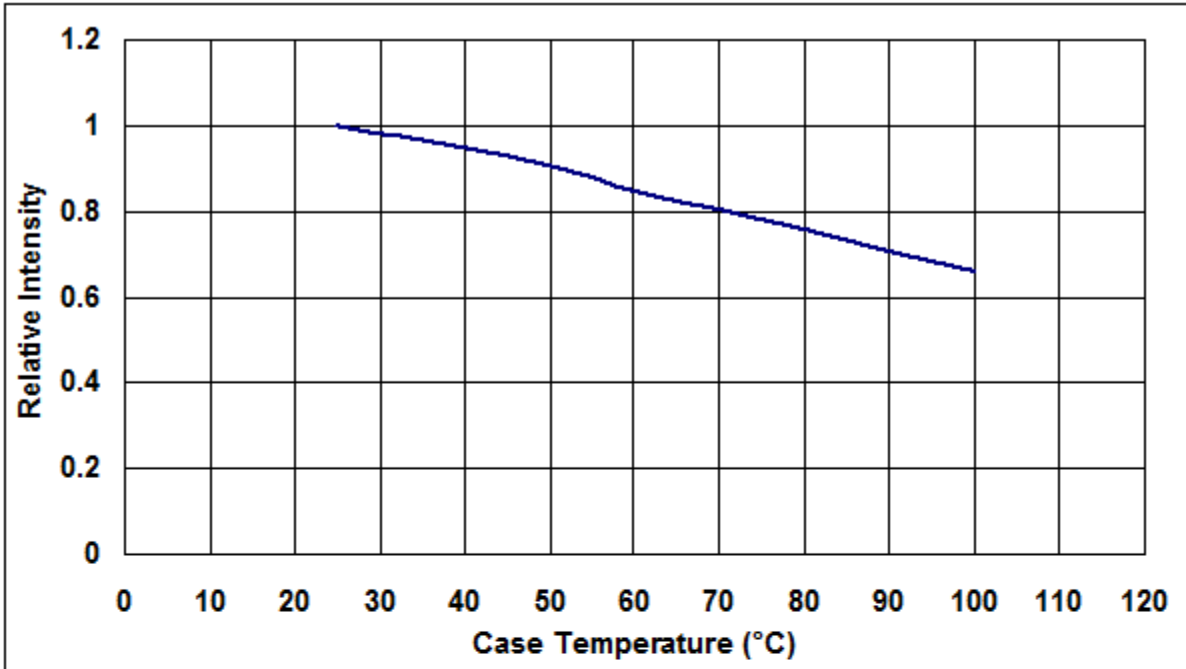
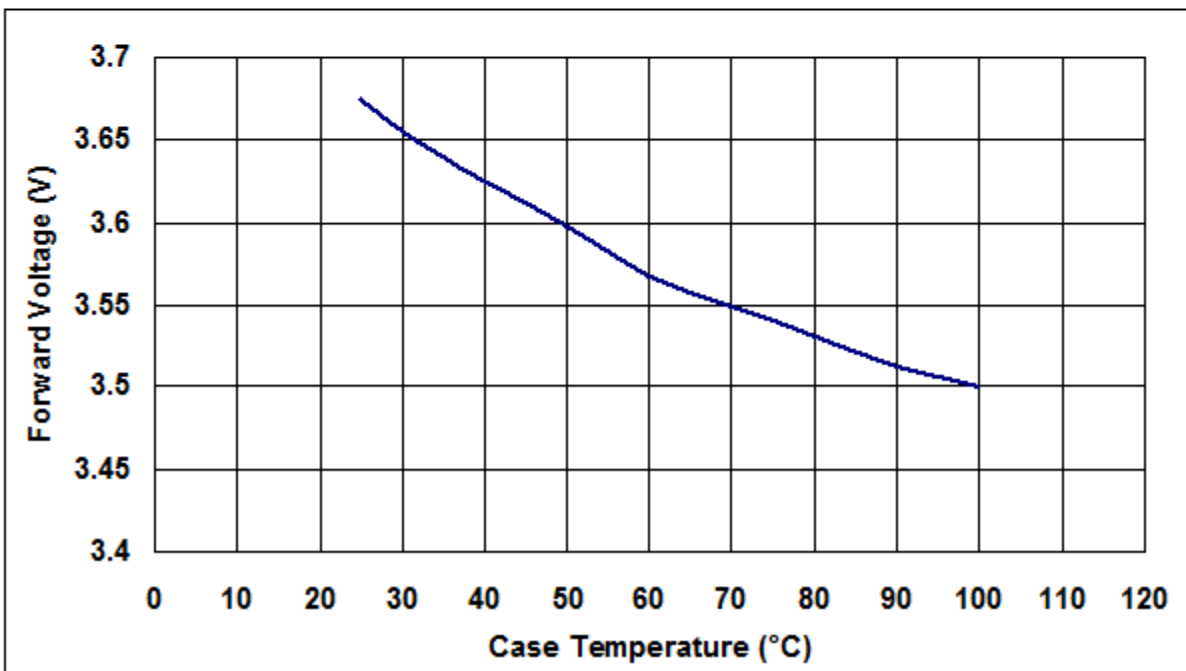


Fig. Forward Voltage vs. Case Temperature



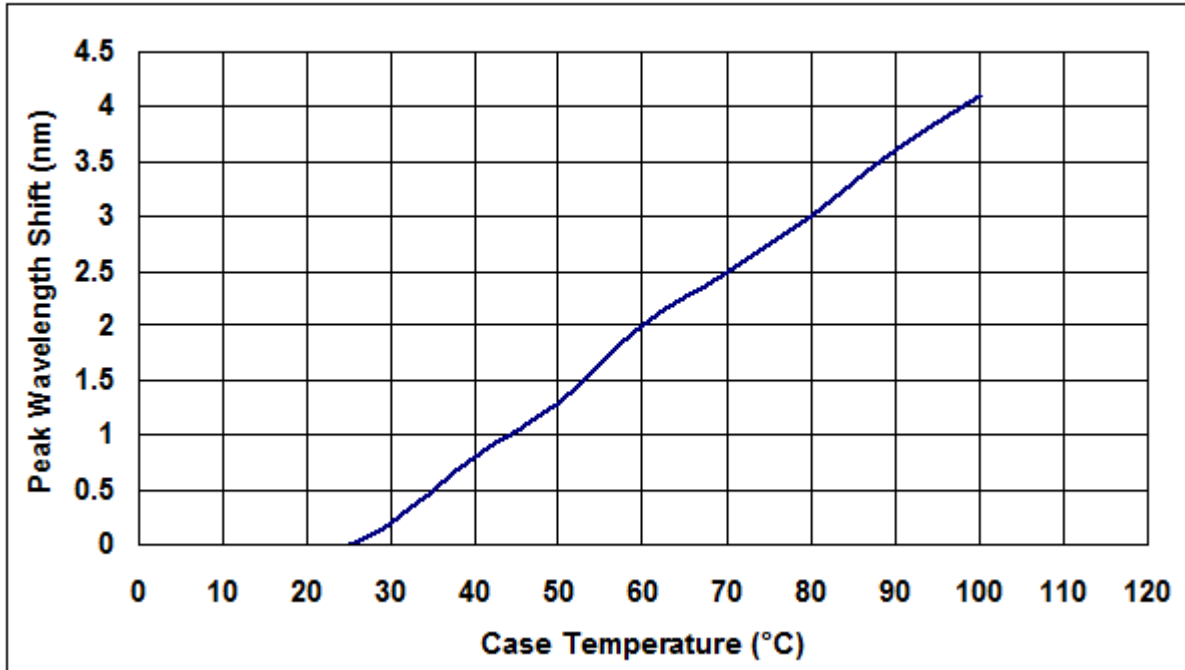


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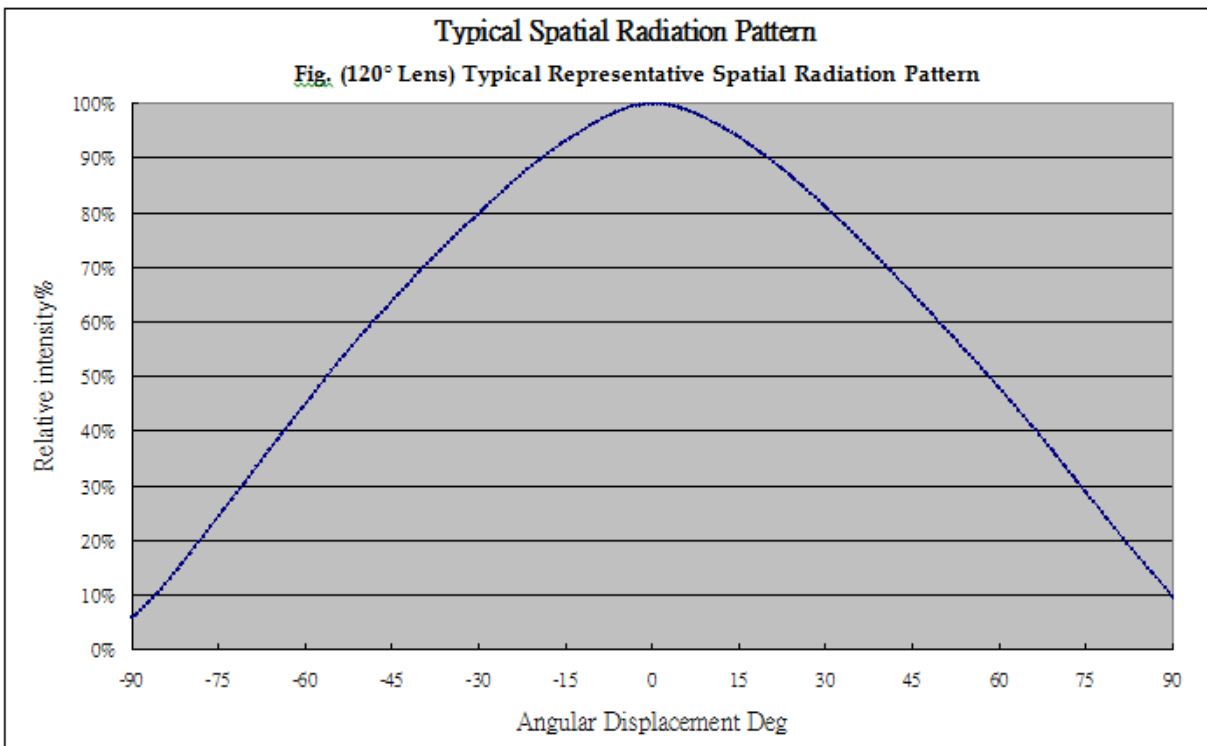
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Fig. Peak Wavelength shift vs. Case Temperature



Typical Spatial Radiation Pattern

Fig. (120° Lens) Typical Representative Spatial Radiation Pattern



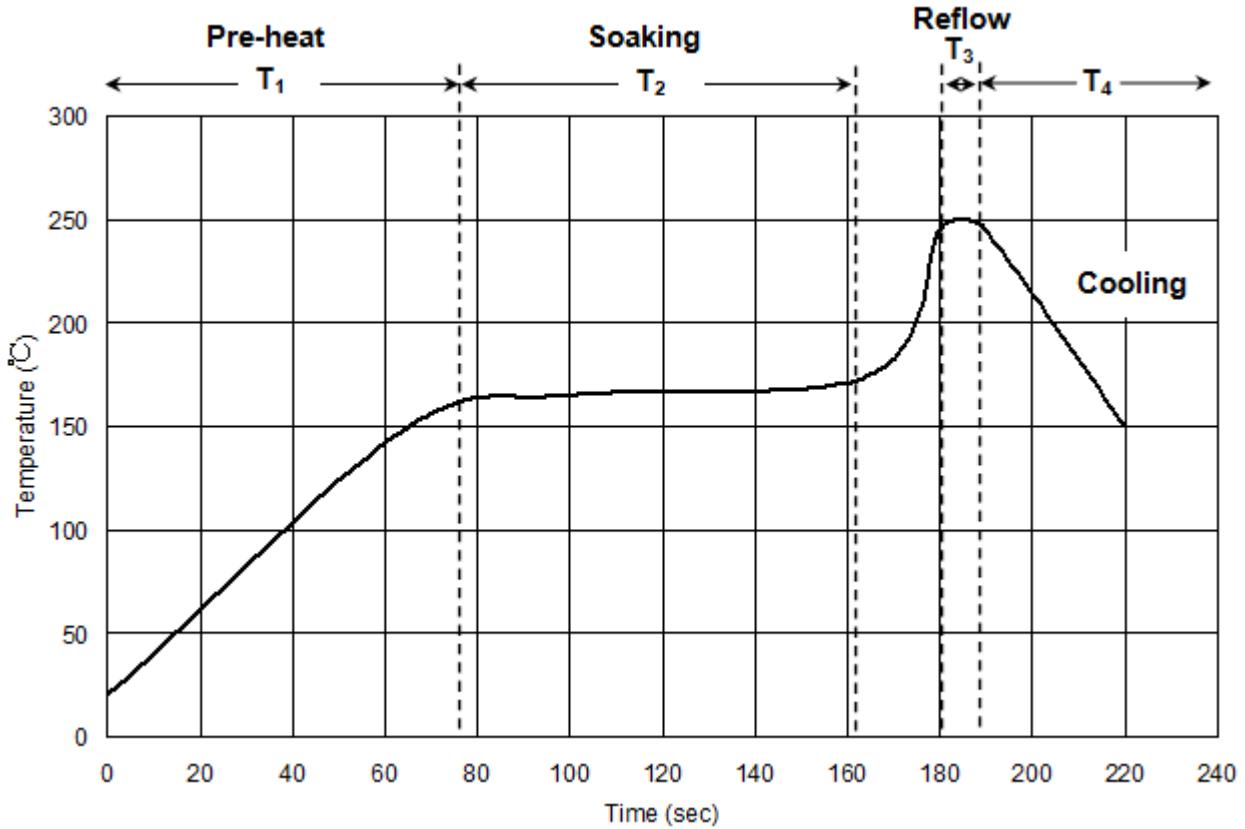


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REFLOW SOLDERING CHARACTERISTICS



| | | |
|----|----------------------------|----------------|
| T1 | Ramp up rate | 1.0~3.0 °C/sec |
| | Pre-heat time | 50~80 sec |
| T2 | Soaking temperature | 155~185 °C |
| | Dwell time during soaking | 60~120 sec |
| T3 | Reflow temperature | 240~250 °C |
| | Reflow time | Max 10 sec |
| T4 | Ramp up rate during reflow | 1.2~2.3 °C/sec |
| | Cooling | 1.0~6.0 °C.sec |

Note: suggest using Sn96Ag3Cu0.5 lead free solder



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RELIABILITY TEST

| Classification | Test Item | Test conditions | Reference Standard |
|--------------------|--|---|--|
| Endurance Test | Operation Life | $I_f = 60\text{mA}/120\text{mA}(\text{H28}), 350\text{mA}/700\text{mA}(\text{H40}/\text{H44}/\text{H99})$ $T_a = 25^\circ\text{C}$ Test Duration = 1000hrs | MIL-STD-750: 1026 MIL-STD-883: 1005 JIS C 7021: B-1 |
| | High Temperature High Humidity Storage | $I_f = 60\text{mA}/120\text{mA}(\text{H28}), 350\text{mA}/700\text{mA}(\text{H40}/\text{H44}/\text{H99})$ $T_a = 85\pm 5^\circ\text{C}$ RH = 85±5% Test Duration = 1000hrs | MIL-STD-202: 103B JIS C 7021: B-11 |
| | High Temperature Storage | $T_a = 105\pm 5^\circ\text{C}$ Test Duration = 1000hrs | MIL-STD-202: 1008 JIS C 7021: B10 |
| | Low Temperature Storage | $T_a = -40\pm 5^\circ\text{C}$ Test Duration = 1000hrs | JIS C 7021: B-12 |
| Environmental Test | Temperature Cycling | $-40^\circ\text{C} \sim 25^\circ\text{C} \sim 105^\circ\text{C} \sim 25^\circ\text{C}$ 30min 5min 30min 5min Test Duration = 10 cycle | MIL-STD-202: 107D MIL-STD-750: 1051 MIL-STD-883: 1010 JIS C 7021: A-4 |
| | Thermal Shock | $-55\pm 5^\circ\text{C} \sim 105\pm 5^\circ\text{C}$ 30min 30min Test Duration = 10 cycle | MIL-STD-202: 107D MIL-STD-750: 1051 MIL-STD-883: 1011 |
| | Solder Resistance | $T_{\text{sol}} = 260\pm 5^\circ\text{C}$ Dwell Time = 10sec | MIL-STD-202: 210A MIL-STD-750: 2031 JIS C 7021: A-1 |
| Measuring Items | Symbol | Measuring Conditions | Failure Criteria |
| Forward voltage | V_f | $I_f = 60\text{mA}/120\text{mA}(\text{H28}), 350\text{mA}/700\text{mA}(\text{H40}/\text{H44}/\text{H99})$ | V_f shift > 10% |
| Luminous | $I_v\%$ | $I_f = 60\text{mA}/120\text{mA}(\text{H28}), 350\text{mA}/700\text{mA}(\text{H40}/\text{H44}/\text{H99})$ | $I_v\%$ shift > 10% |

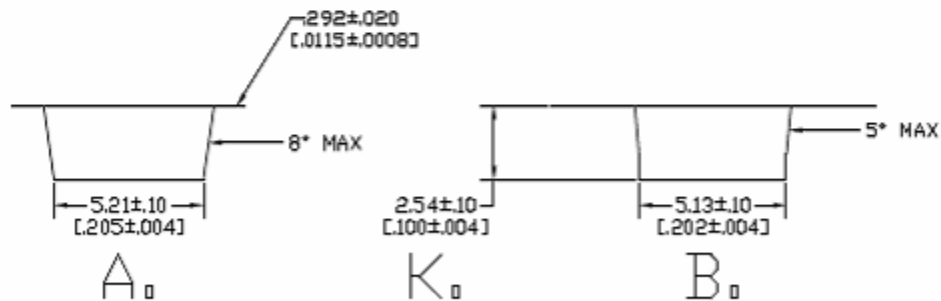
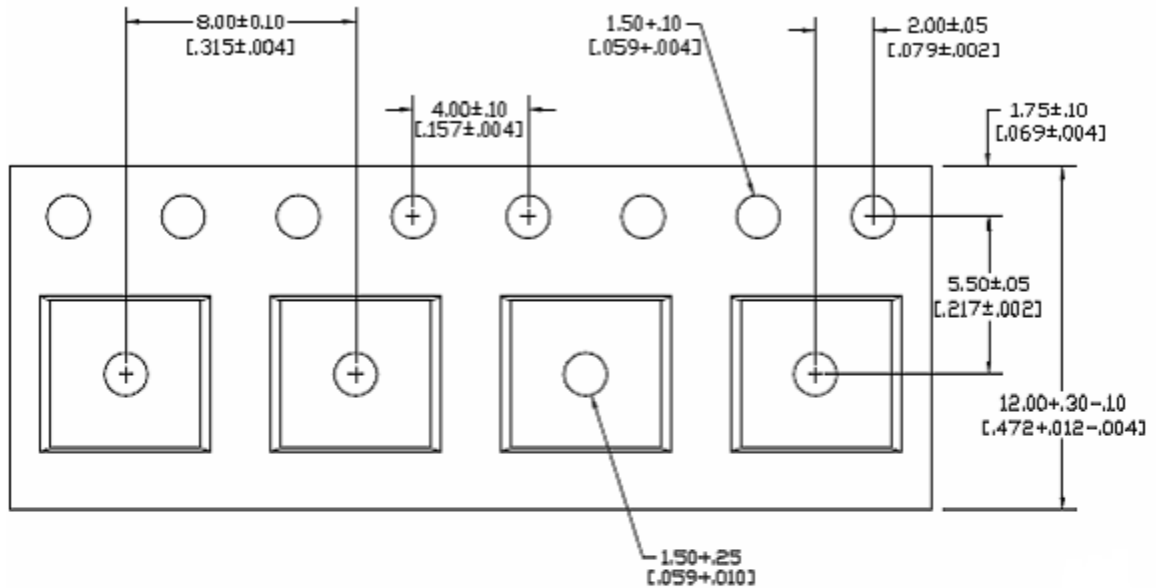


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SHIPPING PACKAGE DIMENSIONS



MM
[INCH]

Lens Type

120 Degree Lens Type:

- Moisture Proof Bag
- 1 Reel/Bag
- 800 Max/Reel



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REEL DIMENSION

