

Part Number: AA4040MGS

Mega Green

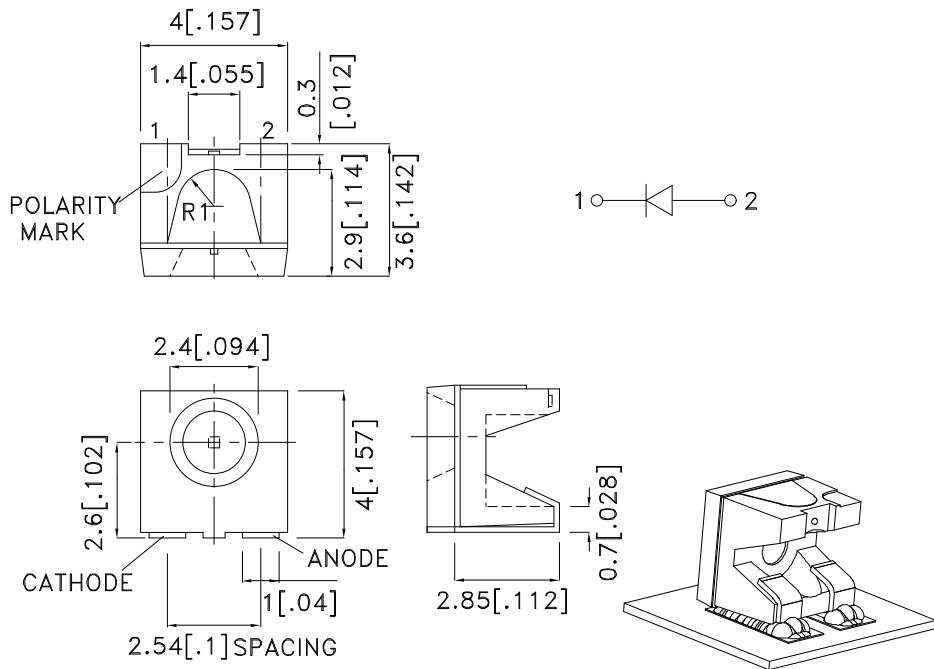
### Features

- Single color.
- Suitable for all SMT assembly and solder process.
- Available on tape and reel.
- Ideal for backlighting.
- Package : 500pcs / reel.
- Moisture sensitivity level : level 3.
- RoHS compliant.

### Description

The Mega Green source color devices are made with Al-GaInP on GaAs substrate Light Emitting Diode.

### Package Dimensions



#### Notes:

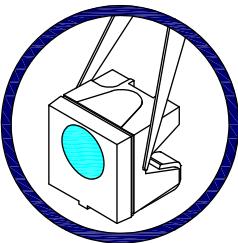
1. All dimensions are in millimeters (inches).
2. Tolerance is  $\pm 0.25(0.01")$  unless otherwise noted.
3. The specifications, characteristics and technical data described in the datasheet are subject to change without prior notice.
4. The device has a single mounting surface. The device must be mounted according to the specifications.



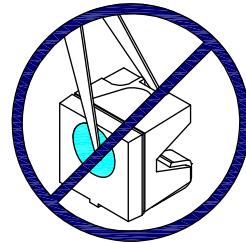
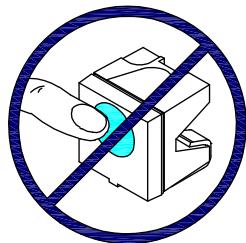
## Handling Precautions

Compare to epoxy encapsulant that is hard and brittle, silicone is softer and flexible. Although its 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 lead to damage and premature failure of the 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 surface. It may damage the internal circuitry.



3. As silicone encapsulation is permeable to gases, some corrosive substances such as H<sub>2</sub>S might corrode silver plating of leadframe. Special care should be taken if an LED with silicone encapsulation is to be used near such substances.

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## Selection Guide

| Part No.  | Dice                 | Lens Type   | I <sub>v</sub> (mcd) [2] @ 20mA |      | Viewing Angle [1] |
|-----------|----------------------|-------------|---------------------------------|------|-------------------|
|           |                      |             | Min.                            | Typ. |                   |
| AA4040MGS | Mega Green (AlGaInP) | Water Clear | 55                              | 120  | 120°              |

Notes:

1. θ1/2 is the angle from optical centerline where the luminous intensity is 1/2 of the optical peak value.
2. Luminous intensity/ luminous Flux: +/-15%.

## Electrical / Optical Characteristics at TA=25°C

| Symbol             | Parameter                | Device     | Typ. | Max. | Units | Test Conditions           |
|--------------------|--------------------------|------------|------|------|-------|---------------------------|
| λpeak              | Peak Wavelength          | Mega Green | 574  |      | nm    | I <sub>F</sub> =20mA      |
| λD [1]             | Dominant Wavelength      | Mega Green | 570  |      | nm    | I <sub>F</sub> =20mA      |
| Δλ1/2              | Spectral Line Half-width | Mega Green | 26   |      | nm    | I <sub>F</sub> =20mA      |
| C                  | Capacitance              | Mega Green | 20   |      | pF    | V <sub>F</sub> =0V;f=1MHz |
| V <sub>F</sub> [2] | Forward Voltage          | Mega Green | 2.1  | 2.5  | V     | I <sub>F</sub> =20mA      |
| I <sub>R</sub>     | Reverse Current          | Mega Green |      | 10   | uA    | V <sub>R</sub> =5V        |

Notes:

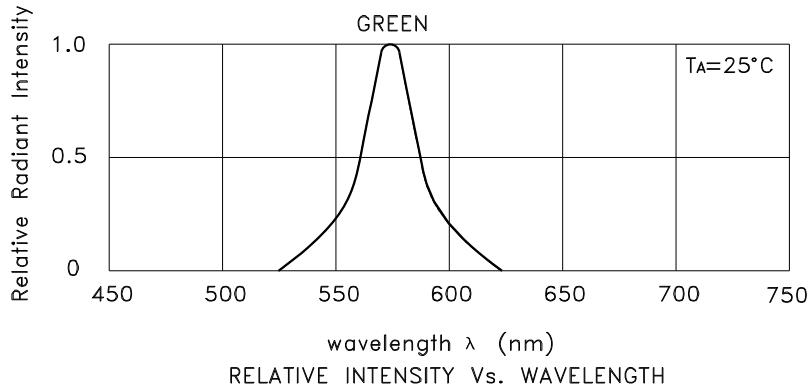
1. Wavelength: +/-1nm.
2. Forward Voltage: +/-0.1V.

## Absolute Maximum Ratings at TA=25°C

| Parameter                | Mega Green     | Units |
|--------------------------|----------------|-------|
| Power dissipation        | 75             | mW    |
| DC Forward Current       | 30             | mA    |
| Peak Forward Current [1] | 150            | mA    |
| Reverse Voltage          | 5              | V     |
| Operating Temperature    | -40°C To +85°C |       |
| Storage Temperature      | -40°C To +85°C |       |

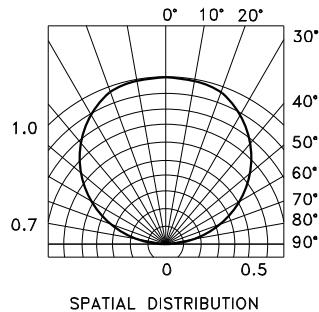
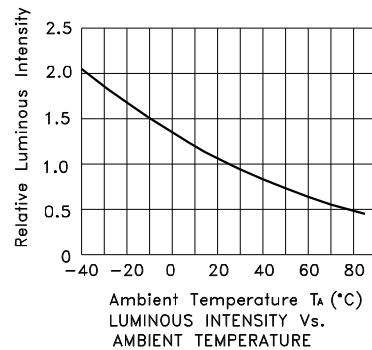
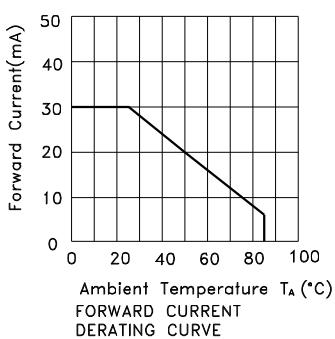
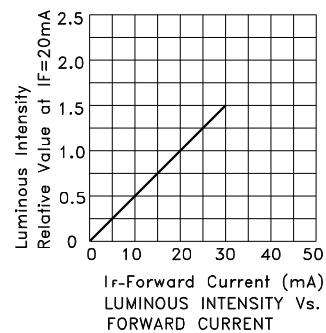
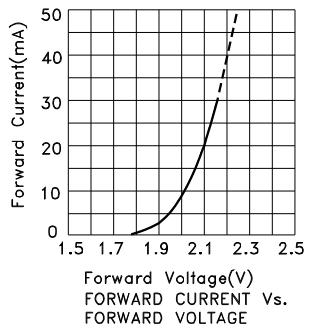
Note:

1. 1/10 Duty Cycle, 0.1ms Pulse Width.



**Mega Green**

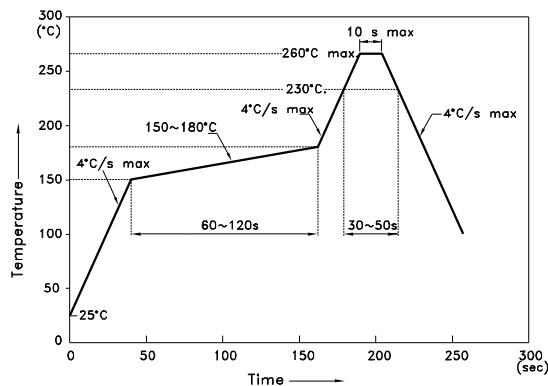
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**Reflow soldering is recommended and the soldering profile is shown below. Other soldering methods are not recommended as they might cause damage to the product.**

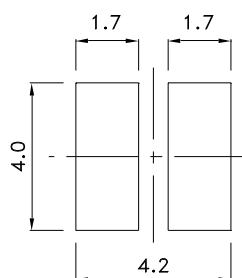
## Reflow Soldering Profile For Lead-free SMT Process.



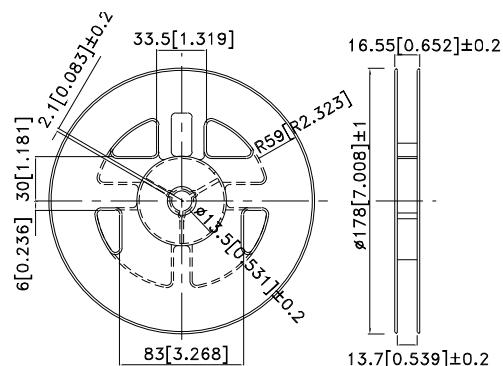
## NOTES:

1.We recommend the reflow temperature 245°C(+/-5°C).The maximum soldering temperature should be limited to 260°C.  
2.Don't cause stress to the epoxy resin while it is exposed to high temperature.  
3.Number of reflow process shall be 2 times or less.

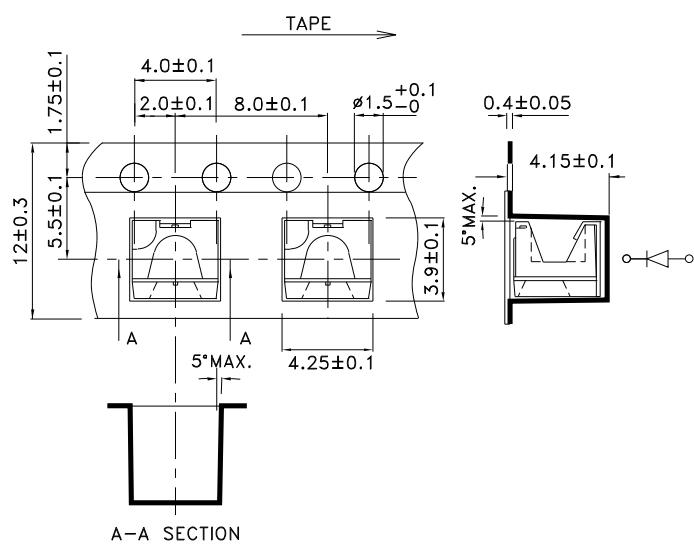
## Recommended Soldering Pattern (Units : mm; Tolerance: $\pm 0.1$ )



## Reel Dimension



## **Tape Dimensions (Units : mm)**



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## PACKING & LABEL SPECIFICATIONS

AA4040MGS

