



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

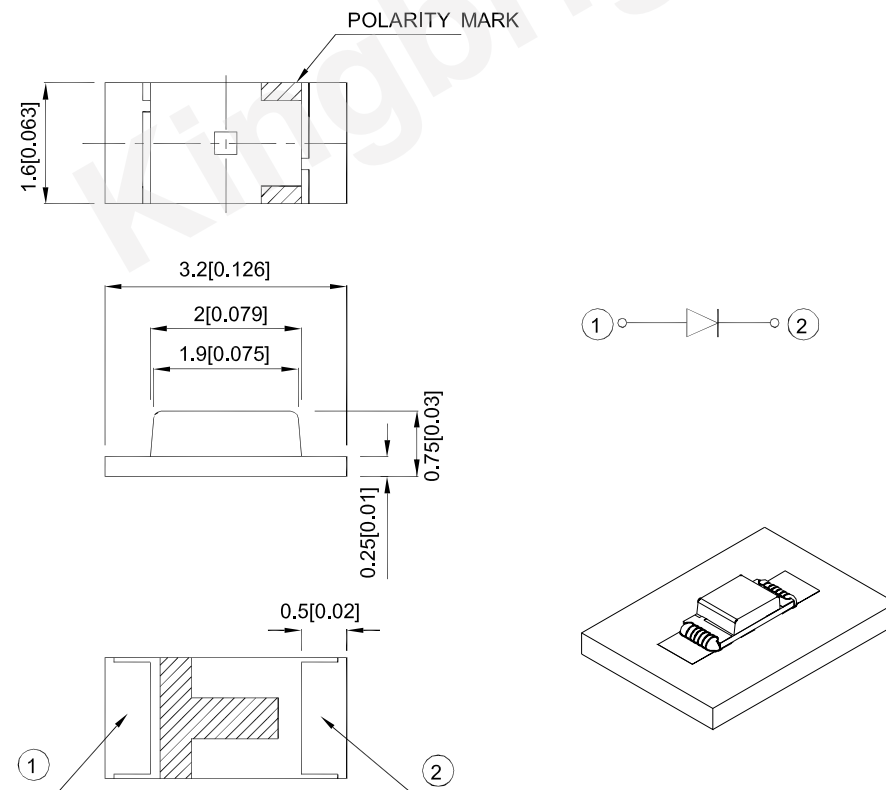
### Features

- 3.2mmx1.6mm SMD LED, 0.75mm 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  $\pm 0.2(0.008)$  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                |
| KPT-3216QBC-D | Blue (InGaN)              | Water Clear | 40                     | 100  | 150°                 |

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           |
|-----------------------|--------------------------|----------------|------|------|-------|---------------------------|
| $\lambda_{peak}$      | Peak Wavelength          | Blue           | 460  |      | nm    | I <sub>F</sub> =20mA      |
| $\lambda_D$ [1]       | Dominant Wavelength      | Blue           | 465  |      | nm    | I <sub>F</sub> =20mA      |
| $\Delta\lambda_{1/2}$ | Spectral Line Half-width | Blue           | 25   |      | nm    | I <sub>F</sub> =20mA      |
| C                     | Capacitance              | Blue           | 100  |      | pF    | V <sub>F</sub> =0V;f=1MHz |
| V <sub>F</sub> [2]    | Forward Voltage          | Blue           | 3.3  | 4    | V     | I <sub>F</sub> =20mA      |
| I <sub>R</sub>        | Reverse Current          | Blue           |      | 50   | uA    | V <sub>R</sub> =5V        |

Notes:

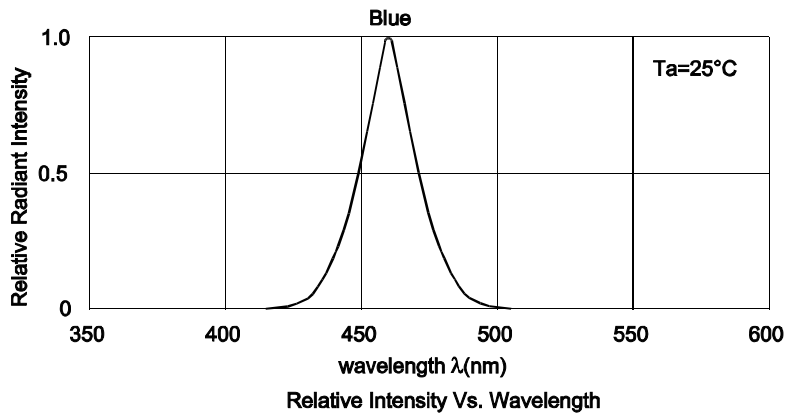
1. Wavelength: +/-1nm.
2. Forward Voltage: +/-0.1V.
3. Wavelength value is traceable to CIE127-2007 standards.
4. Excess driving current and / or operating temperature higher than recommended conditions may result in severe light degradation or premature failure.

## 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    |
| Reverse Voltage                         | 5              | V     |
| Electrostatic Discharge Threshold (HBM) | 250            | V     |
| Operating Temperature                   | -40°C To +85°C |       |
| Storage Temperature                     | -40°C To +85°C |       |

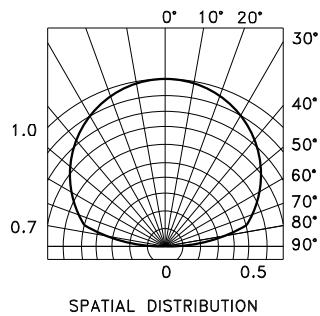
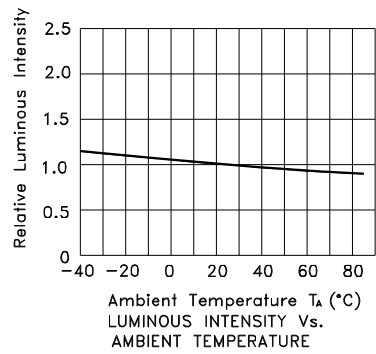
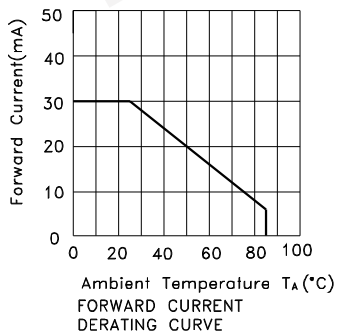
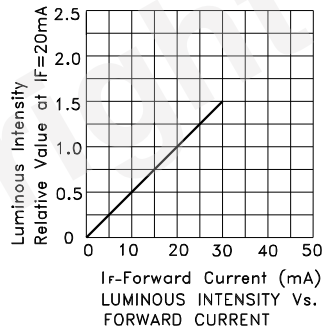
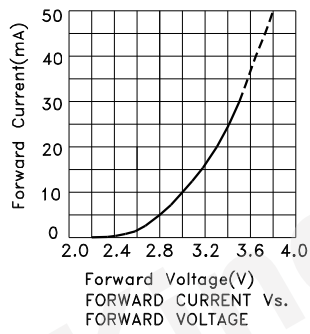
Notes:

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**

**KPT-3216QBC-D**



## KPT-3216QBC-D

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.

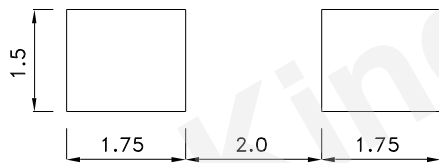
Reflow Soldering Profile For Lead-free SMT Process.



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.

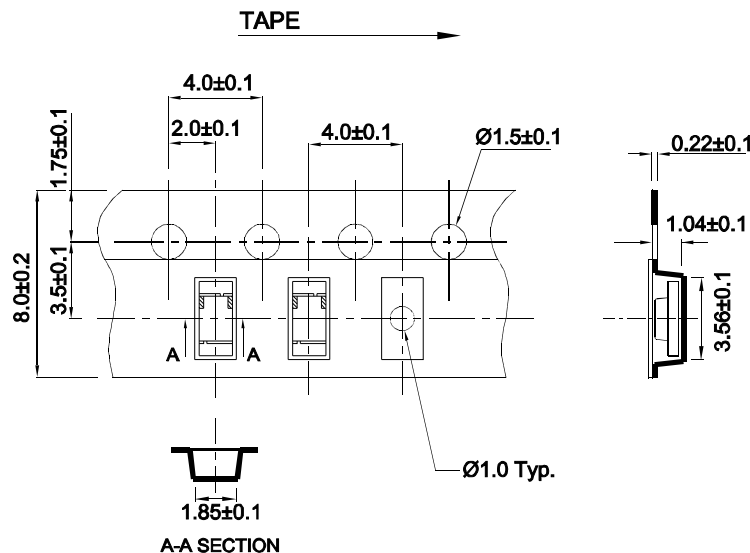
### Recommended Soldering Pattern (Units : mm; Tolerance: ± 0.1)



### Reel Dimension

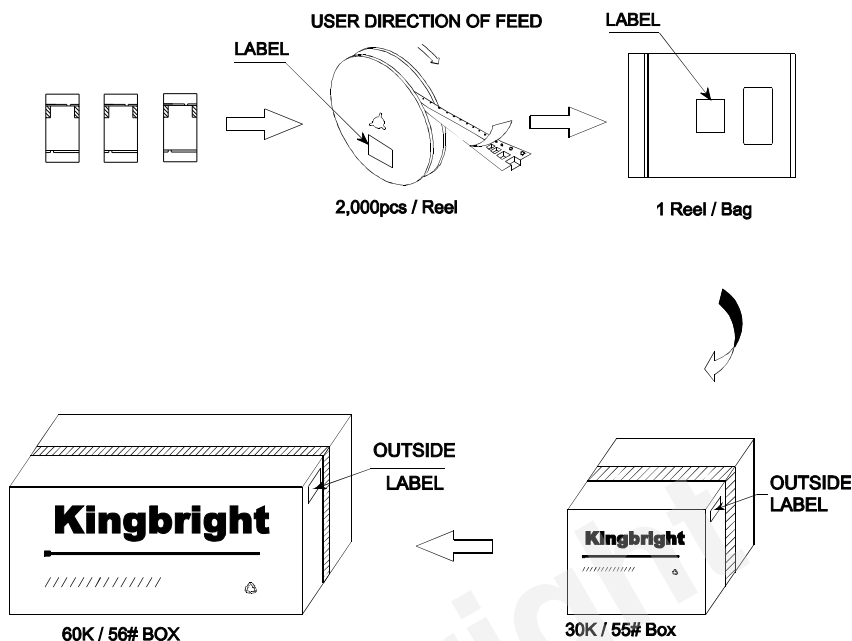



### Tape Dimensions (Units : mm)



## PACKING & LABEL SPECIFICATIONS

## KPT-3216QBC-D



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

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