



**ATTENTION**  
OBSERVE PRECAUTIONS  
FOR HANDLING  
ELECTROSTATIC  
DISCHARGE  
SENSITIVE  
DEVICES

Part Number: KPG-0603SURC-TT

Hyper Red

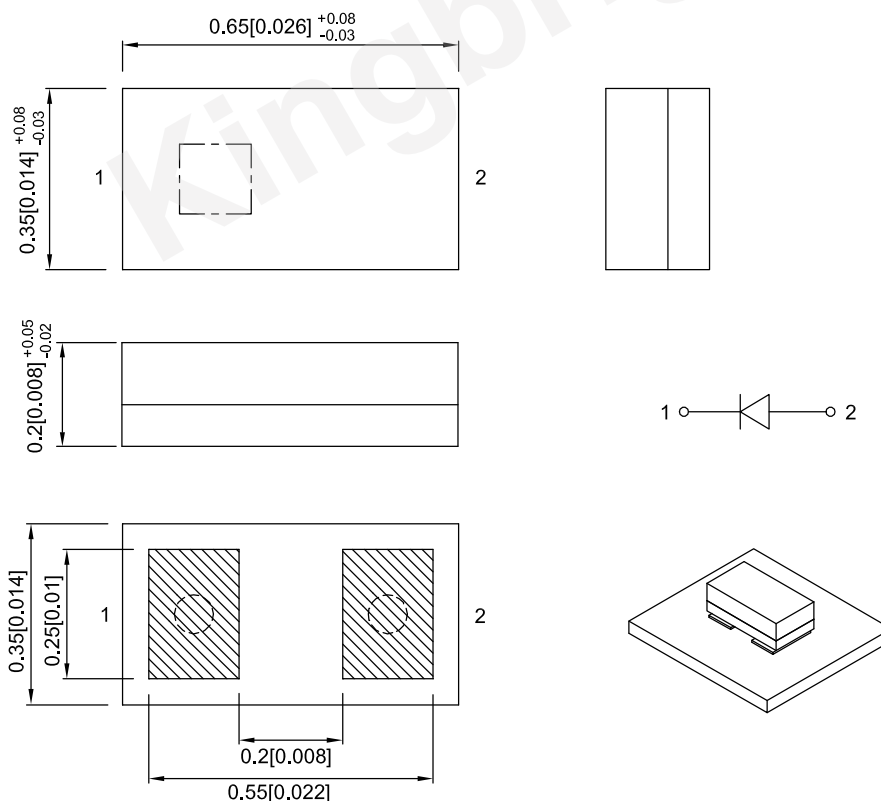
### Features

- 0.65 mm x 0.35 mm SMD LED, 0.2 mm thickness
- Low power consumption
- Wide viewing angle
- Compatible with automatic placement equipment
- Package: 4000 pcs / reel
- Moisture sensitivity level: 2
- RoHS compliant

### Descriptions

- The Hyper Red source color devices are made with AlGaInP on GaAs substrate Light Emitting Diode.
- Electrostatic discharge and power surge could damage the LEDs.
- It is recommended to use a wrist band or anti-electrostatic glove when handling the LEDs.
- All devices, equipments and machineries must be electrically grounded.

### Package Dimensions



#### Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is  $\pm 0.1$  (0.004") 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>@ 10mA |      | Viewing<br>Angle [1] |
|-----------------|---------------------------|-------------|------------------------|------|----------------------|
|                 |                           |             | Min.                   | Typ. | 2θ1/2                |
| KPG-0603SURC-TT | Hyper Red (AlGaInP)       | Water Clear | 30                     | 105  | 140°                 |
|                 |                           |             | *10                    | *35  |                      |

### Notes:

1.  $\theta_{1/2}$  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            |
|-----------------------|--------------------------|----------------|------|------|-------|----------------------------|
| $\lambda_{peak}$      | Peak Wavelength          | Hyper Red      | 639  |      | nm    | I <sub>F</sub> =10mA       |
| $\lambda_D$ [1]       | Dominant Wavelength      | Hyper Red      | 631  |      | nm    | I <sub>F</sub> =10mA       |
| $\Delta\lambda_{1/2}$ | Spectral Line Half-width | Hyper Red      | 20   |      | nm    | I <sub>F</sub> =10mA       |
| C                     | Capacitance              | Hyper Red      | 35   |      | pF    | V <sub>F</sub> =0V; f=1MHz |
| V <sub>F</sub> [2]    | Forward Voltage          | Hyper Red      | 1.92 | 2.4  | V     | I <sub>F</sub> =10mA       |
| I <sub>R</sub>        | Reverse Current          | Hyper Red      |      | 10   | uA    | V <sub>R</sub> =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.

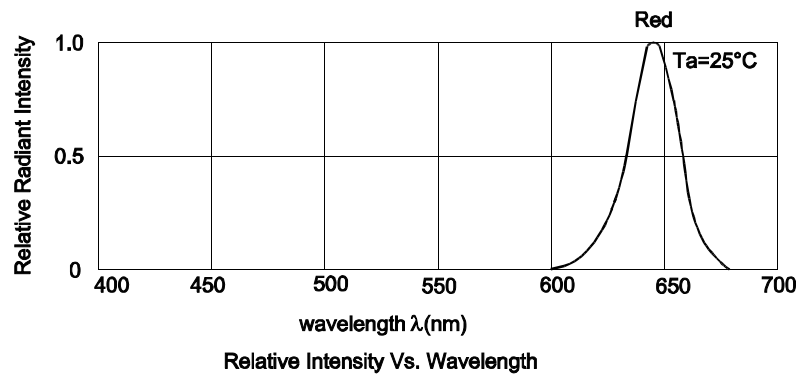
## Absolute Maximum Ratings at TA=25°C

| Parameter                | Values         | Units |
|--------------------------|----------------|-------|
| Power dissipation        | 48             | mW    |
| DC Forward Current       | 20             | mA    |
| Peak Forward Current [1] | 100            | mA    |
| Reverse Voltage          | 5              | V     |
| Operating Temperature    | -40°C To +85°C |       |
| Storage Temperature      | -40°C To +85°C |       |

### Notes:

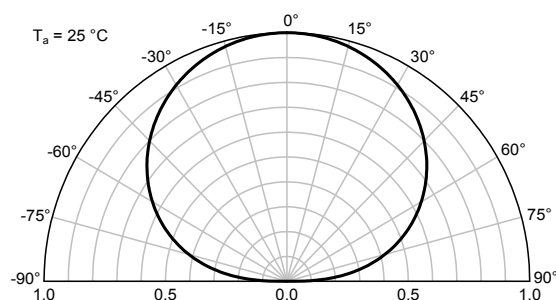
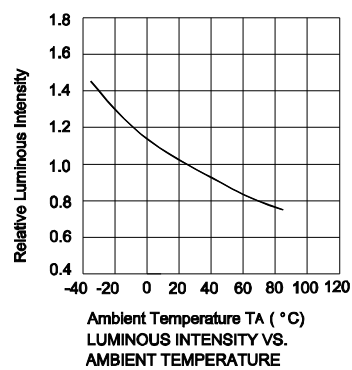
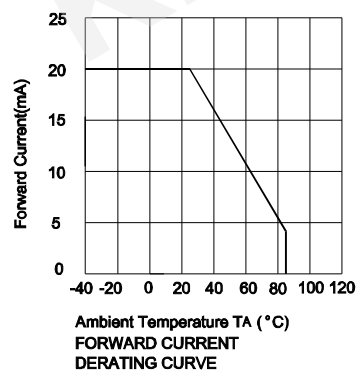
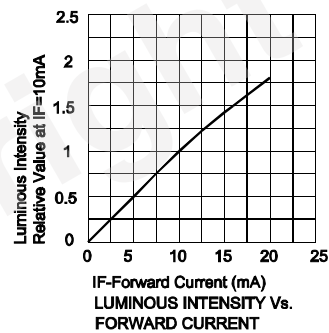
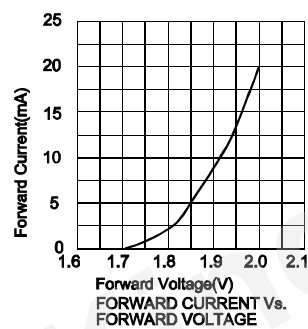
1. 1/10 Duty Cycle, 0.1ms Pulse Width.

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.

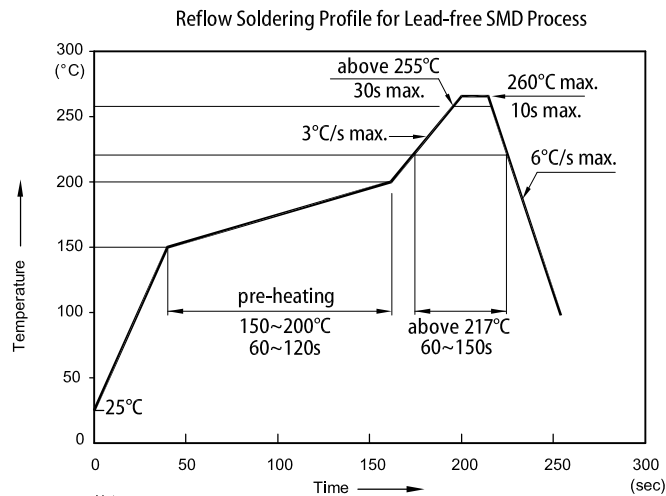


## Hyper Red

KPG-0603SURC-TT



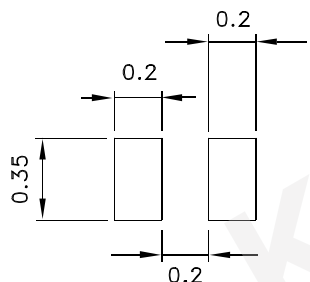
## KPG-0603SURC-TT



Notes:

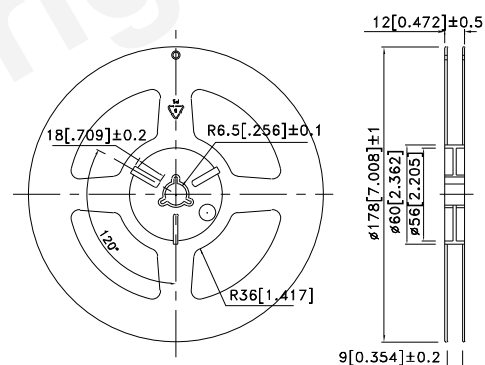
1. Don't cause stress to the LEDs while it is exposed to high temperature.
2. The maximum number of reflow soldering passes is 2 times.
3. Reflow soldering is recommended. Other soldering methods are not recommended as they might cause damage to the product.

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

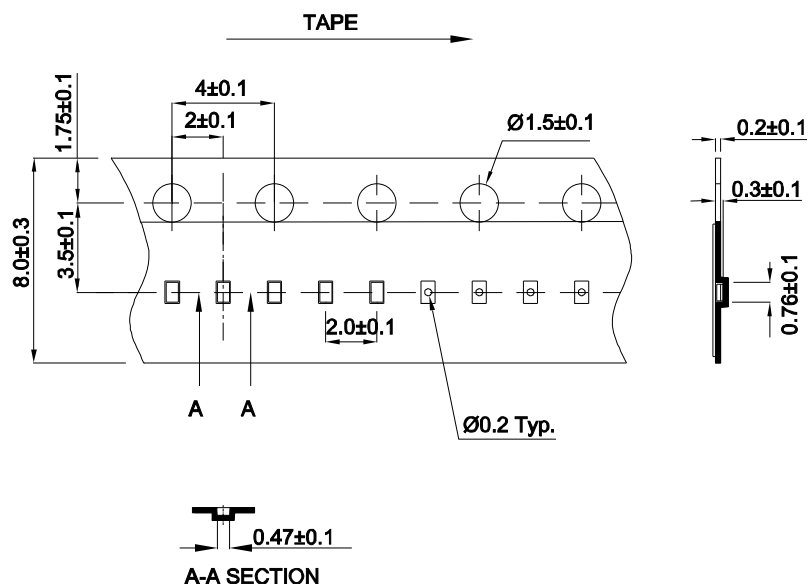


Mask open area ratio: 80%  
Mask thickness: 80~100um

### Reel Dimension

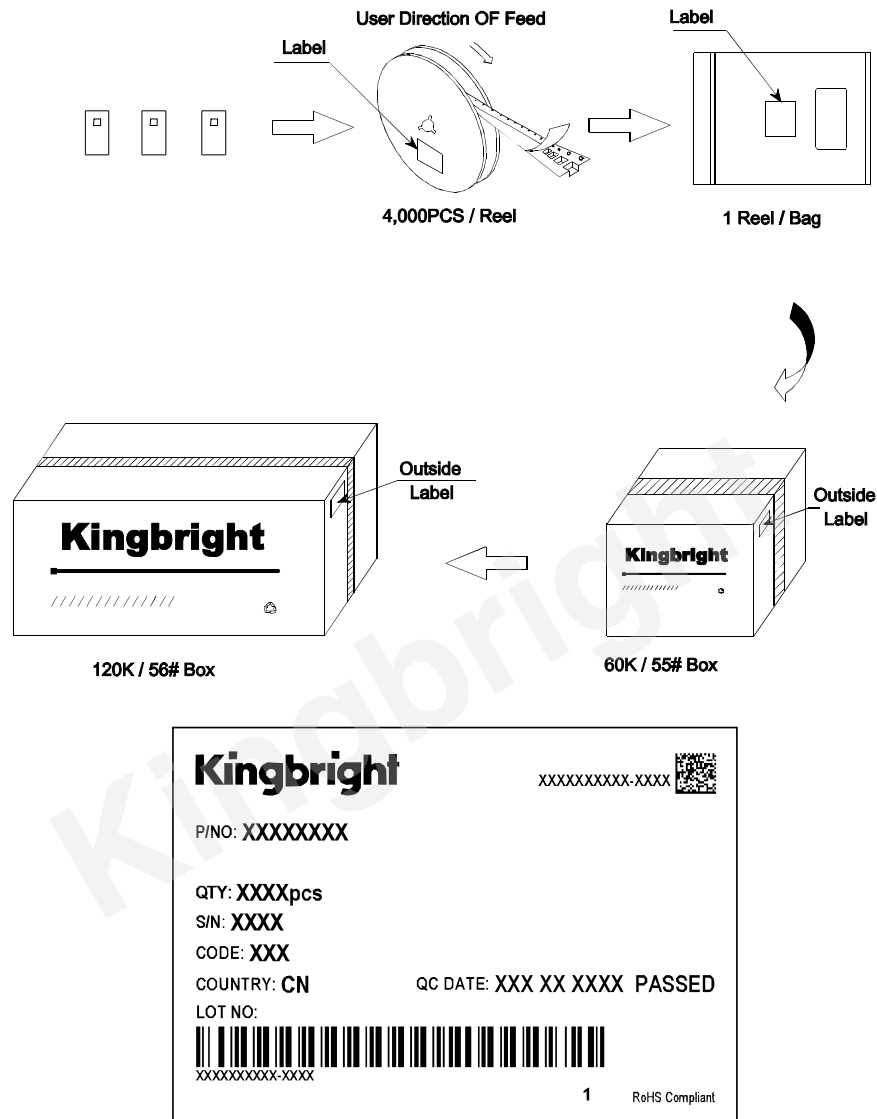


### Tape Dimensions (Units : mm)



## PACKING & LABEL SPECIFICATIONS

KPG-0603SURC-TT



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1. The information included in this document reflects representative usage scenarios and is intended for technical reference only.
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