

Part Number: KP-3216SURC

Hyper Red

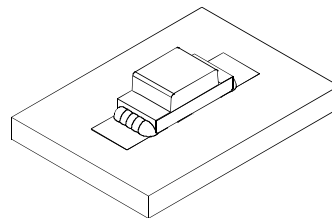
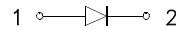
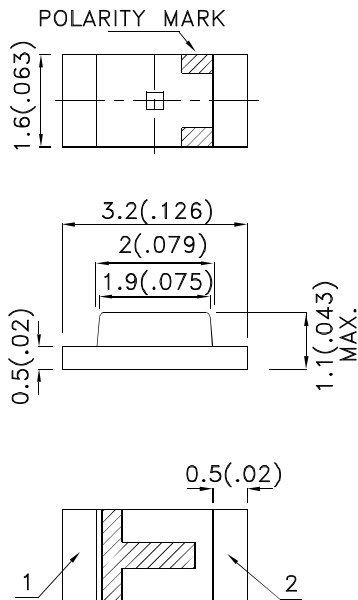
### Features

- 3.2mmx1.6mm SMT LED, 1.1mm thickness.
- Low power consumption.
- Wide viewing angle.
- Ideal for backlight and indicator.
- Various colors and lens types available.
- Package : 2000pcs / reel.
- Moisture sensitivity level : level 3.
- RoHS compliant.

### Description

The Hyper Red source color devices are made with Al-GaN on GaAs substrate Light Emitting Diode.

### Package Dimensions



#### Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is  $\pm 0.2(0.0079")$  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.    | Dice                | Lens Type   | Iv (mcd) [2]<br>@ 20mA |      | Viewing<br>Angle [1] |
|-------------|---------------------|-------------|------------------------|------|----------------------|
|             |                     |             | Min.                   | Typ. | 2θ1/2                |
| KP-3216SURC | Hyper Red (AlGaInP) | Water Clear | 150                    | 250  | 120°                 |
|             |                     |             | *40                    | *90  |                      |

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 the CIE127-2007 compliant national standards.

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

| Symbol             | Parameter                | Device    | Typ. | Max. | Units | Test Conditions           |
|--------------------|--------------------------|-----------|------|------|-------|---------------------------|
| λ <sub>peak</sub>  | Peak Wavelength          | Hyper Red | 645  |      | nm    | I <sub>F</sub> =20mA      |
| λ <sub>D</sub> [1] | Dominant Wavelength      | Hyper Red | 630  |      | nm    | I <sub>F</sub> =20mA      |
| Δλ <sub>1/2</sub>  | Spectral Line Half-width | Hyper Red | 27   |      | nm    | I <sub>F</sub> =20mA      |
| C                  | Capacitance              | Hyper Red | 45   |      | pF    | V <sub>F</sub> =0V;f=1MHz |
| V <sub>F</sub> [2] | Forward Voltage          | Hyper Red | 1.9  | 2.5  | V     | I <sub>F</sub> =20mA      |
| I <sub>R</sub>     | Reverse Current          | Hyper Red |      | 10   | uA    | V <sub>R</sub> =5V        |

Notes:

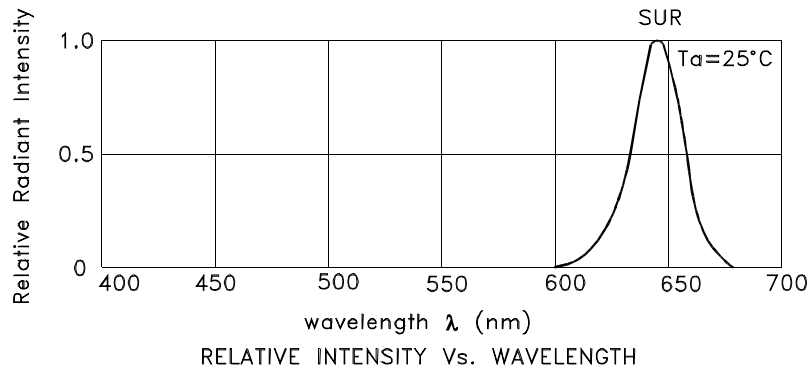
1. Wavelength: +/-1nm.
2. Forward Voltage: +/-0.1V.
3. Wavelength value is traceable to the CIE127-2007 compliant national standards.

## Absolute Maximum Ratings at TA=25°C

| Parameter                | Hyper Red      | Units |
|--------------------------|----------------|-------|
| Power dissipation        | 75             | mW    |
| DC Forward Current       | 30             | mA    |
| Peak Forward Current [1] | 185            | mA    |
| Reverse Voltage          | 5              | V     |
| Operating Temperature    | -40°C To +85°C |       |
| Storage Temperature      | -40°C To +85°C |       |

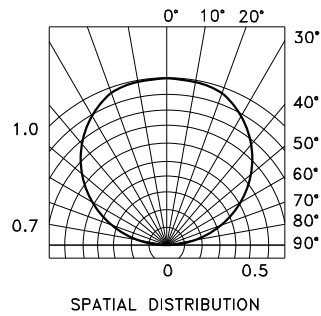
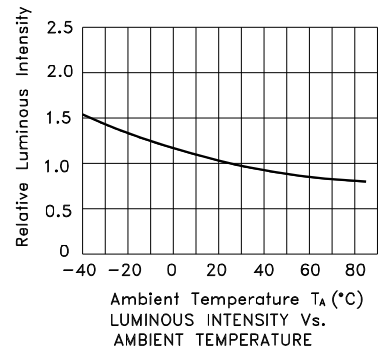
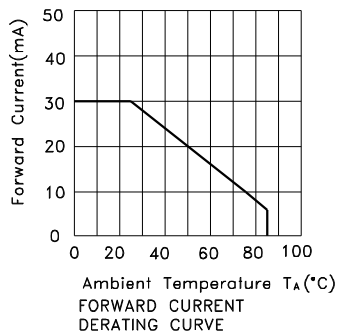
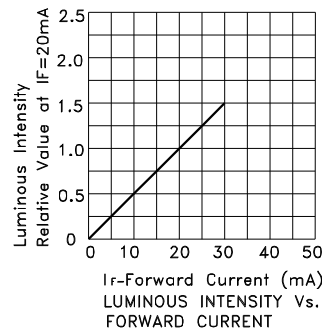
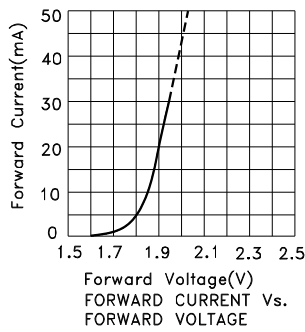
Note:

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



## Hyper Red

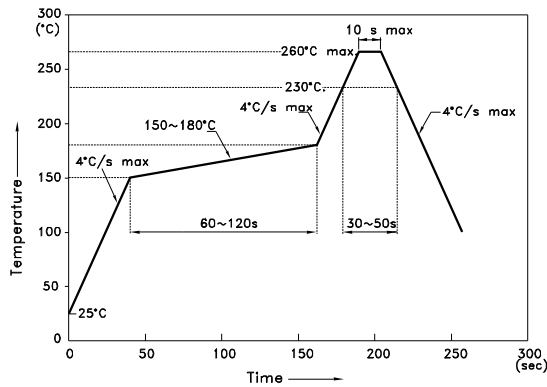
### KP-3216SURC



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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.

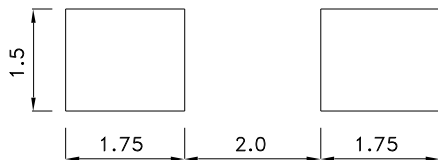
Reflow Soldering Profile For Lead-free SMT Process.



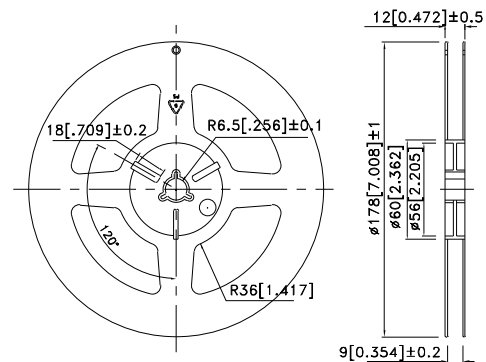
NOTES:

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.

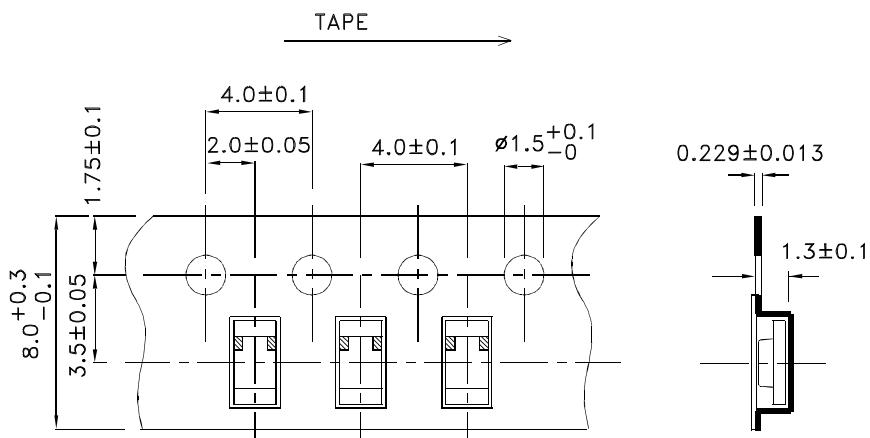
### Recommended Soldering Pattern (Units : mm; Tolerance: ± 0.1)



### Reel Dimension

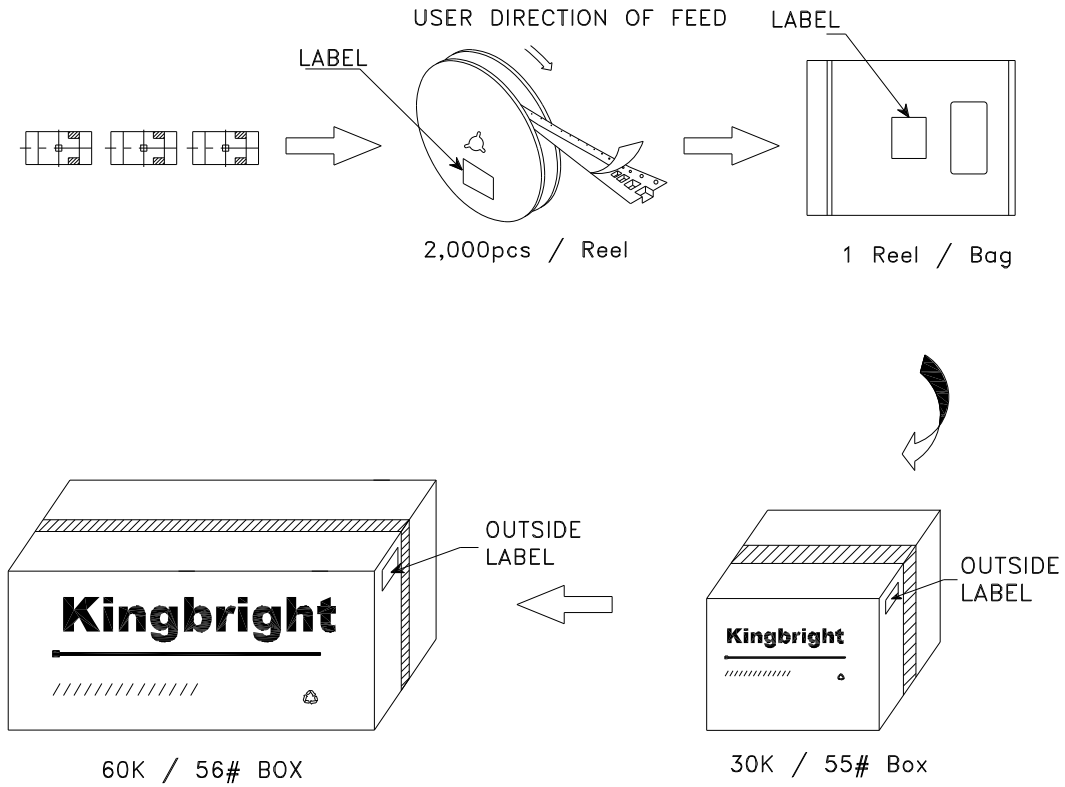



### Tape Dimensions (Units : mm)



**PACKING & LABEL SPECIFICATIONS**

**KP-3216SURC**



|   |                              |
|---|------------------------------|
| <b>Kingbright</b>   |                              |
| P/NO: KP-3216XXX  |                              |
| QTY: 2,000 pcs  | Q.C.<br>XX XX XXXX<br>PASSED |
| S/N: XXXX   |                              |
| CODE: XXX   |                              |
| LOT NO:   |                              |
| <br>xxxxxxxxxxxxxxxxxxxxxxxx |                              |
| RoHS Compliant  |                              |

Detailed application notes are listed on our website.  
[http://www.kingbright.com/application\\_notes](http://www.kingbright.com/application_notes)