

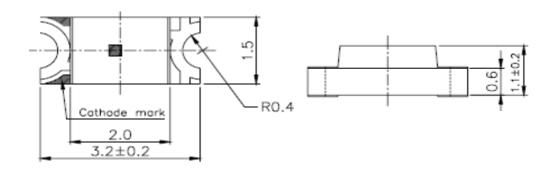


# Applications

Interior automotive lighting

 Optical indicators
 Communication Products
 Backlighting
 Toys

### **Technical Drawing**



## **Recommended Soldering Pattern**

| <i>Notes :</i><br>All dimensions in mm tolerance is<br>± 0.1mm unless otherwise noted. |      |      |       |        | SN                        | IT Top View L<br>Red | ED         |
|--|------|------|-------|--------|---------------------------|----------------------|------------|
|  |      |      |       |        | Part No.: <b>M11G1009</b> |                      |            |
|  |      |      |       |        | Custome                   | er:                  |            |
| DRW:   | Dong | CHKD | Chang | MATL:  | Chui                      | DATE                 | 21.06.2010 |
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## **Absolute Maximum Ratings**

| Item                   | Symbol            | AlGalnP | Unit |
|------------------------|-------------------|---------|------|
| Power Dissipation      | P <sub>D</sub>    |         | mW   |
| DC Forward Current     | I <sub>F</sub>    |         | mA   |
| Plused Forward Current | I <sub>FP</sub> * |         | mA   |
| Reverse Voltage        | V <sub>R</sub>    |         | V    |
| Operating Temperature  | T <sub>OP</sub>   |         | °C   |
| Storage Temperature    | T <sub>ST</sub>   |         | °C   |

\* 0.1 msec pulse, 10% duty cycle

## **Electrcal / Optical Characteristics**

 $I_F = 20 \text{mA}$ 

| Ermitting Color      |         | Red |                |  |  |  |
|----------------------|---------|-----|----------------|--|--|--|
| Material             | AlGalnP |     |                |  |  |  |
| Forward Voltage      | typ.    | 1.9 | V <sub>F</sub> |  |  |  |
| r orward voltage     | max.    | 2.4 | V <sub>F</sub> |  |  |  |
| Wavelength           | λD      | 620 | nm             |  |  |  |
| -                    | λP      | 635 | nm             |  |  |  |
| typ.                 | Δλ      |     | nm             |  |  |  |
| Color Temperature    | min.    |     | K              |  |  |  |
|                      | max.    |     | K              |  |  |  |
| Luminous Intensity * | min.    | 80  | mcd            |  |  |  |
| Lummous intensity    | typ.    | 100 | mcd            |  |  |  |
| Reverse Current      | max.    |     | μA             |  |  |  |
| Viewing Angle        | 2Θ1/2   | 120 |                |  |  |  |

\* Per NIST standards

|       |      |      |                |        | SMT Top View LED<br>Red   |       |            |
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**Directive Characteristics** 

|      |      |       |        | SMT Top View LED<br>Red   |       |            |  |
|------|------|-------|--------|---------------------------|-------|------------|--|
|      |      |       |        | Part No.: <b>M11G1009</b> |       | G1009      |  |
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|      |      |       |        | SMT Top View LED<br>Red   |       |            |  |
|------|------|-------|--------|---------------------------|-------|------------|--|
|      |      |       |        | Part No.: <b>M11G1009</b> |       | G1009      |  |
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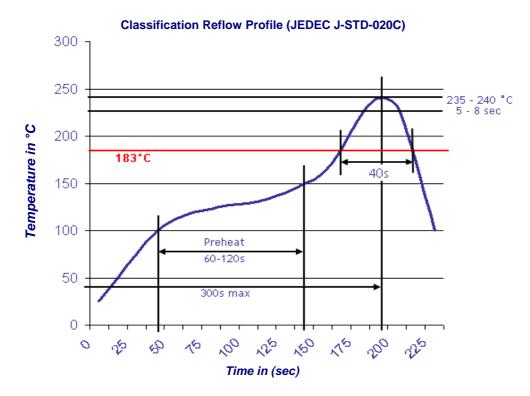
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#### **Solder Condition**

### Lead Free Solder



|       |        | SMT Top View LEL<br>Red   |      |            |  |  |
|-------|--------|---------------------------|------|------------|--|--|
|       |        | Part No.: <b>M11G1009</b> |      |            |  |  |
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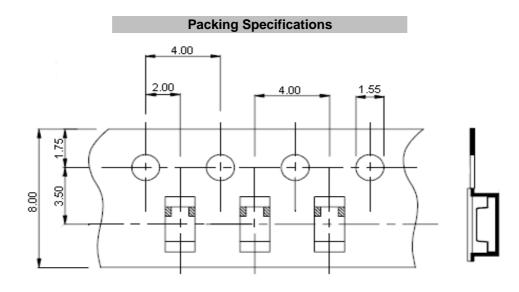
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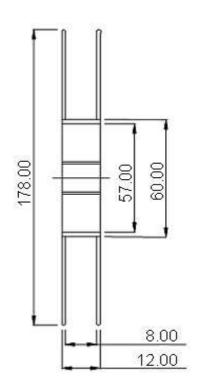
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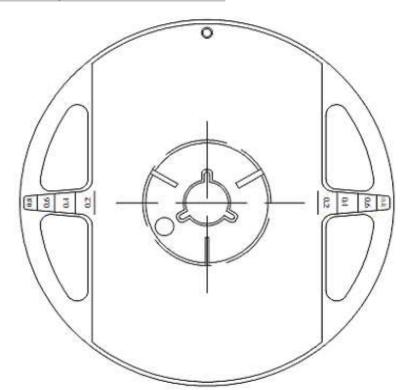






**Reel Specifications** 





|       |      |      |       |        | SMT Top View LED<br>Red   |       |            |
|-------|------|------|-------|--------|---------------------------|-------|------------|
|       |      |      |       |        | Part No.: <b>M11G1009</b> |       | G1009      |
|       |      |      |       |        | Custome                   | er:   |            |
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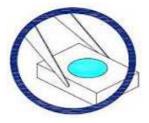




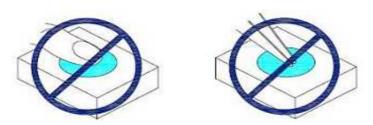
#### Handling Precautions

Compare to epoxy encapsulant that is hard and brittle, silicone is softer and flexible. Although ist characteristic significantly reduces thermal stress, it is more susceptible to damage by external mechanical force. As a result, special handling precautions need to be observed during assembly using silicone encapsulated LED products. Failure to comply might leads to damage and premature failure of th LED.

1. Handle the component along the side surfaces by using forceps or appropriate tools



2. Do not directly touch or handle the silicone lens surfance. It may damage the internal circuitry.



3. Do not stack together assembled PCBs containing exposed LEDs. Outside impact may scratch the silicone lens or damage the internal circuitry.



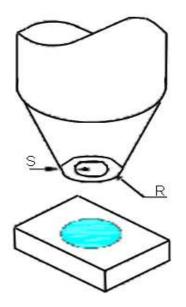
|       |      |      |       |        | SMT Top View LED<br>Red   |       |            |
|-------|------|------|-------|--------|---------------------------|-------|------------|
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- 4. The outer diameter of the TOP LED pickup nozzle should not exceed the size of the LED to prevent air leaks. The inner diameter of the nozzle should be as large as possible.
- 5. A pliable material is suggested for the nozzle tip to avoid scratching or damaging the LED surface during pickup.
- 6. The dimensions of the component must be accurately programmed in the pick-and-place machine to insure precise pickup and avoid damage during production.



|        | SN       | SMT Top View LED<br>Red |            |  |  |  |  |
|--------|----------|-------------------------|------------|--|--|--|--|
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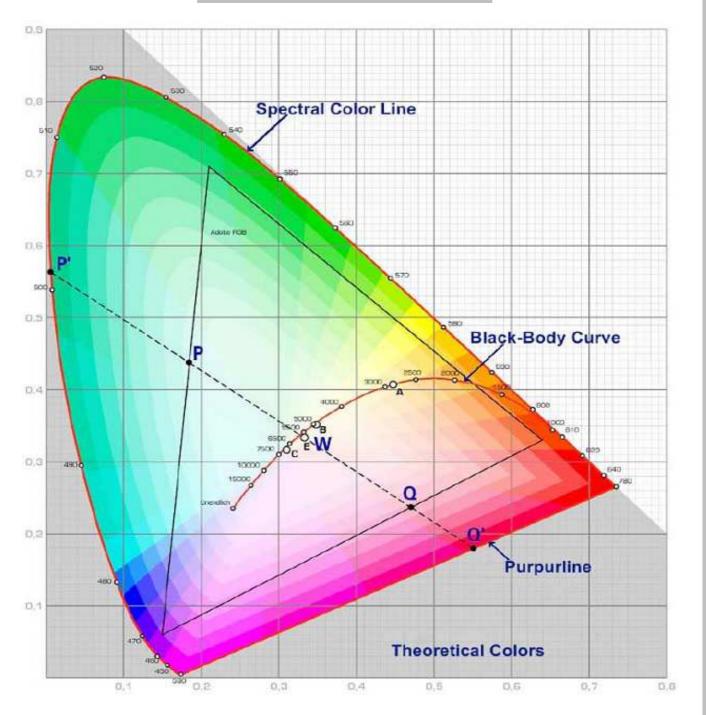
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Color table curve



|       |      |      |       |        | SMT Top View LED<br>Red   |       |            |
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