



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

Part Number: KPHHS-1005QBC-D-V

Blue

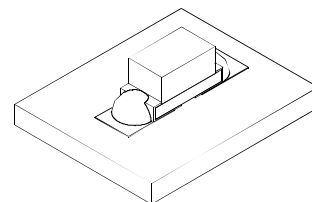
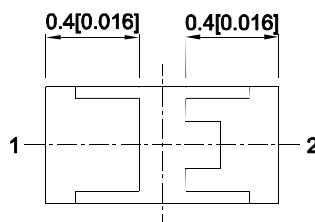
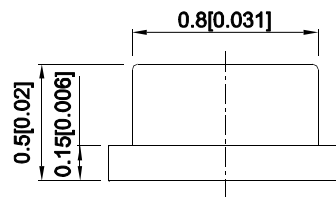
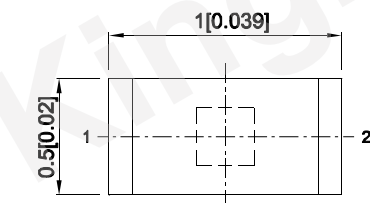
### Features

- 1.0mmX0.5mm SMD LED, 0.5mm thickness.
- Low power consumption.
- Wide viewing angle.
- Ideal for backlight and indicator.
- Package: 2000pcs / reel .
- Moisture sensitivity level : level 3.
- RoHS compliant.

### Descriptions

- The Blue source color devices are made with InGaN 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>@ 20mA |      | Viewing<br>Angle [1] |
|-------------------|---------------------------|-------------|------------------------|------|----------------------|
|                   |                           |             | Min.                   | Typ. | 2θ1/2                |
| KPHHS-1005QBC-D-V | Blue (InGaN)              | Water Clear | 40                     | 60   | 140°                 |

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%.

3. 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 |
|--------|--------------------------|----------------|------|------|-------|-----------------|
| λpeak  | Peak Wavelength          | Blue           | 460  |      | nm    | IF=20mA         |
| λD [1] | Dominant Wavelength      | Blue           | 465  |      | nm    | IF=20mA         |
| Δλ1/2  | Spectral Line Half-width | Blue           | 25   |      | nm    | IF=20mA         |
| C      | Capacitance              | Blue           | 100  |      | pF    | VF=0V;f=1MHz    |
| VF [2] | Forward Voltage          | Blue           | 3.3  | 4    | V     | IF=20mA         |
| IR     | Reverse Current          | Blue           |      | 50   | uA    | VR=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.

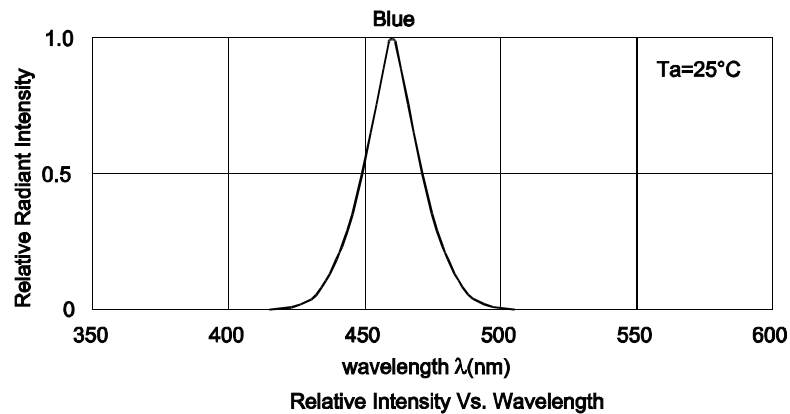
## Absolute Maximum Ratings at TA=25°C

| Parameter                               | Values         | Units |
|---|----------------|-------|
| Power dissipation                       | 120            | mW    |
| DC Forward Current                      | 30             | mA    |
| Peak Forward Current [1]                | 150            | mA    |
| Electrostatic Discharge Threshold (HBM) | 250            | V     |
| Reverse Voltage                         | 5              | V     |
| Operating Temperature                   | -40°C To +85°C |       |
| Storage Temperature                     | -40°C To +85°C |       |

Notes:

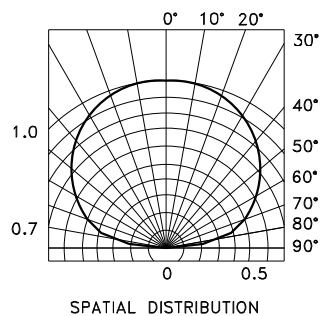
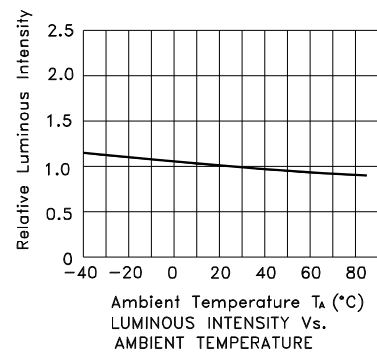
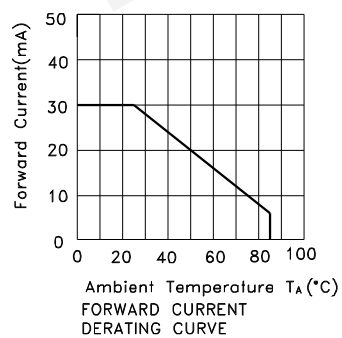
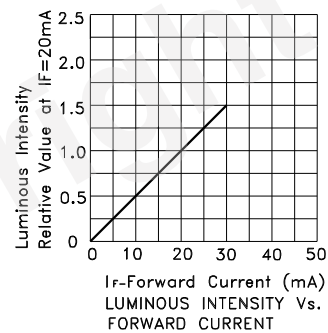
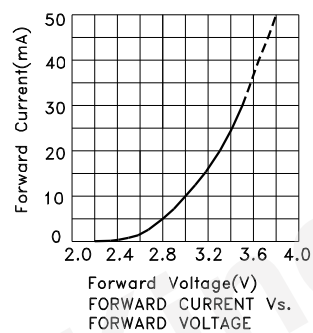
1. 1/10 Duty Cycle, 0.1ms Pulse Width.

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.



Blue

KPHHS-1005QBC-D-V



## KPHHS-1005QBC-D-V

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.

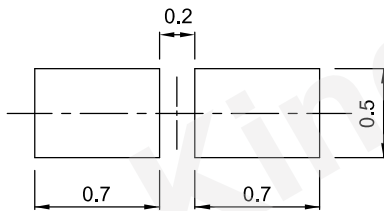
Reflow Soldering Profile For Lead-free SMT Process.



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.

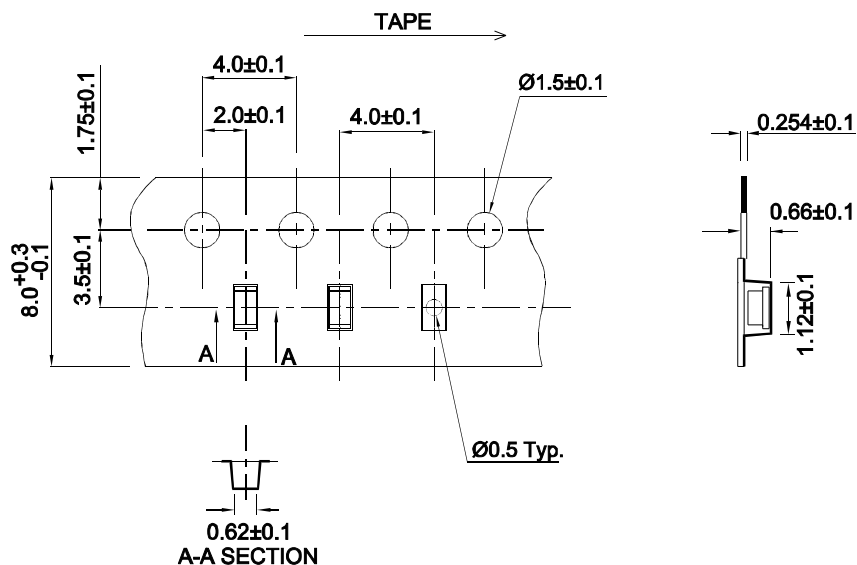
### Recommended Soldering Pattern (Units : mm; Tolerance: $\pm 0.1$ )



### Reel Dimension

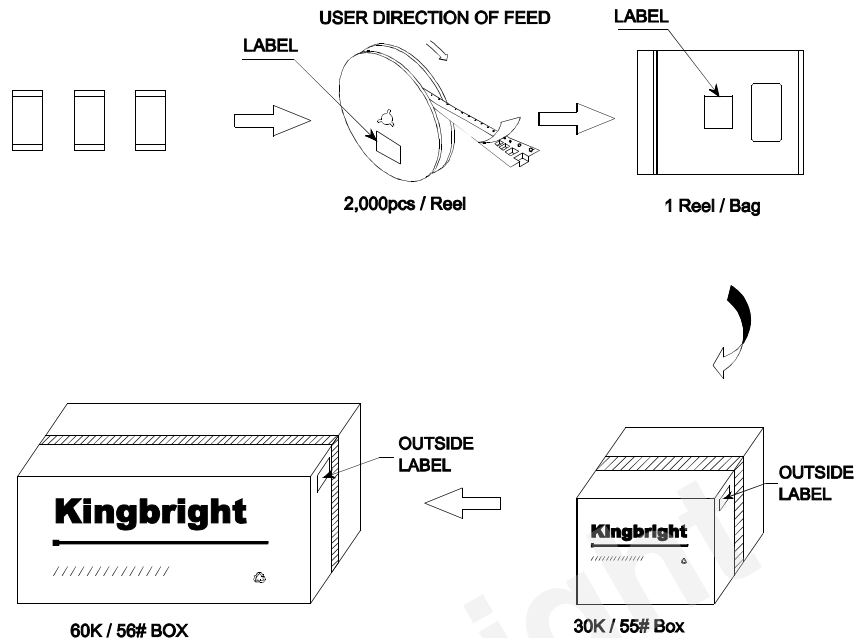



### Tape Dimensions (Units : mm)



## PACKING & LABEL SPECIFICATIONS

KPHHS-1005QBC-D-V



|   |   |
|---|---|
| <b>Kingbright</b>   |   |
| P/NO: KPHHS-1005xxx   |   |
| QTY: 2000 pcs   | Q.C.                                    |
| S/N: XXXX   | <b>Q.C.</b><br>XXXXXXX<br><b>PASSED</b> |
| CODE: XXX   |   |
| LOT NO:   |   |
|  |   |
| RoHS Compliant  |   |

### Terms and conditions for the usage of this document

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