

Part Number: KPHBM-2012SURKCGKC

Hyper Red
Green

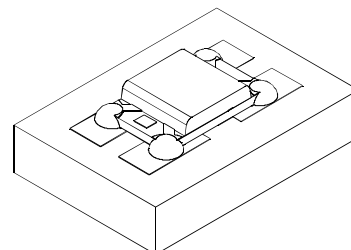
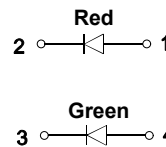
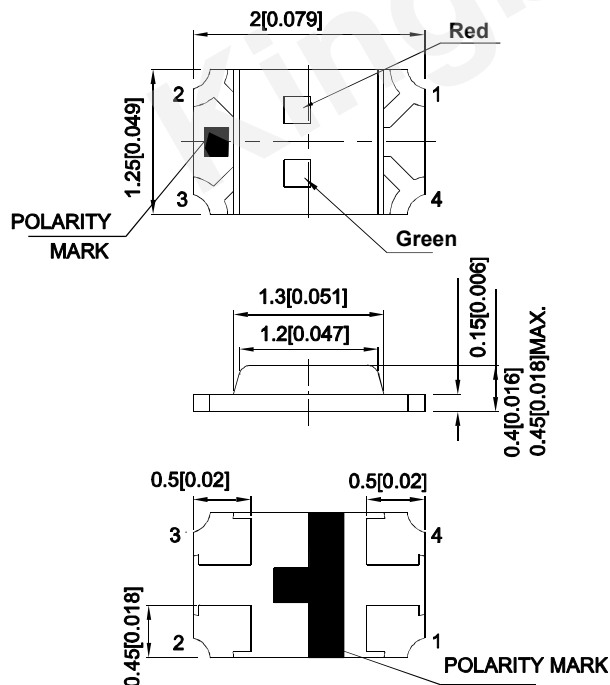
Features

- 2.0mmx1.25mm SMD LED, 0.45mm max. thickness.
- Bi-color, low power consumption.
- Wide viewing angle.
- Ideal for backlight and indicator.
- Package : 2000pcs / reel.
- Moisture sensitivity level : level 3.
- RoHS compliant.

Descriptions

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

Package Dimensions



Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is ± 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] @ 20mA | | Viewing Angle [1] |
|--------------------|---------------------------|-------------|------------------------|------|----------------------|
| | | | Min. | Typ. | 2θ1/2 |
| KPHBM-2012SURKCGKC | Hyper Red (AlGaInP) | Water Clear | 120 | 250 | 120° |
| | | | *40 | *80 | |
| | Green (AlGaInP) | | 20 | 50 | |
| | | | *20 | *50 | |

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 the CIE127-2007 compliant national standards.

Electrical / Optical Characteristics at TA=25°C

| Symbol | Parameter | Emitting Color | Typ. | Max. | Units | Test Conditions |
|-----------------------|--------------------------|--------------------|-------------|------------|-------|----------------------------|
| λ_{peak} | Peak Wavelength | Hyper Red Green | 645 574 | | nm | I _F =20mA |
| λ_D [1] | Dominant Wavelength | Hyper Red Green | 630 570 | | nm | I _F =20mA |
| $\Delta\lambda_{1/2}$ | Spectral Line Half-width | Hyper Red Green | 28 20 | | nm | I _F =20mA |
| C | Capacitance | Hyper Red Green | 35 15 | | pF | V _F =0V; f=1MHz |
| V _F [2] | Forward Voltage | Hyper Red Green | 1.95 2.1 | 2.5 2.5 | V | I _F =20mA |
| I _R | Reverse Current | Hyper Red Green | | 10 10 | uA | V _R = 5V |

Notes:

1. Wavelength: +/-1nm.

2. Forward Voltage: +/-0.1V.

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

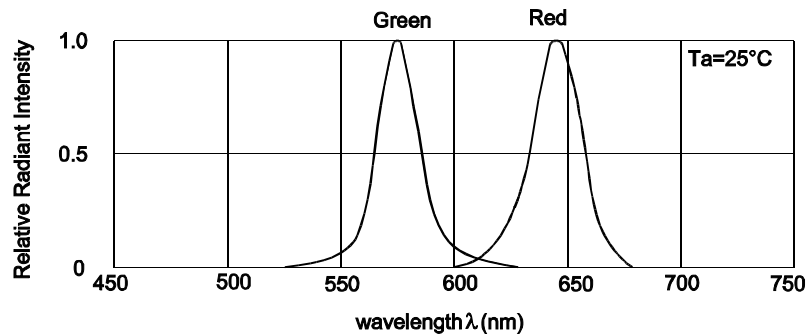
4. Excess driving current and / or operating temperature higher than recommended conditions may result in severe light degradation or premature failure.

Absolute Maximum Ratings at TA=25°C

| Parameter | Hyper Red | Green | Units |
|--------------------------|----------------|-------|-------|
| Power dissipation | 75 | 75 | mW |
| DC Forward Current | 30 | 30 | mA |
| Peak Forward Current [1] | 185 | 150 | mA |
| Reverse Voltage | 5 | | V |
| Operating Temperature | -40°C To +85°C | | |
| Storage Temperature | -40°C To +85°C | | |

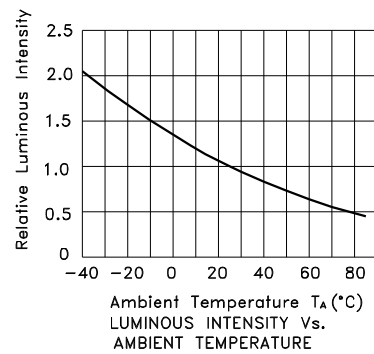
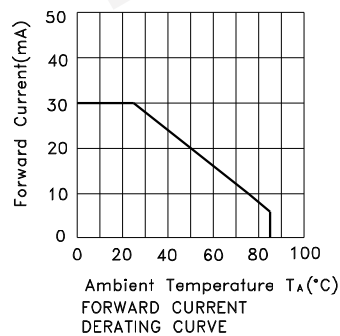
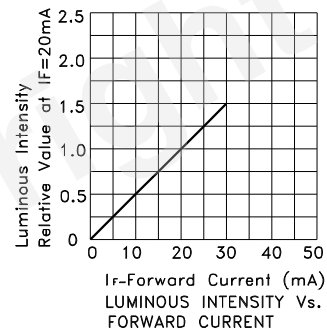
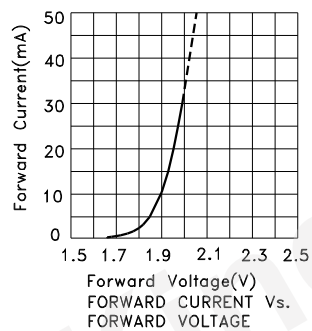
Note:

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

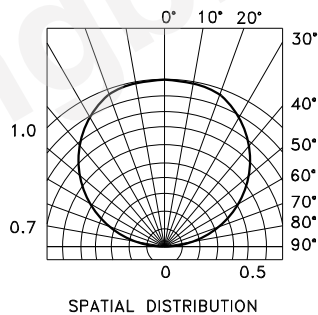
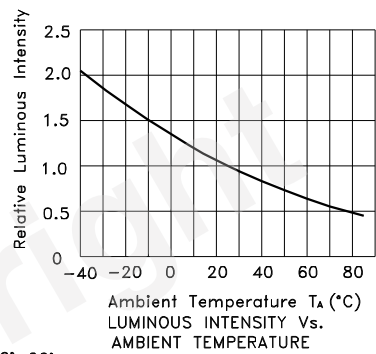
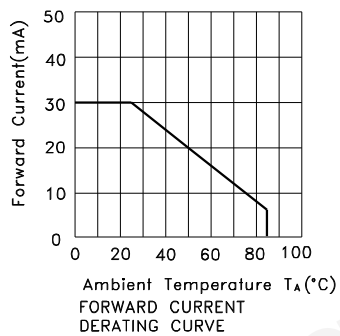
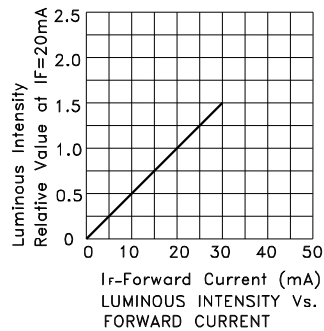
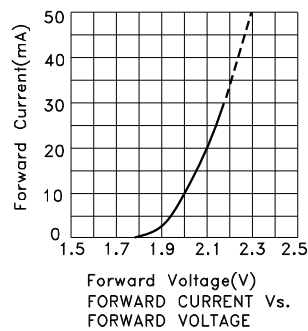


Relative Intensity Vs. Wavelength

KPHBM-2012SURKCGKC Hyper Red



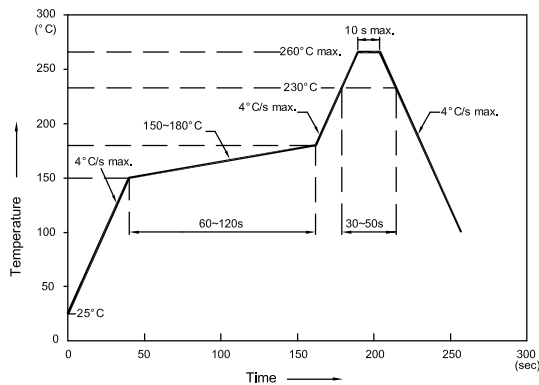
Green



KPHBM-2012SURKCGKC

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.

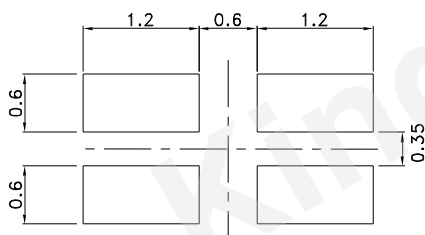
Reflow Soldering Profile For Lead-free SMT Process.



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.

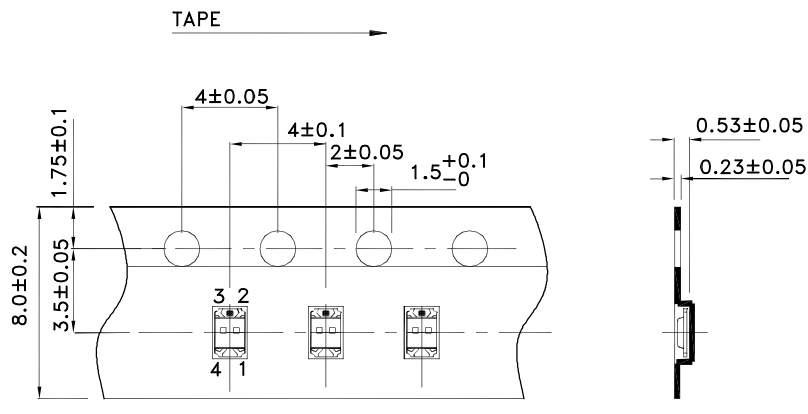
Recommended Soldering Pattern (Units : mm; Tolerance: ± 0.1)



Reel Dimension

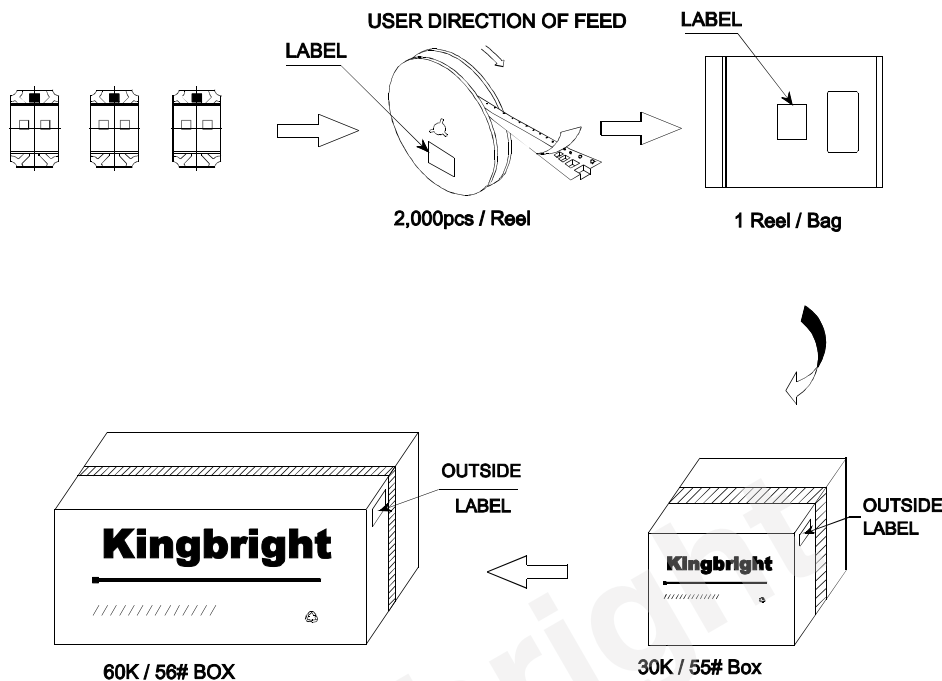



Tape Dimensions (Units : mm)



PACKING & LABEL SPECIFICATIONS

KPHBM-2012SURKCGKC



| | | |
|--|------|--|
| Kingbright | | |
| P/NO: KPHBM-2012xxx | | |
| QTY: 2,000 pcs | Q.C. | <div style="border: 1px solid black; border-radius: 50%; padding: 5px; text-align: center;"> QC xxxxxx PASSED </div> |
| S/N: XXXX | | |
| CODE: XXX | | |
| LOT NO: | | |
|  | | |
| RoHS Compliant | | |

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