

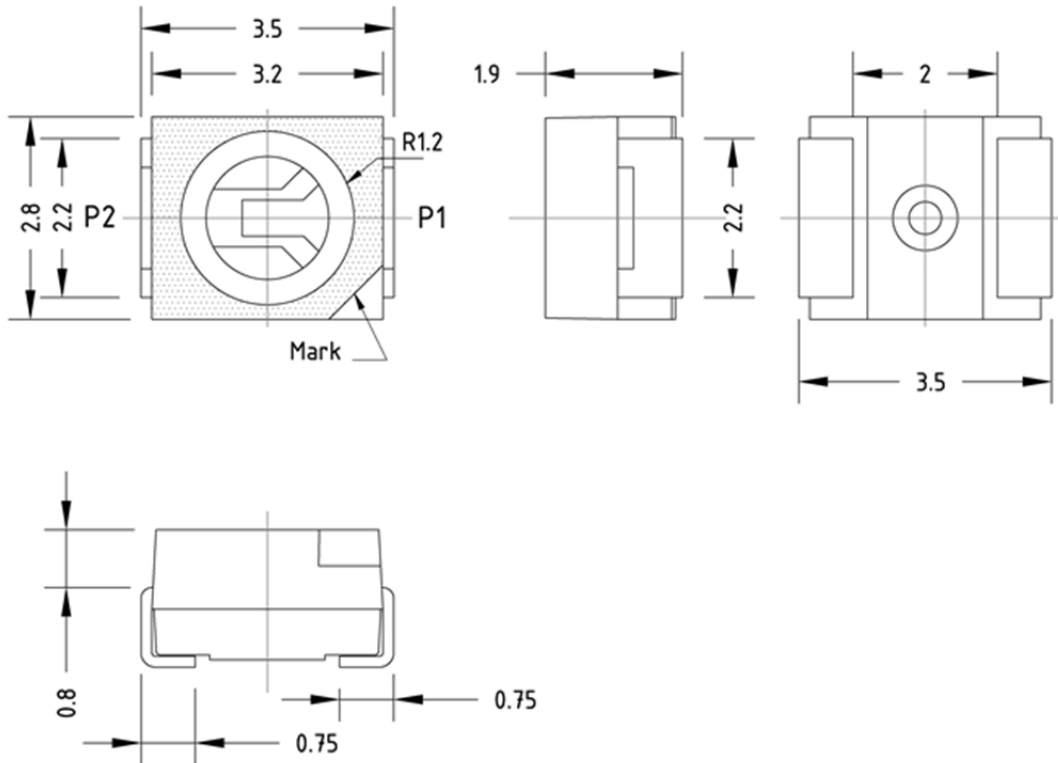


American Opto Plus LED Corp.

L955NBC

3.5 x 2.8 x 1.9mm Blue PLCC2 SMD LED

PACKAGE OUTLINES



| Items | Materials |
|---------------------|-------------------------|
| Encapsulating Resin | Silicone |
| Package | Heat-Resistant Polymer |
| Dice | InGaN |
| Electrodes | Ag Plating Copper Alloy |
| Emitted Color | Blue |
| Viewing Angle | 120 Deg |

Notes:

1. All dimensions are in millimeters, tolerance is 0.2mm.
2. Electrical Connection between all cathodes is recommended.

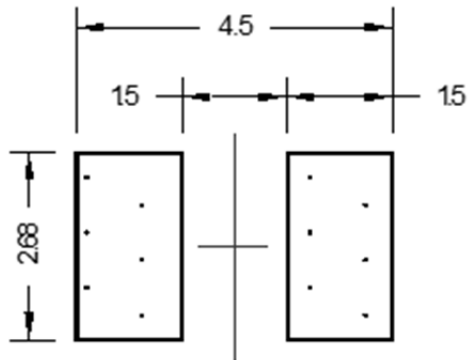


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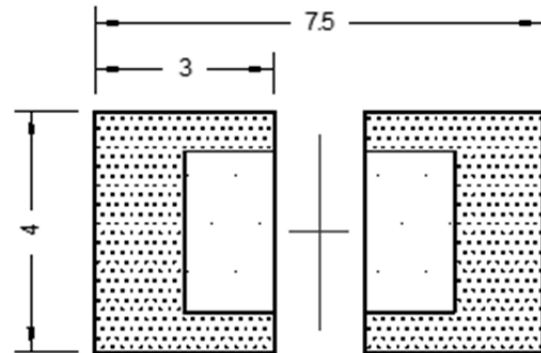
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RECOMMENDED SOLDERING PAD PATTERN



(Unit:mm)



Solder resist

(Unit:mm)

Unit=mm.



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ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

| Parameter | Symbol | Value | Unit |
|-----------------------------|-----------|-----------------|------|
| DC Forward Current | I_F | 30 | mA |
| Peak Pulsed Forward Current | I_{FP} | 100 | mA |
| Power Dissipation | P_d | 105 | Mw |
| Reverse Voltage | V_R | 5 | V |
| Operating Temperature | T_{OPR} | -40 ~ +100 | °C |
| Storage Temperature | T_{STG} | -40 ~ +100 | °C |
| Solder Temperature | T_{SOL} | 265°C for 10sec | |

OPTICAL-ELECTRICAL CHARACTERISTICS

(Ta=25°C)

| Parameter | Symbol | Test Condition | Min | Typ | Max | Unit |
|---------------------|-----------------------|----------------|-----|------|-----|---------|
| Forward Voltage | V_F | $I_F=20mA$ | -- | 3.0 | 3.4 | V |
| Luminous Intensity | I_v | | 310 | 500 | 680 | mcd |
| Luminous Flux | Φ_v | | -- | 1500 | -- | mlm |
| Dominant Wavelength | λ_D | | 460 | 470 | 480 | nm |
| Peak Wavelength | λ_P | | -- | 465 | -- | nm |
| Spectral Half Width | $\Delta\lambda_{1/2}$ | | -- | 20 | -- | nm |
| Reverse Voltage | I_R | $V_R=5V$ | -- | -- | 50 | μA |

Note: Measurement uncertainty of luminous intensity $\pm 10\%$



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LUMINOUS INTENSITY BIN TABLE

(IF=20mA)

| Rank name | Min | Max | Unit |
|-----------|-----|-----|------|
| K | 310 | 400 | mcd |
| L | 400 | 520 | |
| M | 520 | 680 | |

Note: Tolerance for each bin limit is $\pm 15\%$.

COLOR BIN TABLE

(IF=20mA)

| Rank name | Min | Max | Unit |
|-----------|-----|-----|------|
| 1 | 460 | 465 | V |
| 2 | 465 | 470 | |
| 3 | 470 | 475 | |
| 4 | 475 | 480 | |

Note: Tolerance for each bin limit is $\pm 1\text{nm}$.

Notes:

1. One delivery will include several color ranks and I_V ranks of products.
The quantity ration of different ranks is decided by AOP.
2. Bin name typed on the Label: IV rank + Color Rank.
For example: BIN K2 Means IV: 310~400mcd, Color: 465nm~470nm.
3. AOP has the right to update the information without notice.
Please double confirm the spec details before placing an order.
4. Static electricity or surge voltage damages the LEDs.
It is recommended to use a wrist band or anti-electrostatic glove when handling the LEDs.



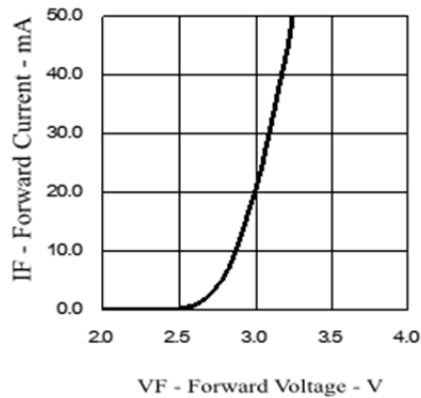
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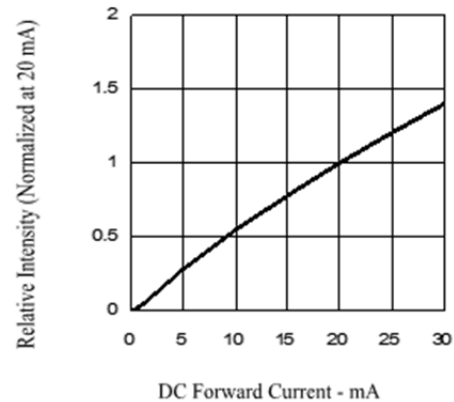
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ELECTRICAL-OPTICAL CHARACTERISTICS

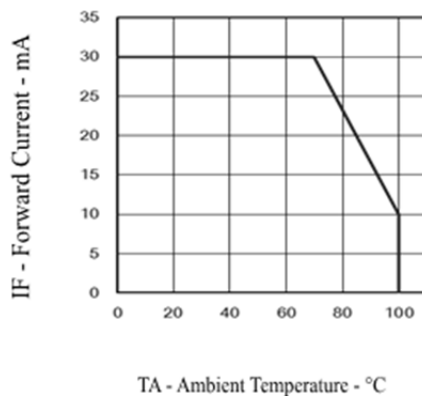
Forward Current vs. Forward Voltage



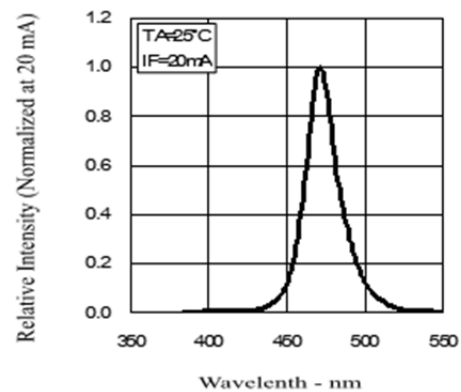
Relative Intensity vs. Forward Current



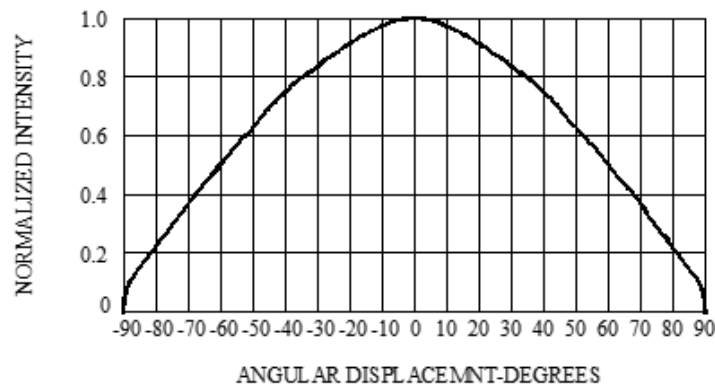
Forward Current vs. Ambient Temperature



Relative Intensity vs. Wavelength



Radiation Pattern



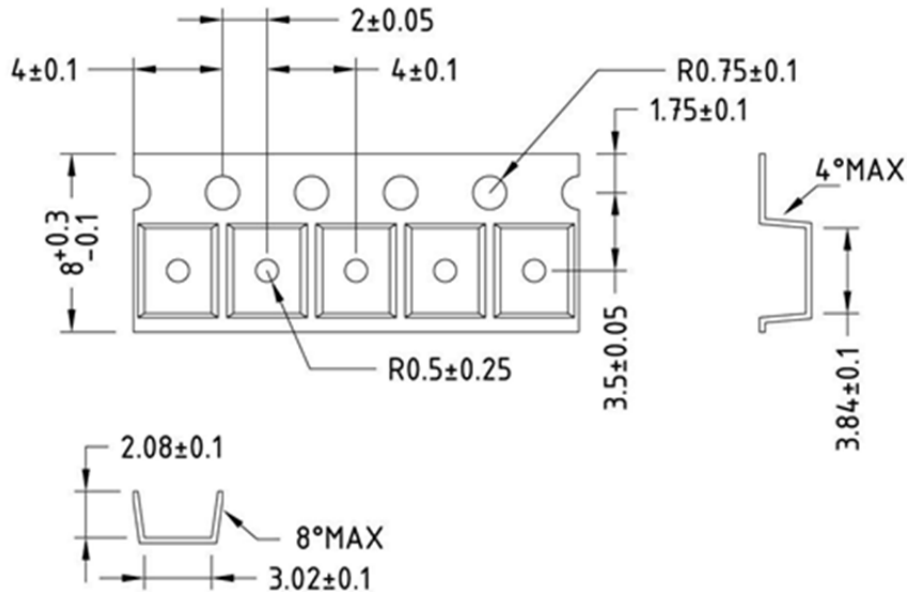


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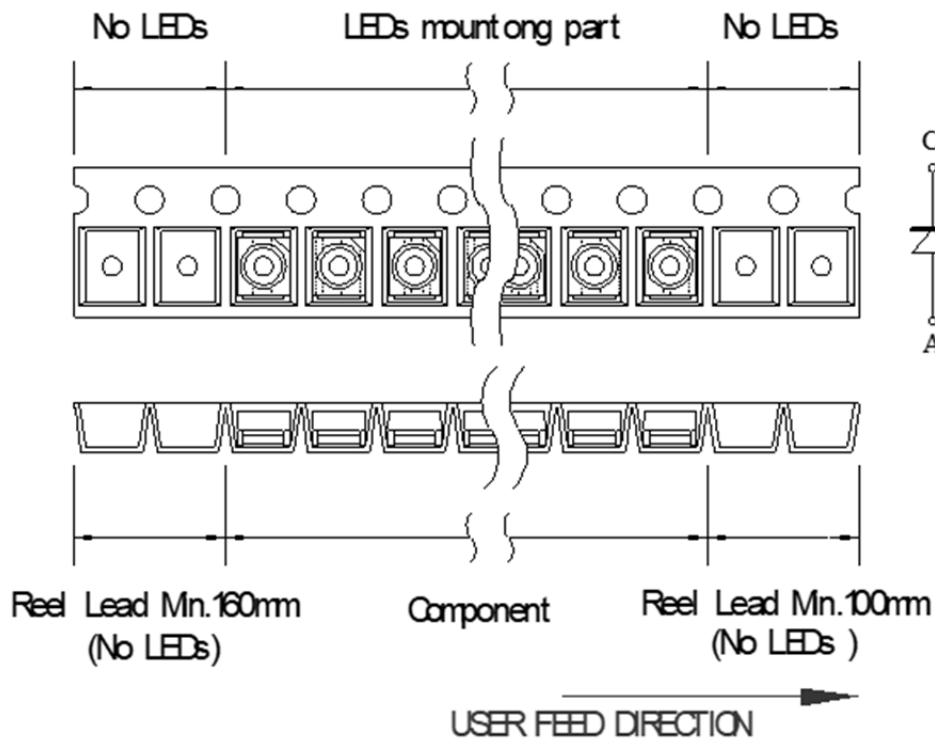
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TAPE DIMENSION



Tape leader and trailer dimension



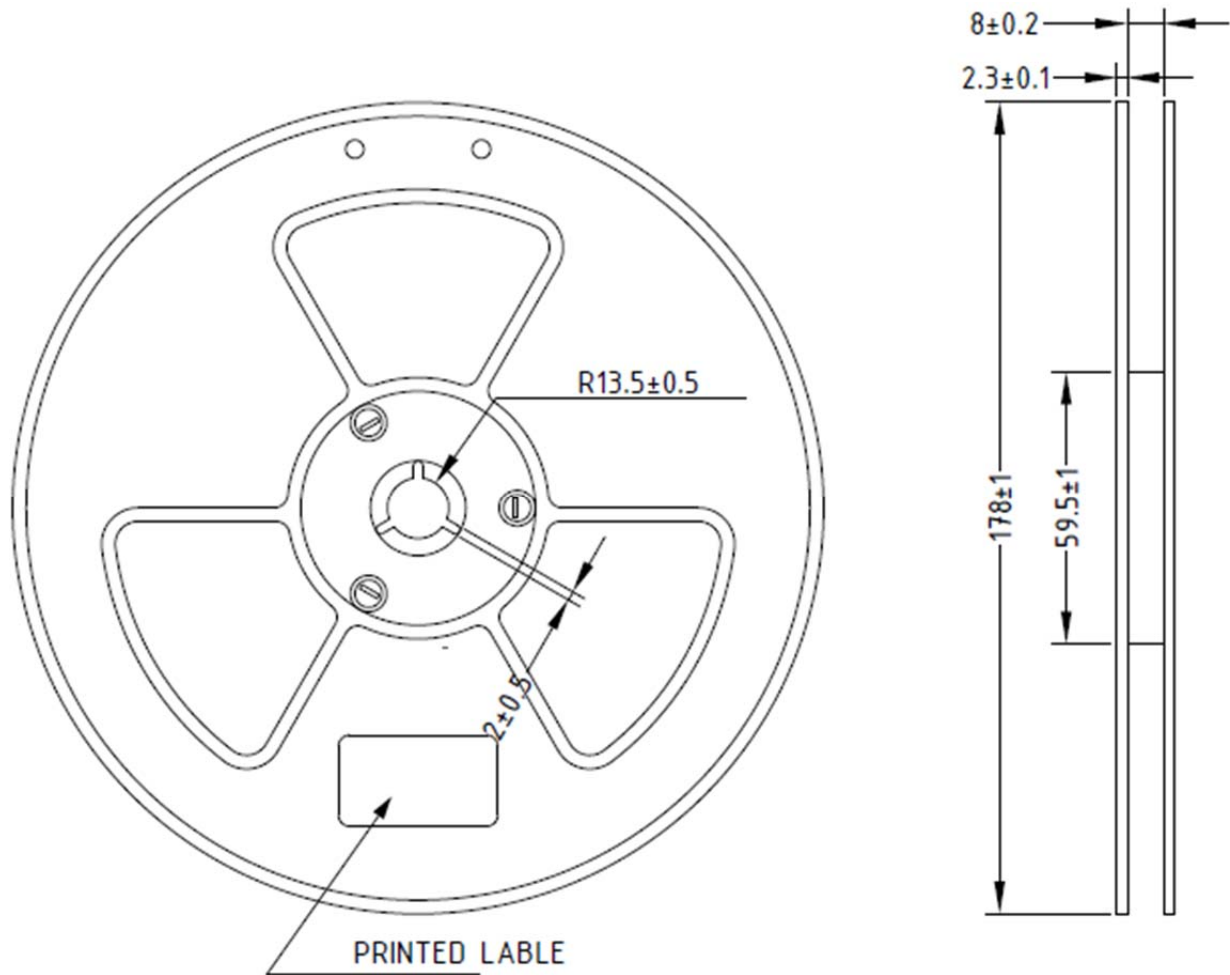


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REEL DIMENSION



Notes:

1. 8mm tape, 7 inch reel-2000 pieces per reel.
2. All dimension are in millimeters.
3. If the package is opened for more than 72 hours, baking is required.
4. Baking recommended conditions 60 ± 5 °C for 20 hours.

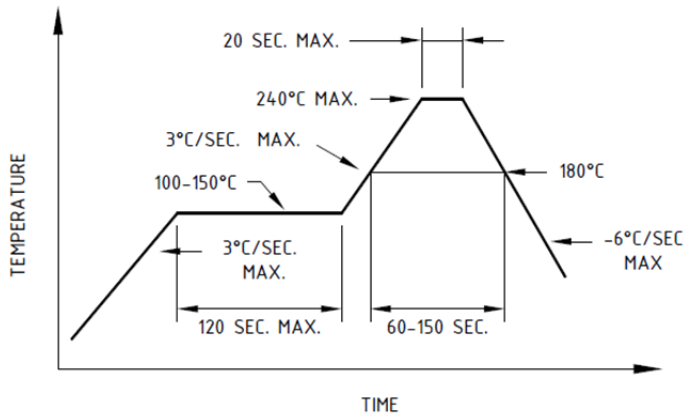


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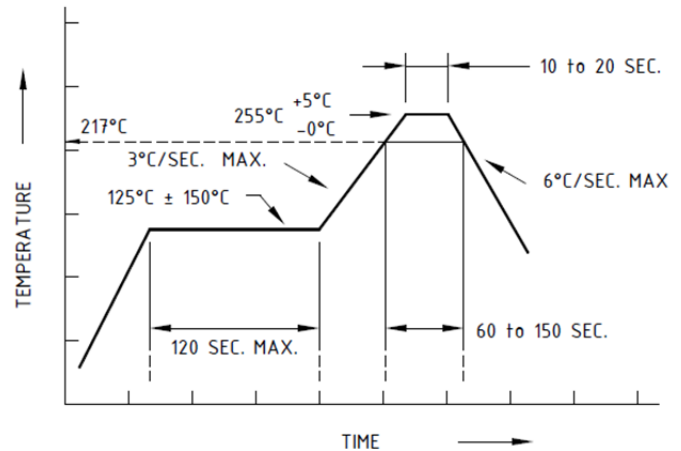
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SOLDERING CONDITIONS



Recommended reflow soldering profile



Recommended Pb-free reflow soldering profile

Notes:

1. Repairing should not be done after the LEDs have been soldered. When repairing is unavoidable, a double head soldering iron should be used. It should be confirmed beforehand whether the characteristic of the LEDs will or will not be damaged by repairing.
2. Reflow soldering should not be done more than two times.
3. When soldering, do not put stress on the LEDs during heating.
4. After soldering, do not warp the circuit board.

MOISTURE SENSITIVITY

AOP's SMD LED are shipped in sealed, moisture-barrier bags (MBB), designed for long shelf life. If SMD LED is exposed with moist environments before soldering, this may cause damage to SMD LED during soldering (reflow operation).

Storage/Floor time

| Condition | Temperature(C) | Humidity(RH) | Period of Time |
|-------------|----------------|--------------|----------------------------|
| Before Open | 30 | 60 | 6 month from shipping date |
| After Open | 30 | 60 | Within 72 hours |

1. MSL of this product are MSL4, please see IPC/JEDEC STD020D for more detail.
2. LEDs reach floor time may be damaged while soldering/reflow processing, please discard the LED.
3. If RH indicator show 60% RH when package is unsealed, please bake/discard the LED.

RESEAL

1. AOP's aluminum MBB may reuse as to reseal the unused LED if MBB has not damaged or has any holes in it.
2. Moisture absorbent material (Silica gel) may reuse if it does not become pink.
3. Proper resealed LED's floor time will NOT RESET, only stop counting until open
4. If RH indicator card show 60% RH when open the package, please bake/discard the package.



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BAKE

Baking is required under the following conditions:

- The package has been opened for more than 72 hours.

Baking condition:

- $60 \pm 5^{\circ}\text{C}$ for 20 hours.