

Part Number: KPBA-3010ESGC

High Efficiency Red  
Super Bright Green

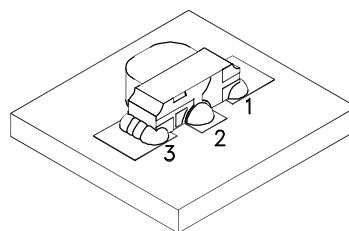
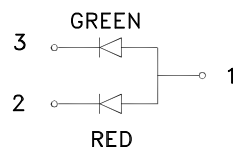
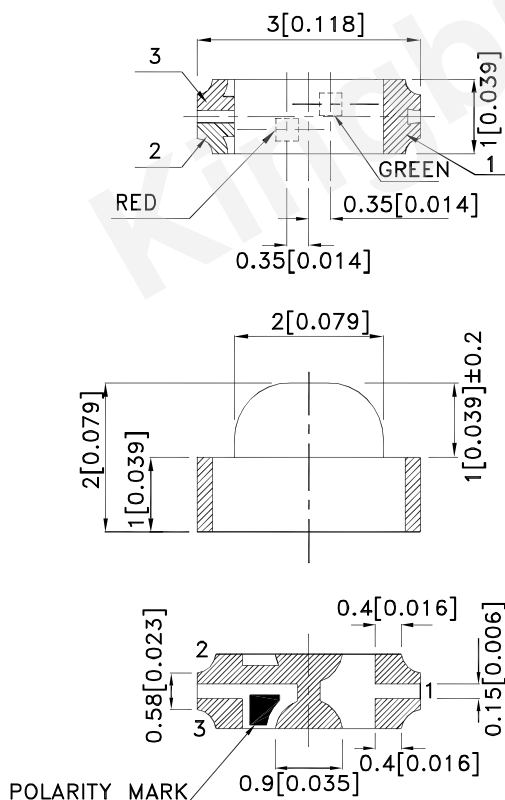
### Features

- 3.0x2.0x1.0mm right angle SMD LED, 1.0mm thickness.
- Low power consumption.
- Wide viewing angle.
- Ideal for backlight and indicator.
- Package : 2000 pcs / reel.
- Moisture sensitivity level : level 3.
- Tinned pads for improved solderability
- RoHS compliant.

### Descriptions

- 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



#### Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is  $\pm 0.15(0.006)$  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.



## Selection Guide

| Part No.      | Emitting Color (Material)       | Lens Type   | Iv (mcd) [2]<br>@ 20mA |      | Viewing<br>Angle [1] |
|---------------|---------------------------------|-------------|------------------------|------|----------------------|
|               |                                 |             | Min.                   | Typ. | 2θ1/2                |
| KPBA-3010ESGC | High Efficiency Red (GaAsP/GaP) | Water Clear | 8                      | 15   | 140°                 |
|               |                                 |             | *3                     | *8   |                      |
|               | Super Bright Green (GaP)        |             | 5                      | 15   |                      |
|               |                                 |             | *5                     | *15  |                      |

### 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%.

\* Luminous intensity value is traceable to CIE127-2007 standards.

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

| Symbol | Parameter                | Emitting Color                            | Typ.       | Max.       | Units | Test Conditions |
|--------|--------------------------|---|------------|------------|-------|-----------------|
| λpeak  | Peak Wavelength          | High Efficiency Red<br>Super Bright Green | 627<br>565 |            | nm    | If=20mA         |
| λD [1] | Dominant Wavelength      | High Efficiency Red<br>Super Bright Green | 617<br>568 |            | nm    | If=20mA         |
| Δλ1/2  | Spectral Line Half-width | High Efficiency Red<br>Super Bright Green | 45<br>30   |            | nm    | If=20mA         |
| C      | 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     | If=20mA         |
| IR     | Reverse Current          | High Efficiency Red<br>Super Bright Green |            | 10<br>10   | uA    | VR = 5V         |

### Notes:

1.Wavelength: +/-1nm.

2.Forward Voltage: +/-0.1V.

3.Wavelength value is traceable to CIE127-2007 standards.

4.Excess driving current and/or operating temperature higher than recommended conditions may result in severe light degradation or premature failure.

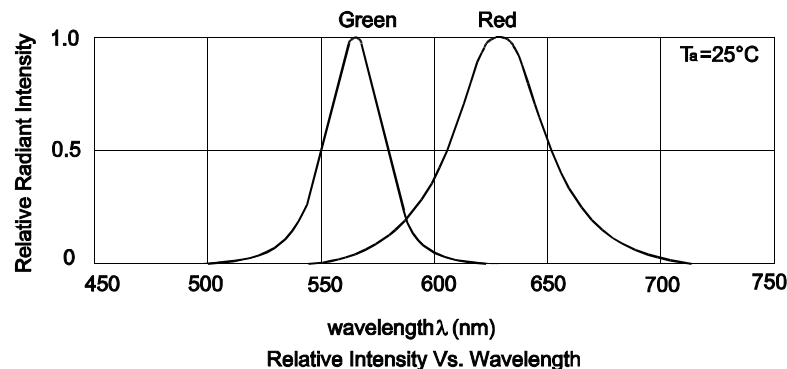
## Absolute Maximum Ratings at TA=25°C

| 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          | 5                   |                    | V     |
| Operating Temperature    | -40°C To +85°C      |                    |       |
| Storage Temperature      | -40°C To +85°C      |                    |       |

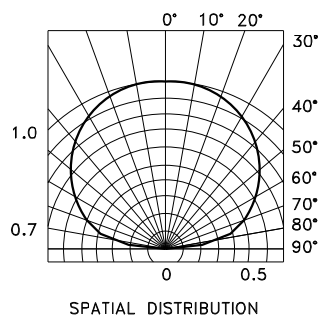
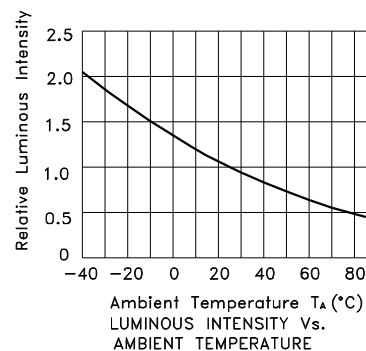
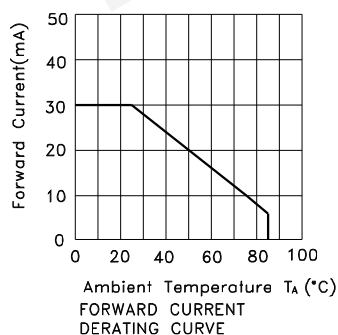
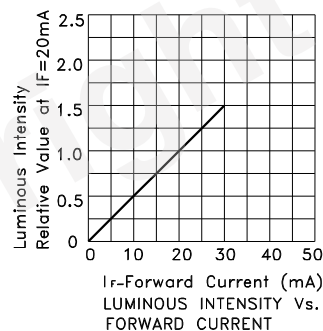
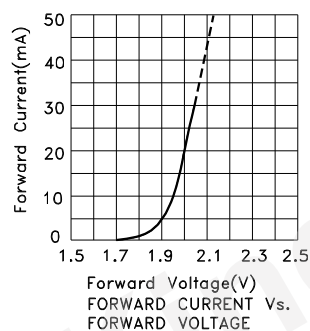
### Notes:

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

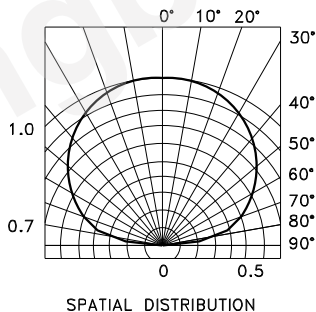
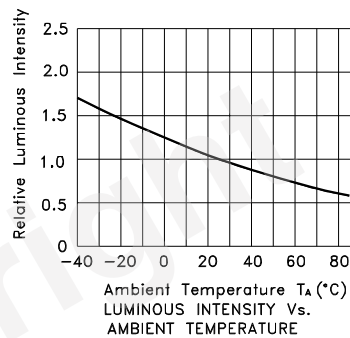
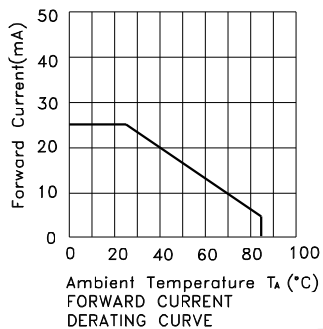
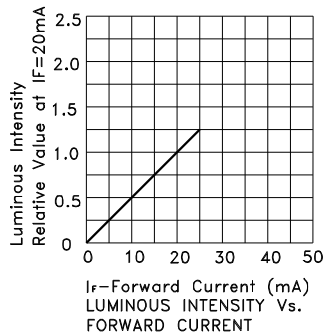
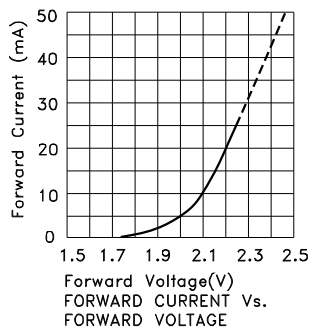
2. Relative humidity levels maintained between 40% and 60% in production area are recommended to avoid the build-up of static electricity – Ref JEDEC/JESD625-A and JEDEC/J-STD-033.



KPBA-3010ESGC  
High Efficiency Red



## Super Bright Green



## KPBA-3010ESGC

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.

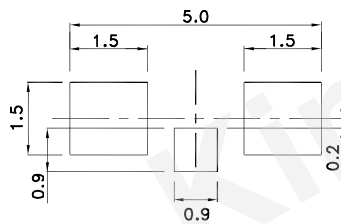
Reflow Soldering Profile For Lead-free SMT Process.



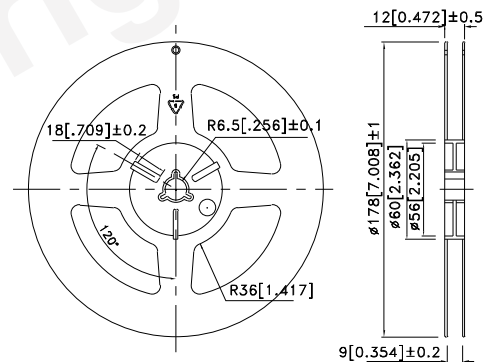
### NOTES:

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.

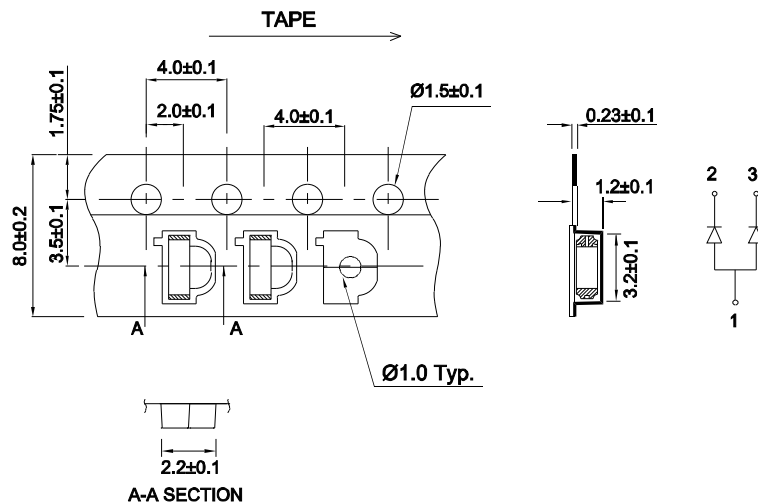
## Recommended Soldering Pattern (Units : mm; Tolerance: $\pm 0.1$ )



## Reel Dimension

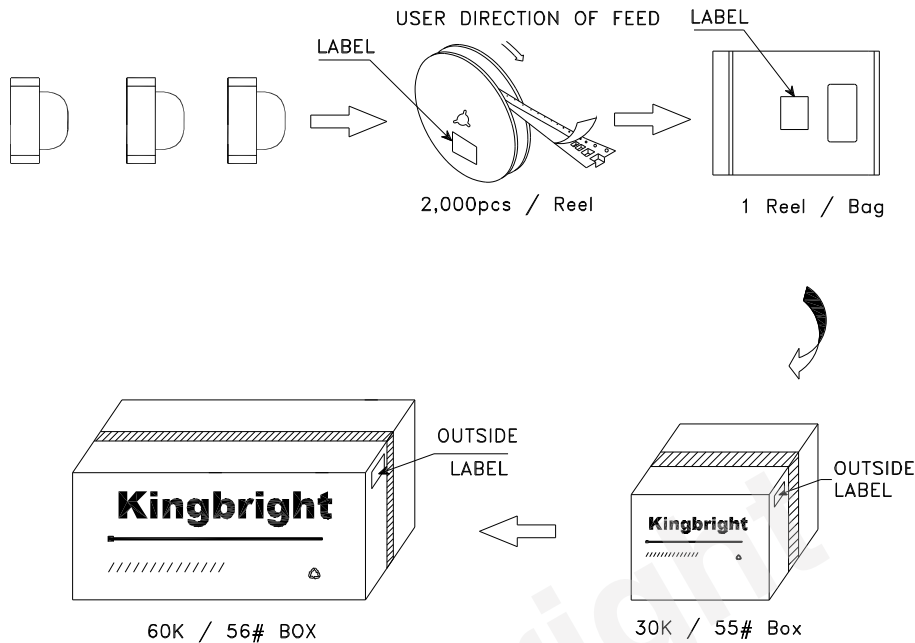



## Tape Dimensions (Units : mm)



## PACKING & LABEL SPECIFICATIONS

## KPBA-3010ESGC



|  |  |     |            |        |
|--|--|-----|------------|--------|
| <b>Kingbright</b>  |  |     |            |        |
| P/NO: KPBA-3010XXX   |  |     |            |        |
| QTY: 2,000 pcs   | Q.C. <table border="1"><tr><td>Q C</td></tr><tr><td>XX XX XXXX</td></tr><tr><td>PASSED</td></tr></table> | Q C | XX XX XXXX | PASSED |
| Q C  |  |     |            |        |
| XX XX XXXX   |  |     |            |        |
| PASSED   |  |     |            |        |
| S/N: XXXX  |  |     |            |        |
| CODE: XXX  |  |     |            |        |
| LOT NO:  |  |     |            |        |
|  |  |     |            |        |
| XXXXXXXXXXXXXXXXXXXX   |  |     |            |        |
| RoHS Compliant   |  |     |            |        |

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