

Part Number: KPBD-3224SURKSYK

Hyper Red  
Super Bright Yellow

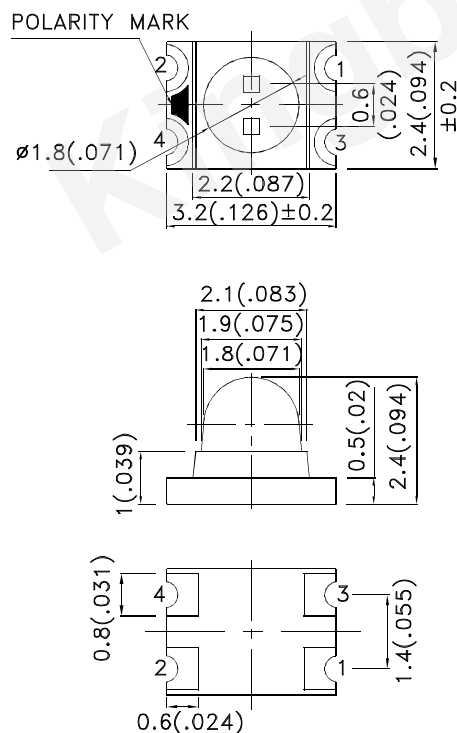
### Features

- 3.2x2.4mm SMT LED, 2.4mm thickness.
- Low power consumption.
- Ideal for backlight and indicator.
- Various colors and lens types available.
- Package : 1500pcs / reel.
- Moisture sensitivity level : level 3.
- RoHS compliant.

### Description

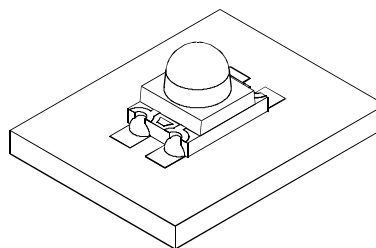
The Hyper Red source color devices are made with Al-GaN on GaAs substrate Light Emitting Diode.  
The Super Bright Yellow device is made with AlGaInP (on GaAs substrate) light emitting diode chip.

### Package Dimensions



SURK  
2 1

SYK  
4 3



#### 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.          | Dice                          | Lens Type   | Iv (mcd) [2]<br>@ 20mA |      | Viewing<br>Angle [1] |
|-------------------|-------------------------------|-------------|------------------------|------|----------------------|
|                   |                               |             | Min.                   | Typ. | 2θ1/2                |
| KPBD-3224SURKSYKC | Hyper Red (AlGaInP)           | Water Clear | 700                    | 1300 | 20°                  |
|                   |                               |             | *120                   | *400 |                      |
|                   | Super Bright Yellow (AlGaInP) |             | 300                    | 600  |                      |
|                   |                               |             | *300                   | *600 |                      |

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 |
|--------|--------------------------|----------------------------------|------------|------------|-------|-----------------|
| λpeak  | Peak Wavelength          | Hyper Red<br>Super Bright Yellow | 645<br>590 |            | nm    | IF=20mA         |
| λD [1] | Dominant Wavelength      | Hyper Red<br>Super Bright Yellow | 630<br>590 |            | nm    | IF=20mA         |
| Δλ1/2  | Spectral Line Half-width | Hyper Red<br>Super Bright Yellow | 28<br>20   |            | nm    | IF=20mA         |
| C      | Capacitance              | Hyper Red<br>Super Bright Yellow | 35<br>20   |            | pF    | VF=0V;f=1MHz    |
| VF [2] | Forward Voltage          | Hyper Red<br>Super Bright Yellow | 1.95<br>2  | 2.5<br>2.5 | V     | IF=20mA         |
| IR     | Reverse Current          | Hyper Red<br>Super Bright Yellow |            | 10<br>10   | uA    | VR = 5V         |

Notes:

1.Wavelength: +/-1nm.

2. Forward Voltage: +/-0.1V.

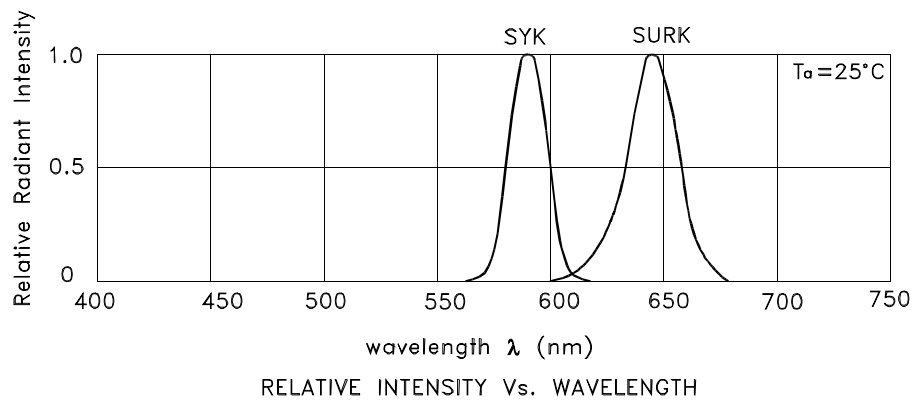
3. Wavelength value is traceable to the CIE127-2007 compliant national standards.

## Absolute Maximum Ratings at TA=25°C

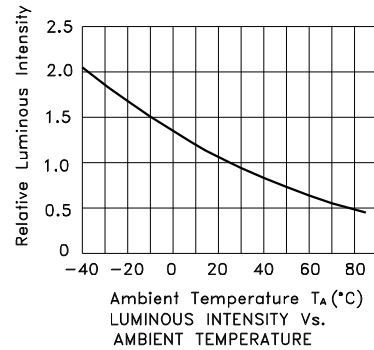
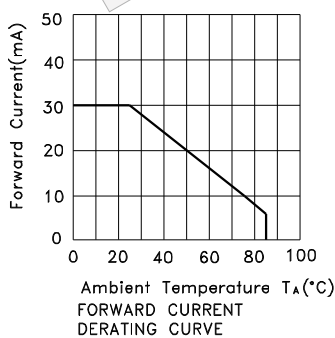
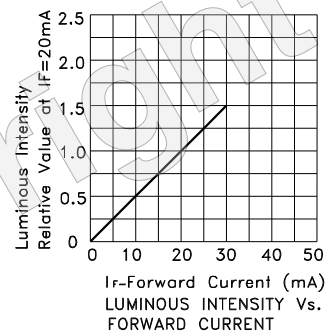
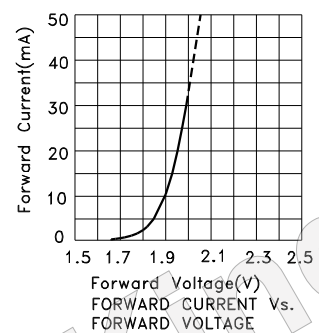
| Parameter                | Hyper Red      | Super Bright Yellow | Units |
|--------------------------|----------------|---------------------|-------|
| Power dissipation        | 75             | 75                  | mW    |
| DC Forward Current       | 30             | 30                  | mA    |
| Peak Forward Current [1] | 185            | 175                 | mA    |
| Reverse Voltage          | 5              |                     | V     |
| Operating Temperature    | -40°C To +85°C |                     |       |
| Storage Temperature      | -40°C To +85°C |                     |       |

Note:

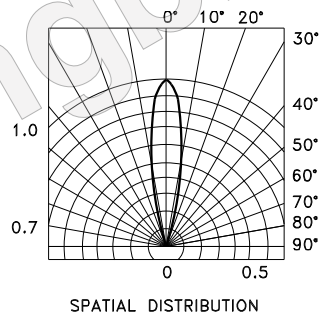
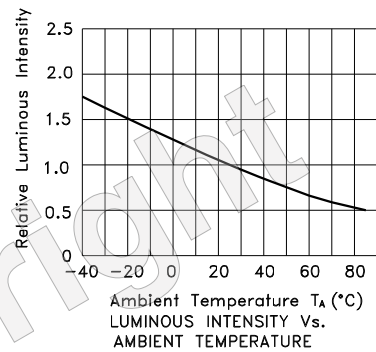
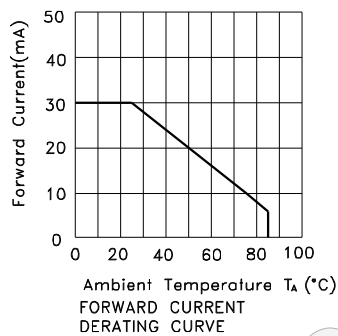
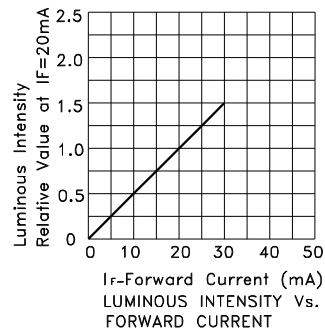
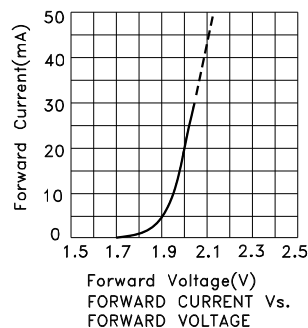
1. 1/10 Duty Cycle, 0.1ms Pulse Width.



KPBD-3224SURKSYKC  
Hyper Red



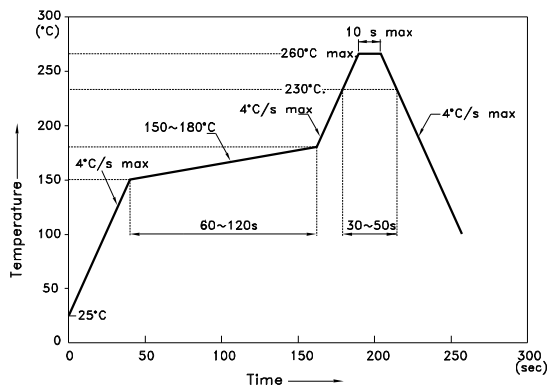
## Super Bright Yellow



## KPBD-3224SURKSYKC

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.

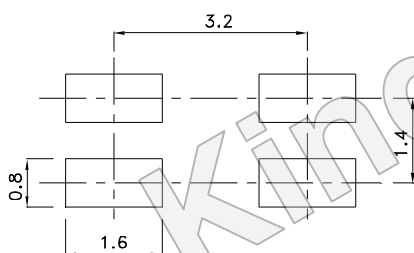
Reflow Soldering Profile For Lead-free SMT Process.



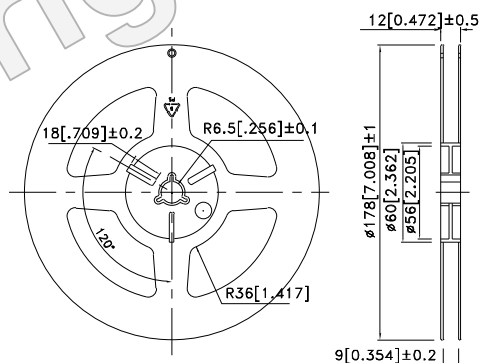
### NOTES:

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)

