

#### **SOT-23 SURFACE MOUNT LED LAMP**

Part Number: AM23ESGW

High Efficiency Red Super Bright Green

#### **Features**

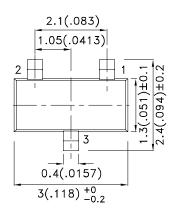
- SOT-23 PACKAGE SURFACE MOUNT LED LAMP.
- LOW POWER CONSUMPTION.
- LONG LIFE SOLID STATE RELIABILITY.
- PACKAGE: 2000PCS / REEL.
- MOISTURE SENSITIVITY LEVEL: LEVEL 3.
- RoHS COMPLIANT.

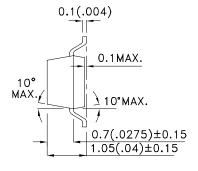
#### Description

The High Efficiency Red source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Orange Light Emitting Diode.

The Super Bright Green source color devices are made with Gallium Phosphide Green Light Emitting Diode.

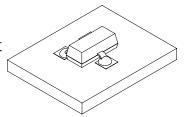
#### **Package Dimensions**







- 1 ANODE RED
- 2 ANODE GREEN
- 3 COMMON CATHODE



#### Notes:

- All dimensions are in millimeters (inches).
   Tolerance is ±0.25(0.01") unless otherwise noted.
- 3. Lead spacing is measured where the lead emerge from the package.
- 4. Specifications are subject to change without notice.
- 5.The device has a single mounting surface. The device must be mounted according to the specifications.





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SPEC NO: DSAD1252 **REV NO: V.5 DATE: MAY/08/2007** APPROVED: WYNEC **CHECKED: Allen Liu** DRAWN: Y.L.LI

#### **Selection Guide**

| Part No. | Dice                            | Lens Type      | lv (mcd) [2]<br>@ 20mA |      | Viewing<br>Angle [1] |
|----------|---------------------------------|----------------|------------------------|------|----------------------|
|          |                                 |                | Min.                   | Тур. | 201/2                |
| AM23ESGW | High Efficiency Red (GaAsP/GaP) | WHITE DIFFUSED | 4                      | 15   | 140°                 |
|          | Super Bright Green (GaP)        | WHITE DIFFOSED | 4                      | 15   |                      |

#### Notes

- 1.  $\theta$ 1/2 is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.
- 2. Luminous intensity/ luminous Flux: +/-15%.

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

| Symbol | Parameter                | Device                                    | Тур.       | Max.       | Units | Test Conditions     |
|--------|--------------------------|---|------------|------------|-------|---------------------|
| λpeak  | Peak Wavelength          | High Efficiency Red<br>Super Bright Green | 627<br>565 |            | nm    | I==20mA             |
| λD [1] | Dominant Wavelength      | High Efficiency Red<br>Super Bright Green | 625<br>568 |            | nm    | I==20mA             |
| Δλ1/2  | Spectral Line Half-width | High Efficiency Red<br>Super Bright Green | 45<br>30   |            | nm    | IF=20mA             |
| С      | Capacitance              | High Efficiency Red<br>Super Bright Green | 15<br>15   |            | pF    | VF=0V;f=1MHz        |
| VF [2] | Forward Voltage          | High Efficiency Red<br>Super Bright Green | 2<br>2.2   | 2.5<br>2.5 | V     | I==20mA             |
| lR     | Reverse Current          | High Efficiency Red<br>Super Bright Green |            | 10<br>10   | uA    | V <sub>R</sub> = 5V |

#### Notes

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

### Absolute Maximum Ratings at TA=25°C

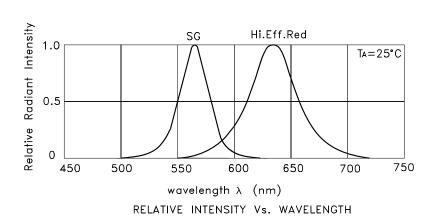
| Parameter                | High Efficiency Red | Super Bright Green | Units |  |  |
|--------------------------|---------------------|--------------------|-------|--|--|
| Power dissipation        | 75                  | 62.5               | mW    |  |  |
| DC Forward Current       | 30                  | 25                 | mA    |  |  |
| Peak Forward Current [1] | 160                 | 140                | mA    |  |  |
| Reverse Voltage          |                     | V                  |       |  |  |
| Operating Temperature    | -40°C To +85°C      |                    |       |  |  |
| Storage Temperature      | -40°C To +85°C      |                    |       |  |  |

### Note:

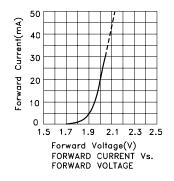
1. 1/10 Duty Cycle, 0.1ms Pulse Width.

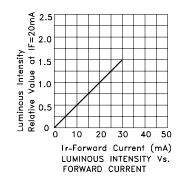
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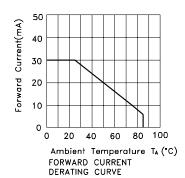
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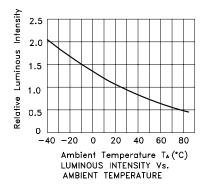


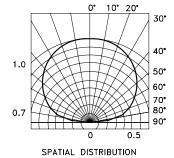
### AM23ESGW High Efficiency Red







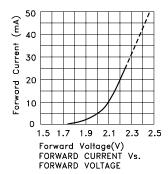


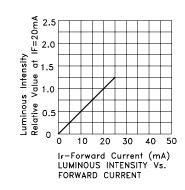


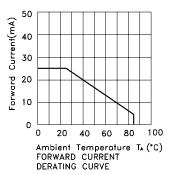
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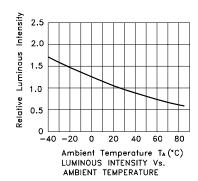
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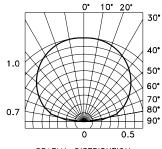
### **Super Bright Green**











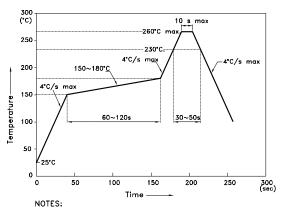
SPATIAL DISTRIBUTION

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#### AM23ESGW

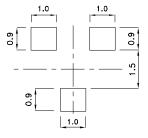
Reflow Soldering Profile For Lead-free SMT Process.



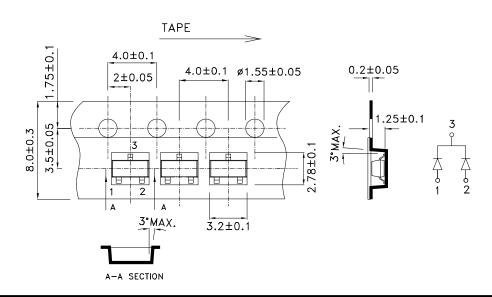
- NOTES:

  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: ± 0.1)



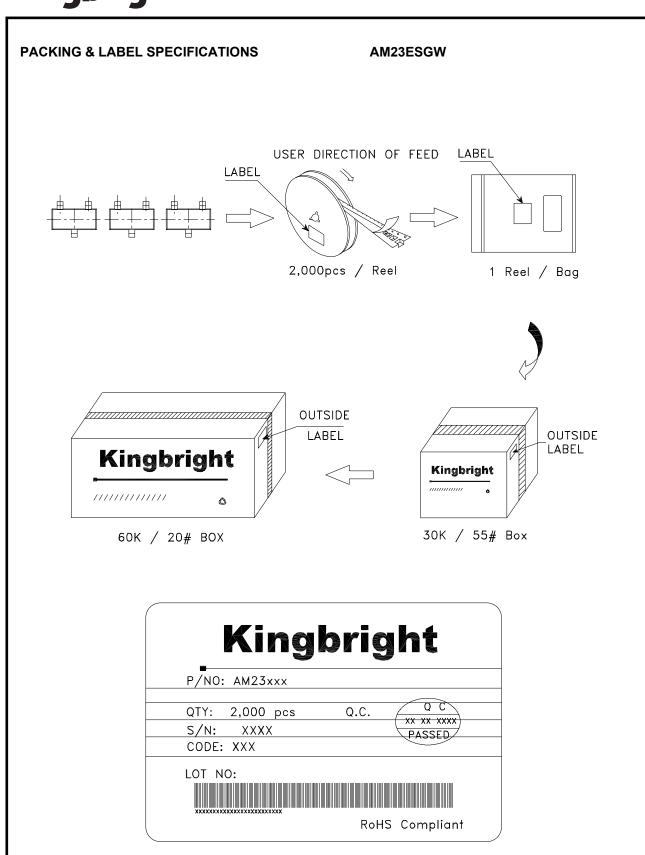
#### **Tape Specifications** (Units: mm)



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