



**Opto Plus LED Corp**

**OPS-L955MWC-Z**

**3.5 x 2.8 x 1.9 mm PLCC2**

● **EDIT HISTORY**

Version A: Sep. 27, 2011

New color data sheet.

| Manufacture | Examination | Approving |
|-------------|-------------|-----------|
|             |             |           |



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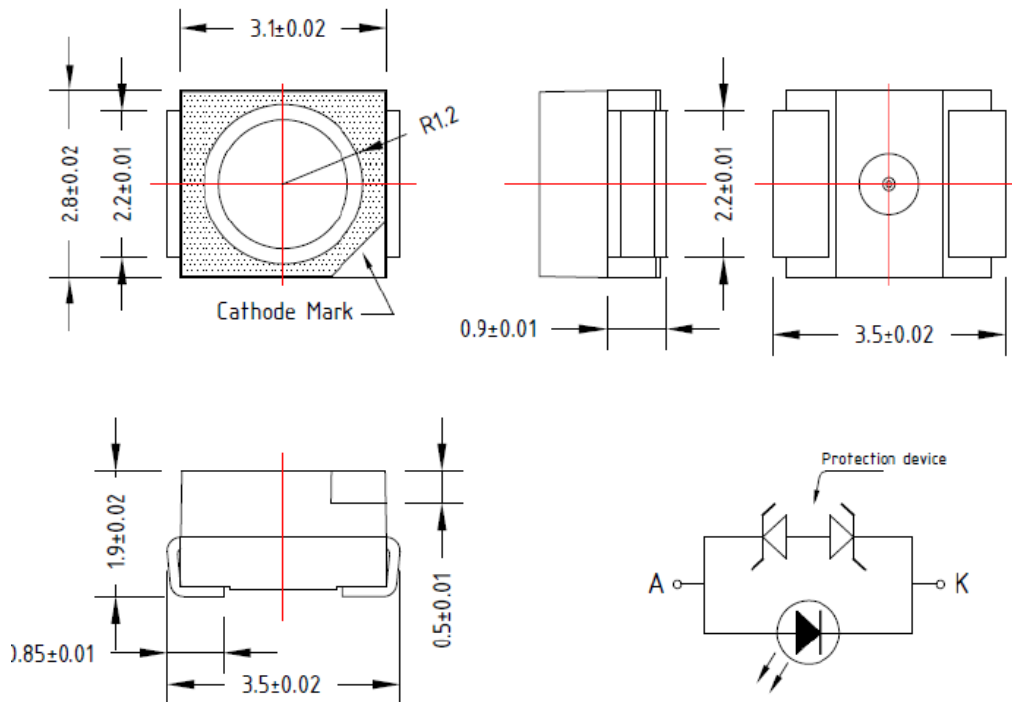
## OPS-L955MWC-Z

3.5 x 2.8 x 1.9 mm PLCC2

### ● FEATURES

- ◆ High Luminous Output Warm White SMD LED Lamp (InGaN)
- ◆ Wide viewing angle 120 degree.
- ◆ Low current requirement.
- ◆ IR reflow soldering.
- ◆ High reliability package

### ● PACKAGE DIMENSIONS



| 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

RoHS Compliance



Pb free.





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### ● ABSOLUTE MAXIMUM RATINGS AT TA=25°C

| Parameter  | Symbol     | Ultra Bright Red | Unit |
|--|------------|------------------|------|
| Power Dissipation  | $P_{AD}$   | 72               | mW   |
| Continuous Forward Current                                   | $I_{FMAX}$ | 30               | mA   |
| Peak Forward Current<br>(duty cycle 1/10, 0.1ms Pulse Width) | $I_{FP}$   | 100              | mA   |
| Reverse Voltage  | $V_R$      | 5                | V    |
| Operating Temperature Range                                  | $T_{OPR}$  | -30 to +85       | °C   |
| Storage Temperature Range                                    | $T_{STG}$  | -40 to +100      | °C   |
| Solder Temperature   | $T_{SOL}$  | 265°C for 10sec  |      |

I<sub>FP</sub> Conditions: Pulse Width ≤ 10msec and Duty ≤ 1/10

### ● ELECTRICAL OPTICAL CHARACTERISTICS AT TA=25°C

| Characteristic          | Symbol | Condition    | Min. | Type | Max. | Unit |
|-------------------------|--------|--------------|------|------|------|------|
| Forward Voltage         | $V_F$  | $I_F = 20mA$ | -    | 3.1  | 3.5  | V    |
| Reverse Current         | $I_R$  | $V_R = 5V$   | -    | -    | 50   | μA   |
| Chromaticity Coordinate | X      | $I_F = 20mA$ | -    | 0.41 | -    | nm   |
| Chromaticity Coordinate | Y      | $I_F = 20mA$ | -    | 0.39 | -    | nm   |
| Luminous Intensity      | $I_V$  | $I_F = 20mA$ | 1700 | 2000 | -    | mcd  |

Notes: Luminous intensity tolerance is 10%



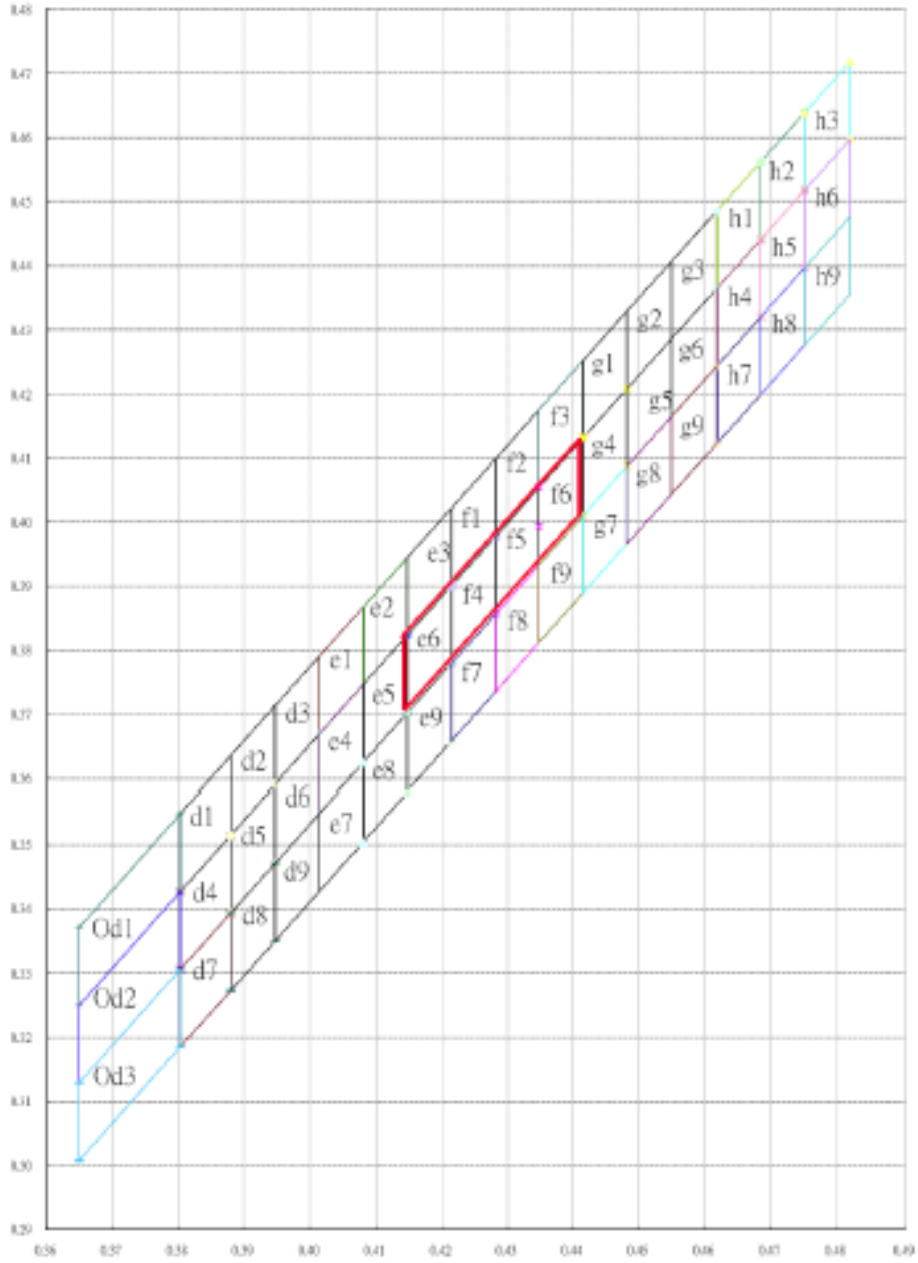
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### Chromaticity Diagram

(Red Box Only)





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### Color Ranks

| BIN e6   |        |        |        |        |
|----------|--------|--------|--------|--------|
| <b>x</b> | 0.4014 | 0.4014 | 0.4081 | 0.4215 |
| <b>y</b> | 0.3548 | 0.3669 | 0.3746 | 0.3625 |

| BIN f4   |        |        |        |        |
|----------|--------|--------|--------|--------|
| <b>x</b> | 0.4215 | 0.4215 | 0.4282 | 0.4282 |
| <b>y</b> | 0.3779 | 0.39   | 0.3977 | 0.3856 |

| BIN f5   |        |        |        |        |
|----------|--------|--------|--------|--------|
| <b>x</b> | 0.4282 | 0.4282 | 0.4348 | 0.4348 |
| <b>y</b> | 0.3856 | 0.3977 | 0.4054 | 0.3933 |

| BIN f6   |        |        |        |        |
|----------|--------|--------|--------|--------|
| <b>x</b> | 0.4348 | 0.4348 | 0.4415 | 0.4415 |
| <b>y</b> | 0.3933 | 0.4054 | 0.4131 | 0.401  |



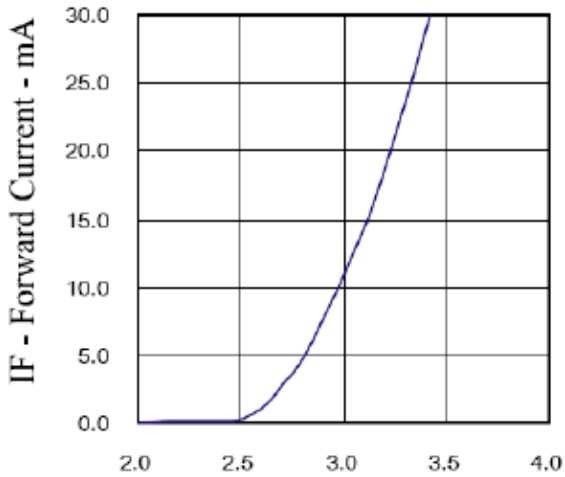
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## OPS-L955MWC-Z

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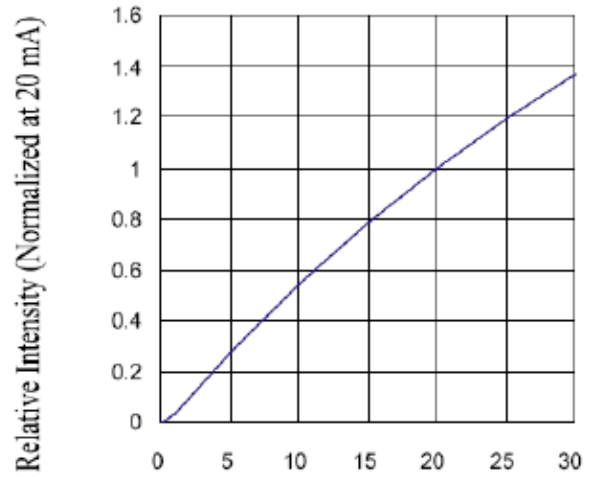
### OPTICAL CHARACTERISTIC CURVES:

Forward Current vs. Forward Voltage



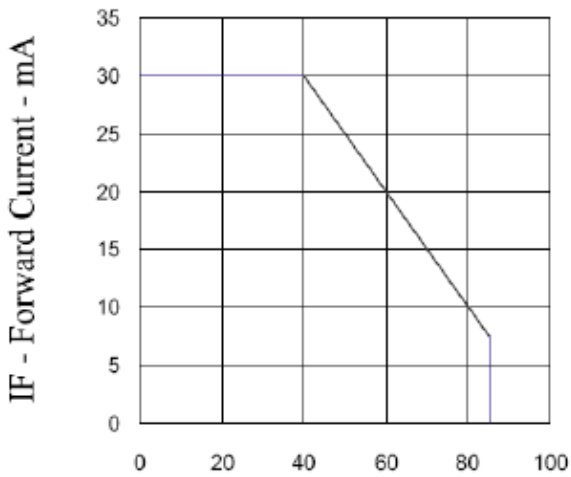
VF - Forward Voltage - V

Relative Intensity vs. Forward Current



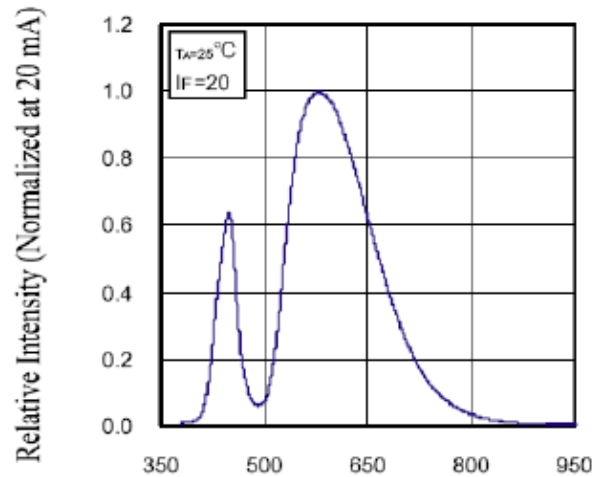
DC Forward Current - mA

Forward Current vs. Ambient Temperature



TA - Ambient Temperature - °C

Relative Intensity vs. Wavelength



Wavelength - nm

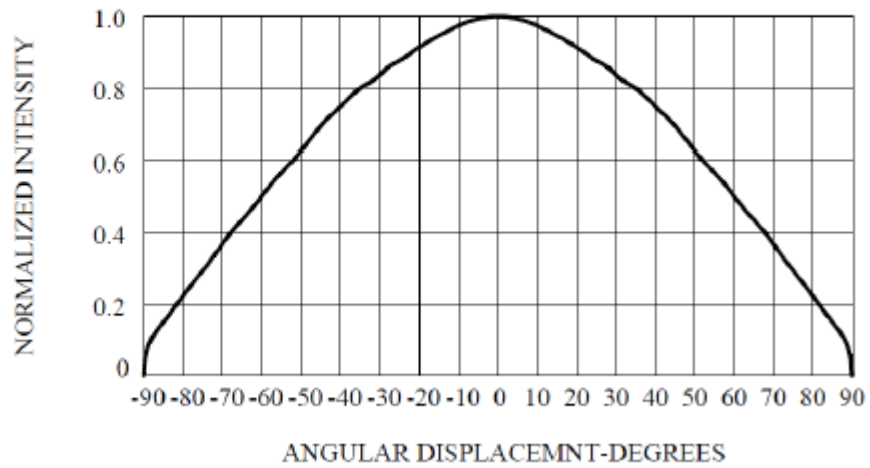


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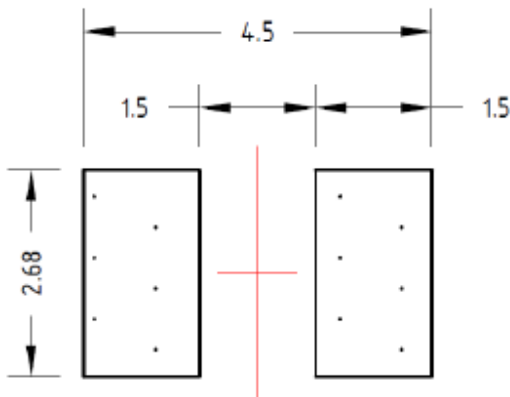
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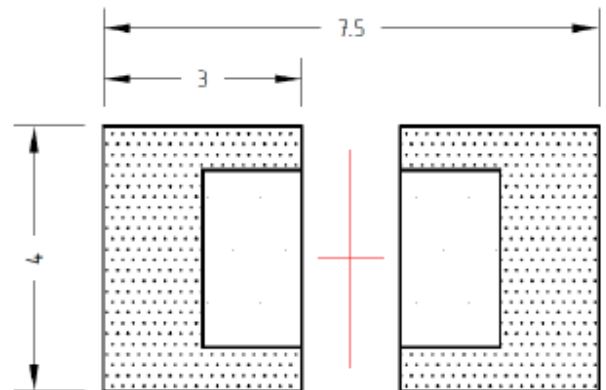
### Radiation Pattern




### Recommended Soldering Pad Pattern



(Unit:mm)



 Solder resist (Unit:mm)

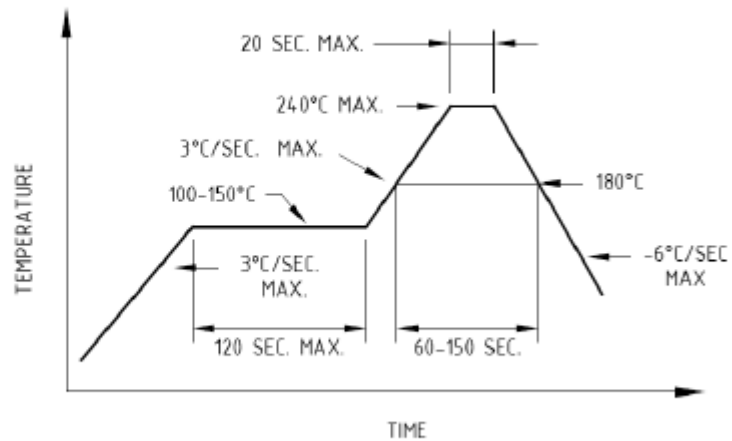


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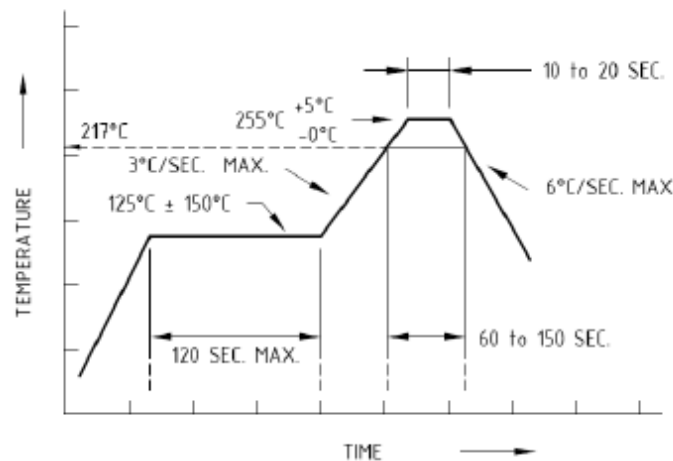
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## Soldering Conditions:



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.



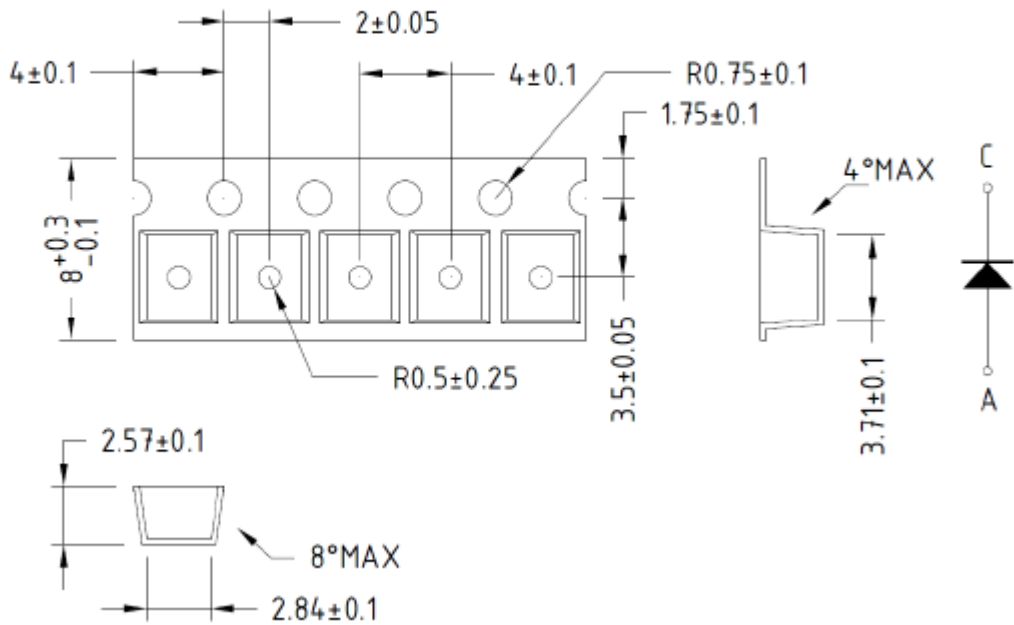


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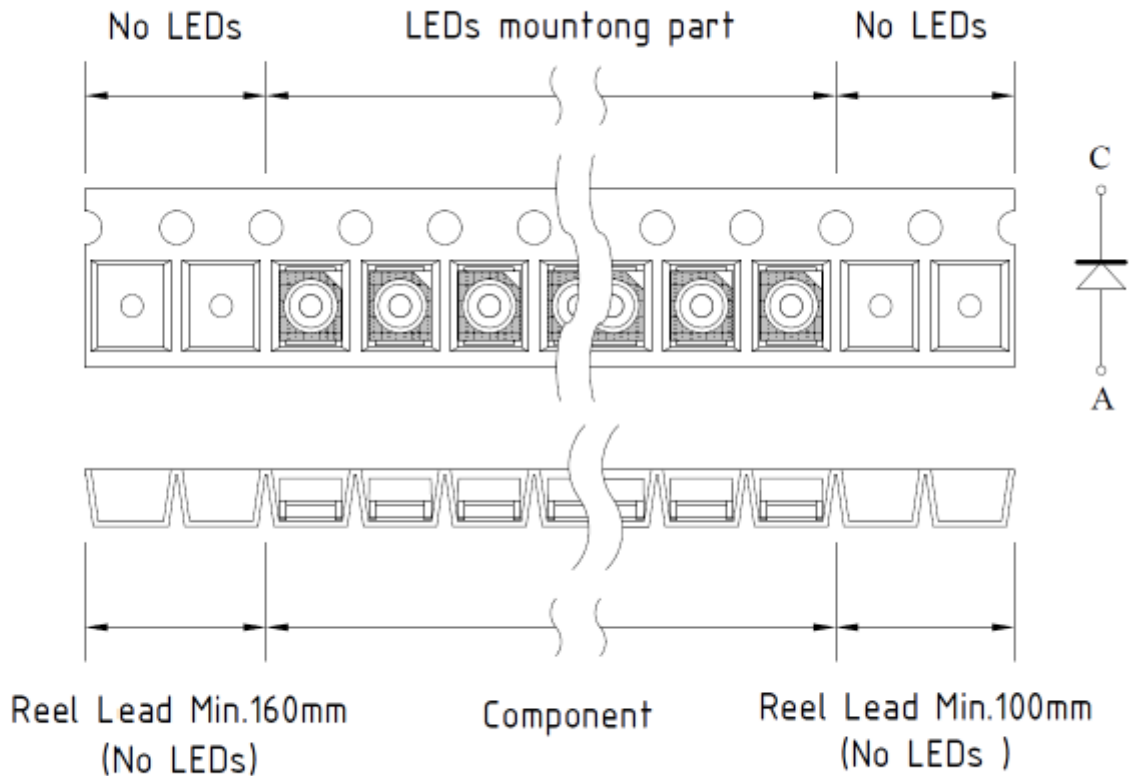
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### Tape Dimension



### Tape Leader and Trailer Dimension



USER FEED DIRECTION →

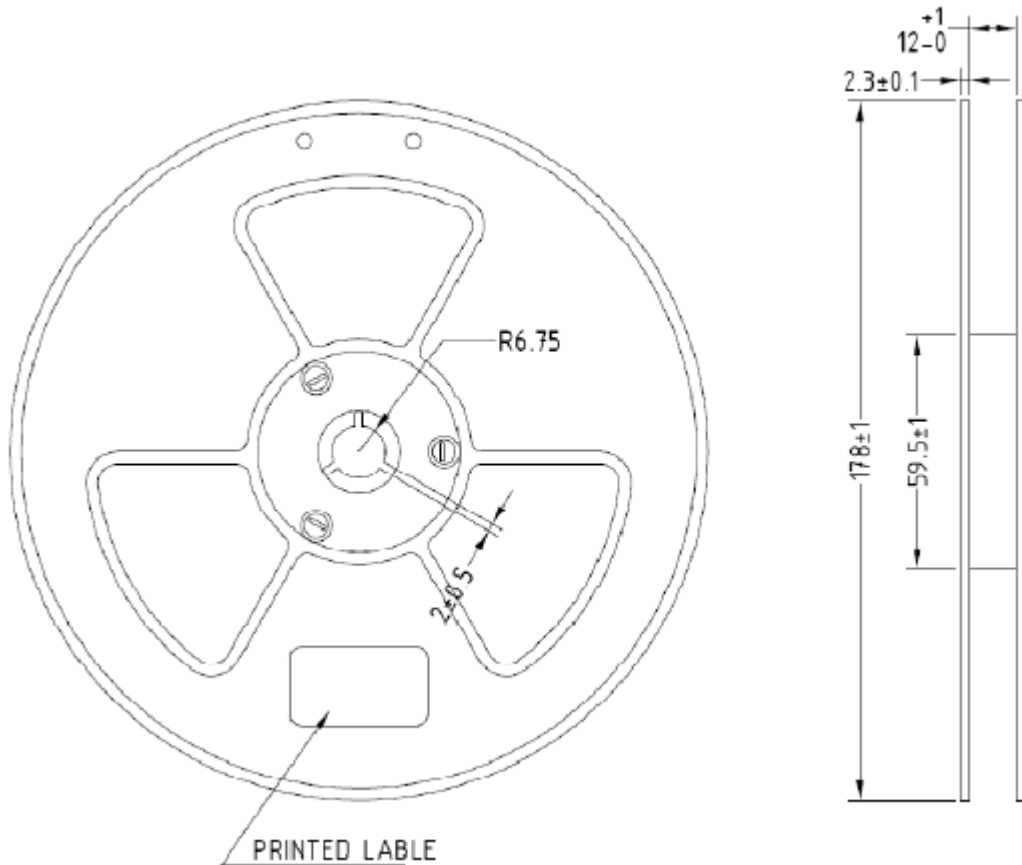


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● PACKAGE DIMENSIONS OF REEL



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.