



**American Opto Plus LED Corp.**

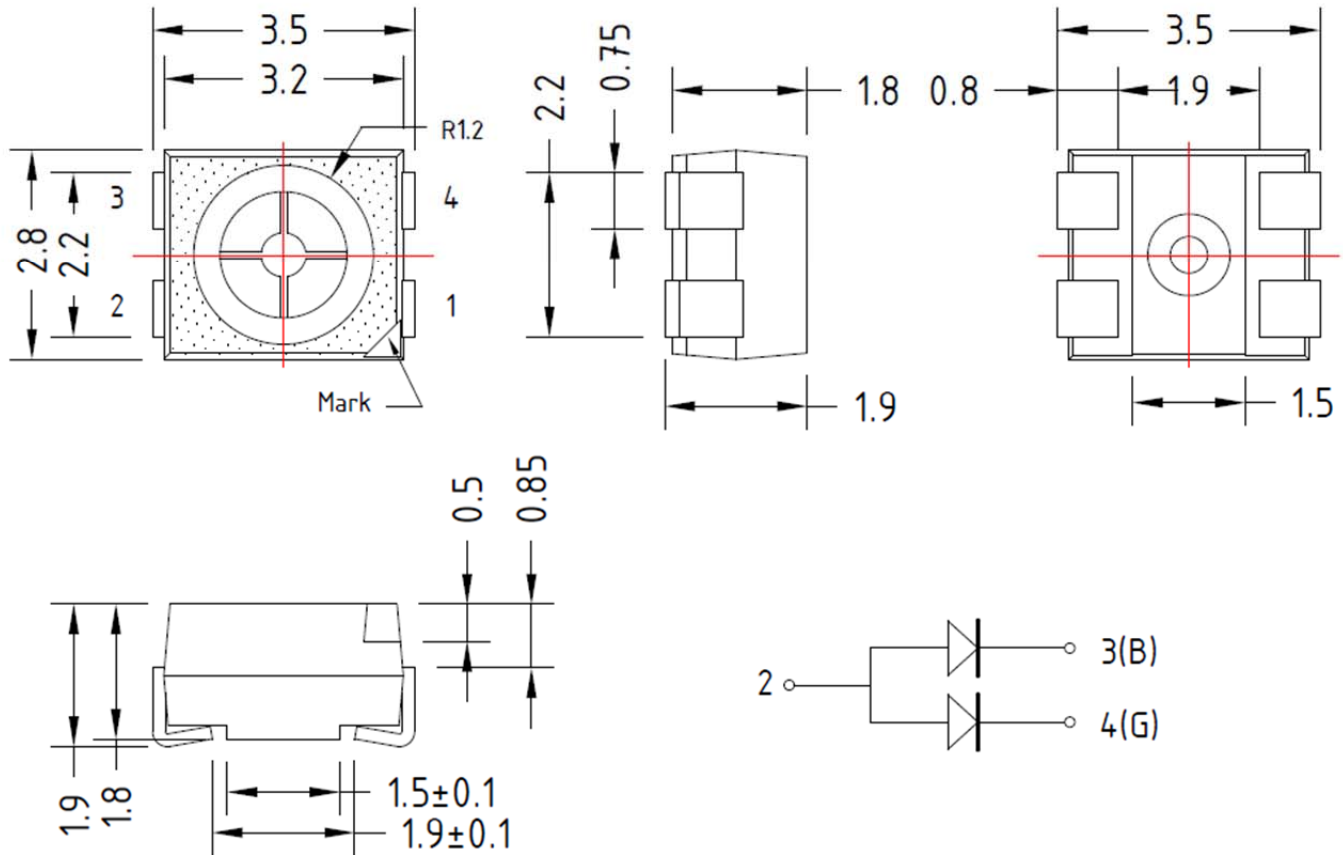
**L955QBTGC-2**

**3.5 X 2.8 X 1.9mm PLCC-4**

**MAIN FEATURES:**

- Dual Color Blue( InGaN) & Pure Green(InGaN) LED
- Wide viewing angle 120°
- PLCC-4 3.5x2.8 standard package
- High reliability package

**PACKAGE OUTLINES:**



| Item                | Materials               |
|---------------------|-------------------------|
| Package             | Heat-Resistant Polymer  |
| Encapsulating Resin | Silicone                |
| Electrodes          | Ag Plating Copper Alloy |

**NOTES:**

1. All dimensions are in millimeters (inches);
2. Electrical Connection between all Cathodes is Recommended



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**ABSOLUTE MAXIMUM RATINGS**

(Ta=25°C)

| Item                           | Symbol           | Max Rating   |       | Unit |
|--------------------------------|------------------|--|-------|------|
|                                |                  | Blue   | Green |      |
| Power Dissipation Single Color | P <sub>D</sub>   | 150  | 150   | mW   |
| Peak Pulse Forward Current     | I <sub>PF</sub>  | 100  | 100   | mA   |
| DC Forward Current             | I <sub>F</sub>   | 30   | 30    | mA   |
| Reverse Voltage                | V <sub>R</sub>   | 5  | 5     | V    |
| Operating Temperature          | T <sub>OPR</sub> | -30~+100   |       | °C   |
| Storage Temperature            | T <sub>STG</sub> | -40~+100   |       | °C   |
| Solder Temperature             | T <sub>SOL</sub> | 265°C for 10 sec<br>Hand soldering: 350°C for 3sec |       |      |

\*IFP Conditions: Pulse Width ≤ 10msec and Duty ≤ 1/10

\*Value for total power dissipation when two or more device are lit simultaneously

**OPTICAL-ELECTRICAL CHARACTERISTICS**

(Ta=25°C)

| Parameter           | Symbol            | Test Condition        | Blue |     |     | Green |      |      | Unit |
|---------------------|-------------------|-----------------------|------|-----|-----|-------|------|------|------|
|                     |                   |                       | Min  | Typ | Max | Min   | Typ  | Max  |      |
| Luminous Intensity  | I <sub>v</sub>    | I <sub>F</sub> = 20mA | 240  | 300 | 400 | 880   | 1000 | 1500 | mcd  |
| Reverse Current     | I <sub>r</sub>    | I <sub>F</sub> =20mA  | --   | --  | 50  | --    | --   | 50   | μA   |
| Dominant Wavelength | λ <sub>d</sub>    | I <sub>F</sub> = 20mA | 465  | 470 | 475 | 520   | 525  | 530  | nm   |
| Peak Wavelength     | λ <sub>p</sub>    | I <sub>F</sub> = 25mA | --   | 465 | --  | --    | 515  | --   | nm   |
| Spectral Half Width | Δλ <sub>1/2</sub> | I <sub>F</sub> = 25mA | --   | 20  | --  | --    | 28   | --   | nm   |
| Forward Voltage     | V <sub>F</sub>    | I <sub>F</sub> =20mA  | 2.9  | 3.1 | 3.6 | 2.9   | 3.1  | 3.6  | V    |

Notes: Luminous intensity tolerance is ±10%



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## Luminous Intensity Bin Table

**I<sub>F</sub>=20mA**

| Rank name | Blue (mcd) |     | Green (mcd) |      |
|-----------|------------|-----|-------------|------|
|           | Min        | Max | Min         | Max  |
| JQ        | 240        | 310 | 1150        | 1500 |
| JR        | 310        | 400 | 1150        | 1500 |
| KQ        | 240        | 310 | 1500        | 1900 |
| KR        | 310        | 400 | 1500        | 1900 |

\* Tolerance for each bin limit is ±15%

## Color Bin Table

**I<sub>F</sub>=20mA**

| Rank name | Blue (nm) |     | Green (nm) |     |
|-----------|-----------|-----|------------|-----|
|           | Min       | Max | Min        | Max |
| 1         | 465       | 470 | 520        | 525 |
| 2         | 465       | 470 | 525        | 530 |
| 3         | 465       | 470 | 520        | 525 |
| 4         | 465       | 470 | 525        | 530 |

\* Tolerance for each bin limit is ±15%



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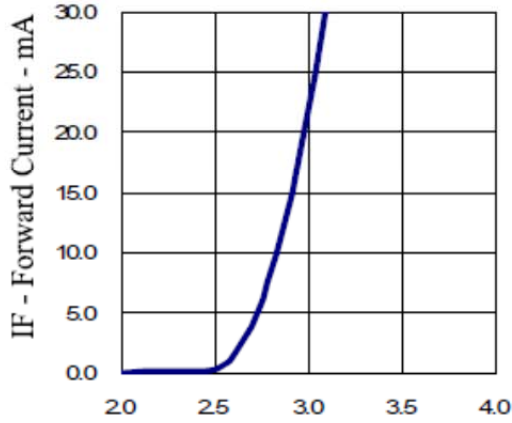
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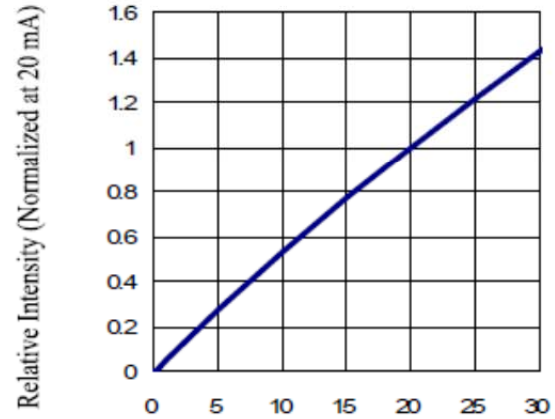
## OPTICAL CHARACTERISTIC CURVES:

Forward Current vs. Forward Voltage



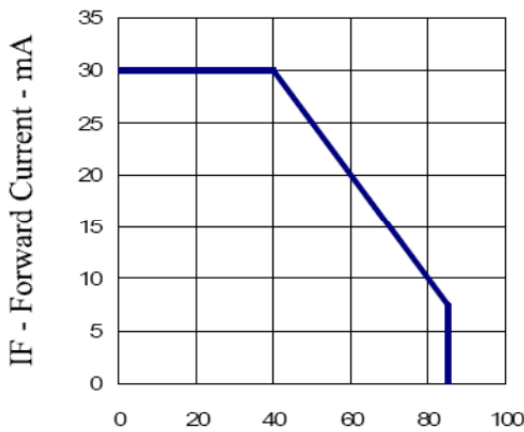
VF - Forward Voltage - V

Relative Intensity vs. Forward Current



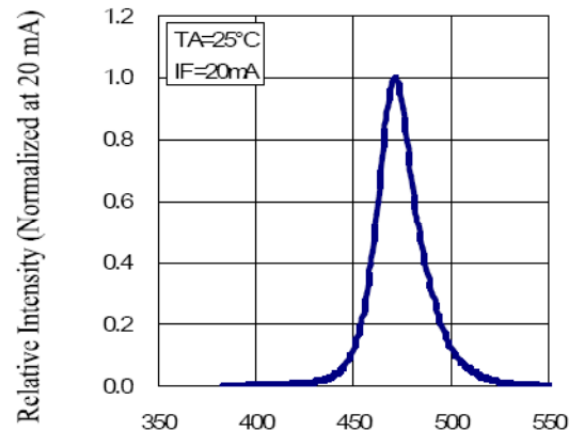
DC Forward Current - mA

Forward Current vs. Ambient Temperature



TA - Ambient Temperature - °C

Relative Intensity vs. Wavelength



Wavelength - nm



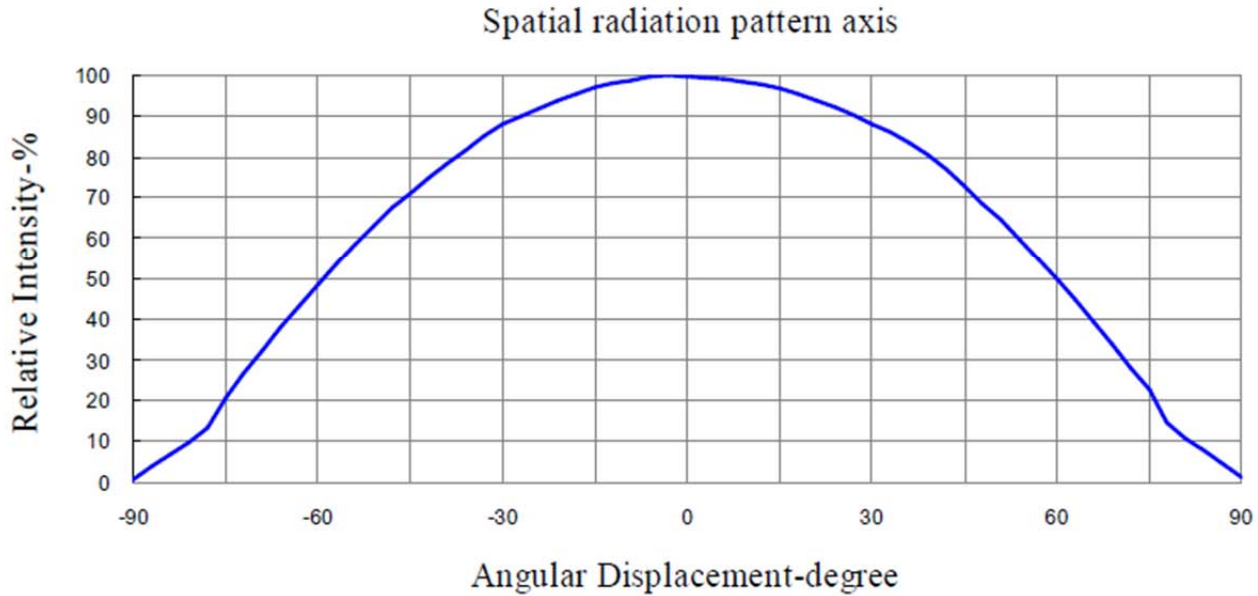
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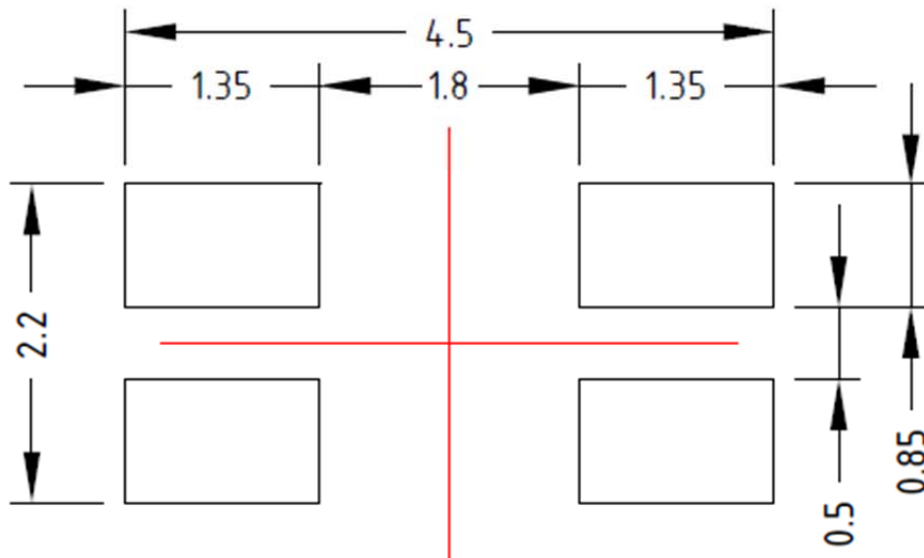
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### Radiation Pattern



### Recommended Soldering Pad Pattern





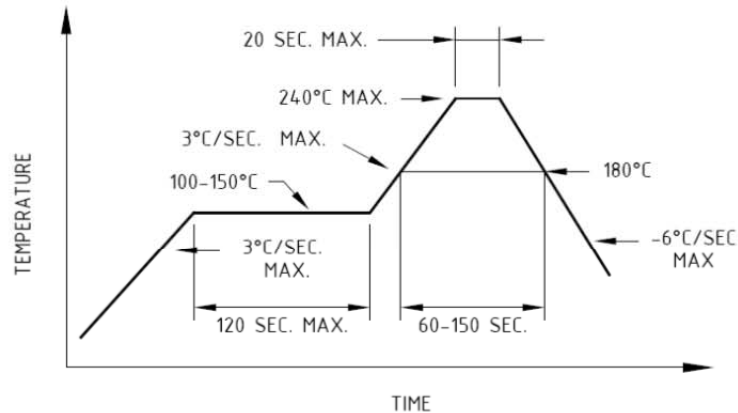
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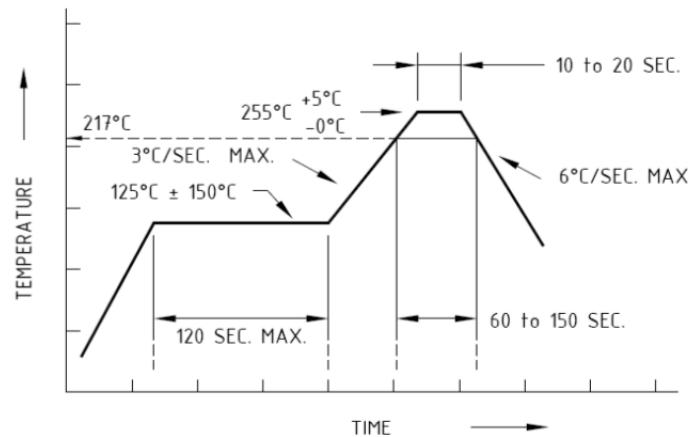
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## Soldering Conditions



**Recommended reflow soldering profile**



**Recommended Pb-free reflow soldering profile**

- 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 characteristics of the LEDs will or will not be damaged by repairing.
- Reflow soldering should not be done more than two times.
- When soldering, do not put stress on the LEDs during heating.
- After soldering, do not warp the circuit board.





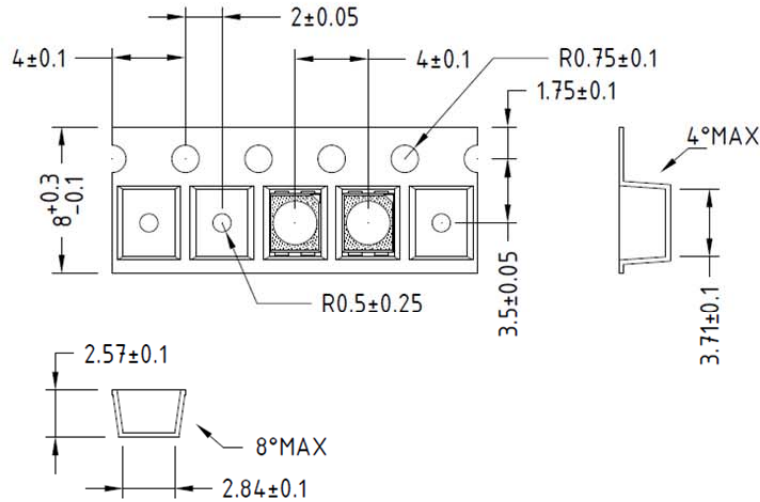
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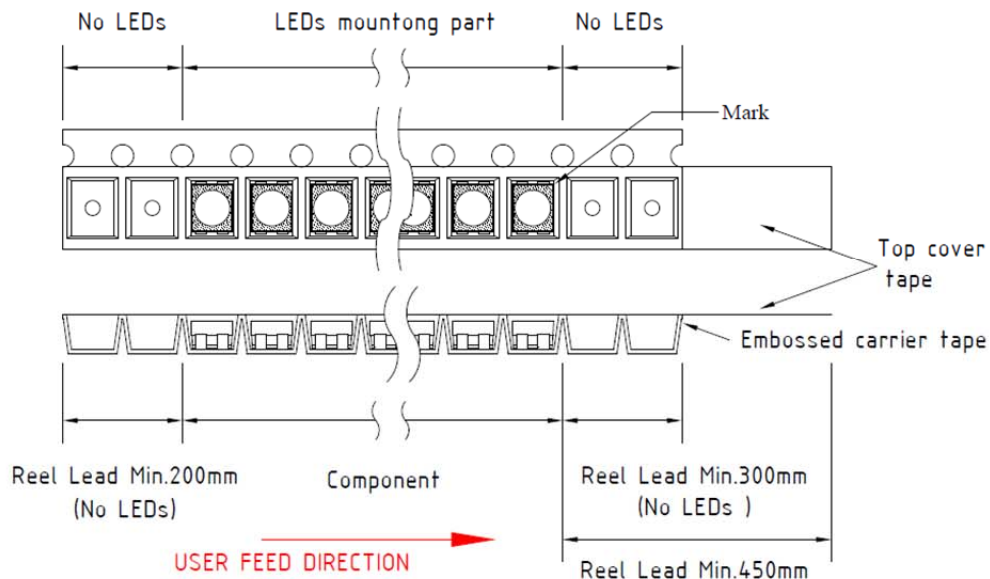
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### Tape Dimension



### Tape Leader and Trailer Dimension

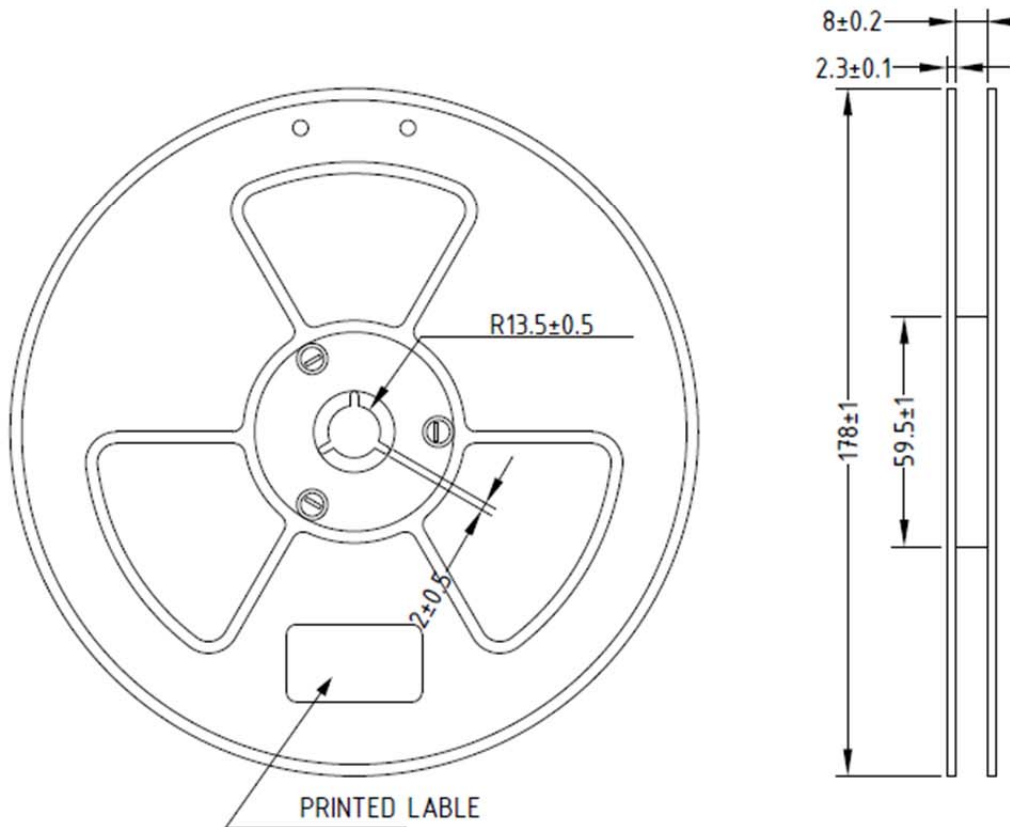




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**Reel dimension**



Note: Baking is required under the following conditions:  
The pack has been opened for more than four weeks.  
Baking recommended conditions:  
 $60 \pm 5$  °C for 20 hours.