

Selection Guide

| Part No. | Dice | Lens Type | Iv (mcd) [2] @ 20mA | | Viewing Angle [1] |
|-------------------|---------------------|-------------|------------------------|------|----------------------|
| | | | Min. | Typ. | 2θ1/2 |
| KPTB-1612SURKCGKC | Hyper Red (AlGaInP) | Water Clear | 120 | 200 | 120° |
| | | | *40 | *80 | |
| | Green (AlGaInP) | | 20 | 50 | |
| | | | *20 | *50 | |

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 Green | 645 574 | | nm | IF=20mA |
| λD [1] | Dominant Wavelength | Hyper Red Green | 630 570 | | nm | IF=20mA |
| Δλ1/2 | Spectral Line Half-width | Hyper Red Green | 28 20 | | nm | IF=20mA |
| C | Capacitance | Hyper Red Green | 35 15 | | pF | VF=0V;f=1MHz |
| VF [2] | Forward Voltage | Hyper Red Green | 1.95 2.1 | 2.5 2.5 | V | IF=20mA |
| IR | Reverse Current | Hyper Red Green | | 10 10 | uA | VR = 5V |

Notes:

1.Wavelength: +/-1nm.

2. Forward Voltage: +/-0.1V.

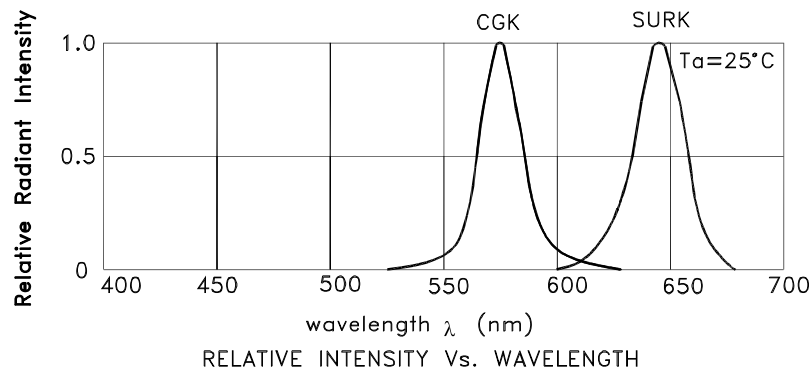
3.Wavelength value is traceable to the CIE127-2007 compliant national standards.

Absolute Maximum Ratings at TA=25°C

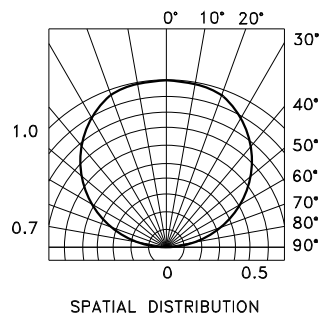
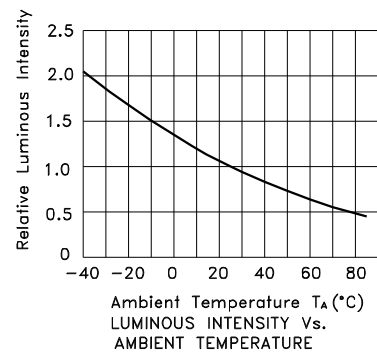
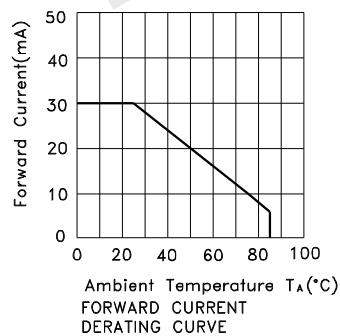
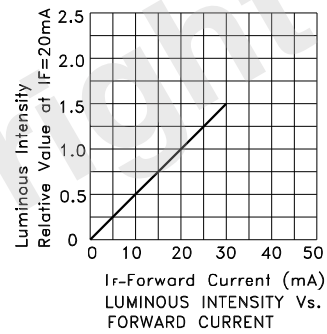
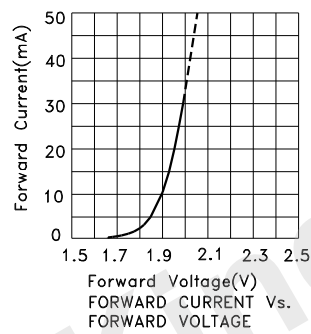
| Parameter | Hyper Red | Green | Units |
|--------------------------|----------------|-------|-------|
| Power dissipation | 75 | 75 | mW |
| DC Forward Current | 30 | 30 | mA |
| Peak Forward Current [1] | 185 | 150 | mA |
| Reverse Voltage | 5 | | V |
| Operating Temperature | -40°C To +85°C | | |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

Note:

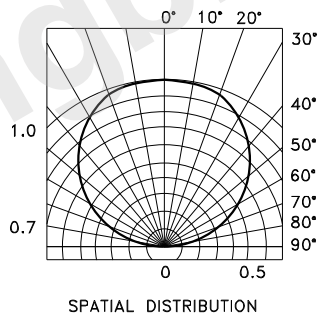
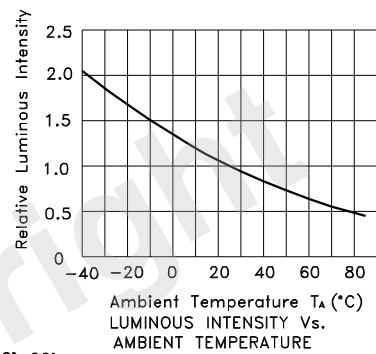
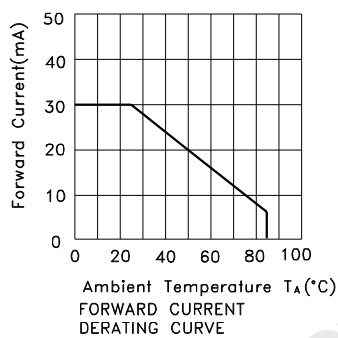
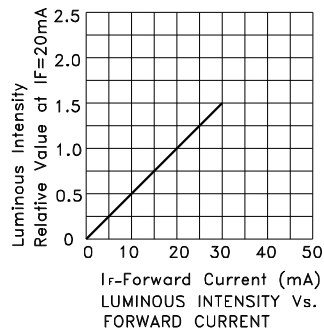
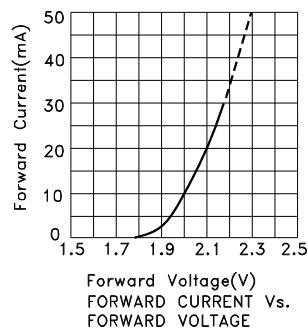
1. 1/10 Duty Cycle, 0.1ms Pulse Width.



KPTB-1612SURKCGKC
Hyper Red



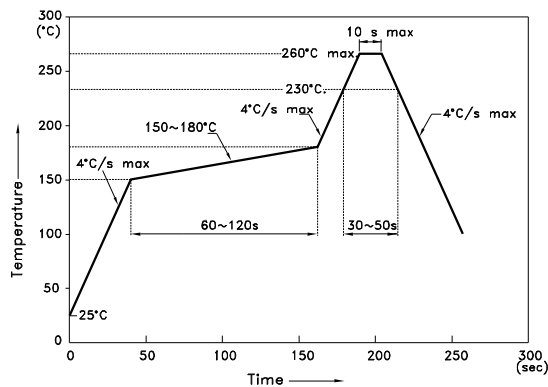
Green



KPTB-1612SURKCGKC

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.

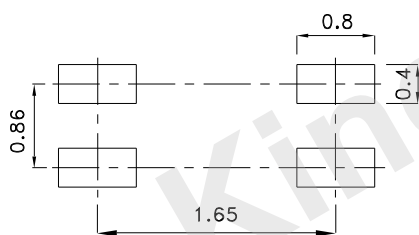
Reflow Soldering Profile For Lead-free SMT Process.



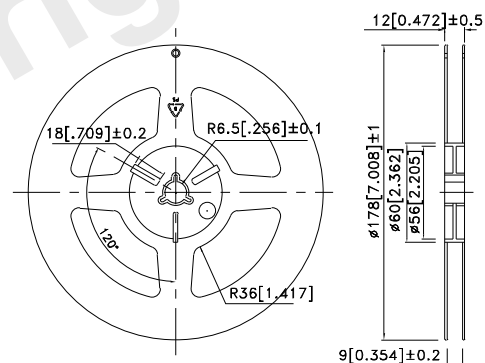
NOTES:

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.

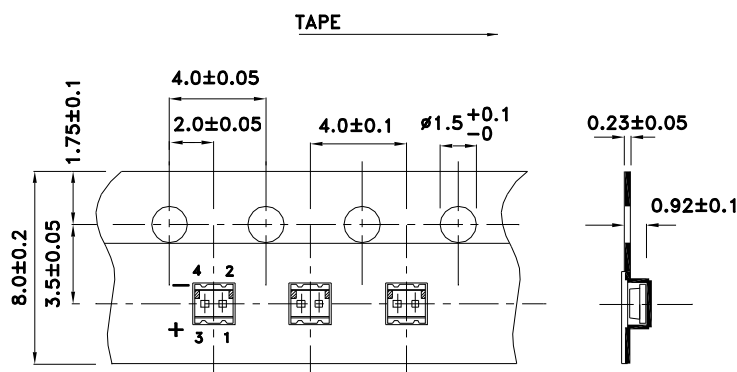
Recommended Soldering Pattern (Units : mm; Tolerance: ± 0.1)



Reel Dimension

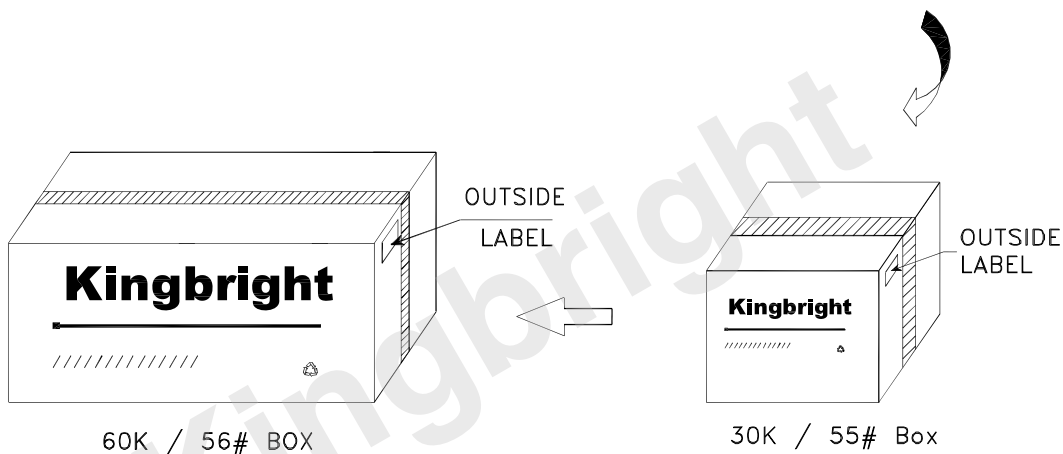
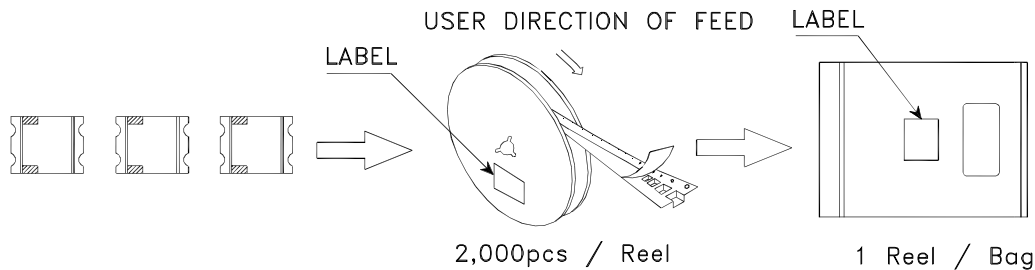



Tape Dimensions (Units : mm)



PACKING & LABEL SPECIFICATIONS

KPTB-1612SURKCGKC



| | |
|--|-----------------------------|
| Kingbright | |
| P/NO: KPTB-1612xxx | |
| QTY: 2,000 pcs | Q.C. |
| S/N: XXXX | Q C XX XX XXXX PASSED |
| CODE: XXX | |
| LOT NO: | |
|  XXXXXXXXXXXXXXXXXXXX | |
| RoHS Compliant | |

Detailed application notes are listed on our website.
http://www.kingbright.com/application_notes