

# **QT-Brightek Chip LED Series**

## **SMD 0603 Blue LED**

**Part No.: QBLP601-2IB5**

**2IB: Blue 460 to 470nm  
5: 5mA**

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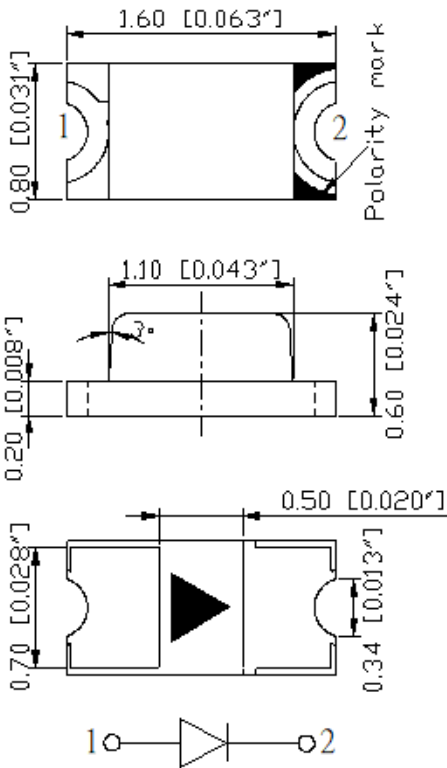
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## Introduction

|                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                       |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Feature:</b> <ul style="list-style-type: none"> <li>• Water clear lens</li> <li>• Color: Blue</li> <li>• Package in tape and reel</li> <li>• Ultra bright 0603 LED package</li> <li>• InGaN technology</li> <li>• Viewing angle: 140 deg typ.</li> <li>• Height profile: 0.6mm</li> </ul> | <b>Application:</b> <ul style="list-style-type: none"> <li>• Status indication</li> <li>• Back lighting application</li> </ul><br><b>Certification &amp; Compliance:</b> <ul style="list-style-type: none"> <li>• ISO9001</li> <li>• RoHS Compliant</li> </ul><br> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Dimension:



Units: mm / tolerance = +/-0.1mm

## Electrical / Optical Characteristic (Ta=25 °C)

| Product      | Color | I <sub>F</sub> (mA) | V <sub>F</sub> (V) |      | λ <sub>D</sub> (nm) |      |      | λ <sub>P</sub> (nm) | I <sub>V</sub> (mcd) |      |
|--------------|-------|---------------------|--------------------|------|---------------------|------|------|---------------------|----------------------|------|
|              |       |                     | Typ.               | Max. | Min.                | Typ. | Max. | Typ.                | Min.                 | Typ. |
| QBLP601-2IB5 | Blue  | 5                   | 2.7                | 3.1  | 460                 | 465  | 470  | 460                 | 20                   | 35   |

## Absolute Maximum Rating

| Material | P <sub>d</sub> (mW) | I <sub>F</sub> (mA) | I <sub>FP</sub> (mA)* | V <sub>R</sub> (V) | T <sub>OP</sub> (°C) | T <sub>ST</sub> (°C) | T <sub>SOL</sub> (°C)** |
|----------|---------------------|---------------------|-----------------------|--------------------|----------------------|----------------------|-------------------------|
| InGaN    | 93                  | 30                  | 100                   | 5                  | -40 ~ +80            | -40 ~ +85            | 260                     |

\*Duty 1/10 @ 1KHz

\*\*IR Reflow for no more than 10 sec @ 260 °C

## Forward Voltage V<sub>F</sub> @ I<sub>F</sub>=5mA

| Bin | Min. | Max. | Unit |
|-----|------|------|------|
| e   | 2.5  | 2.8  | V    |
| f   | 2.8  | 3.1  |      |

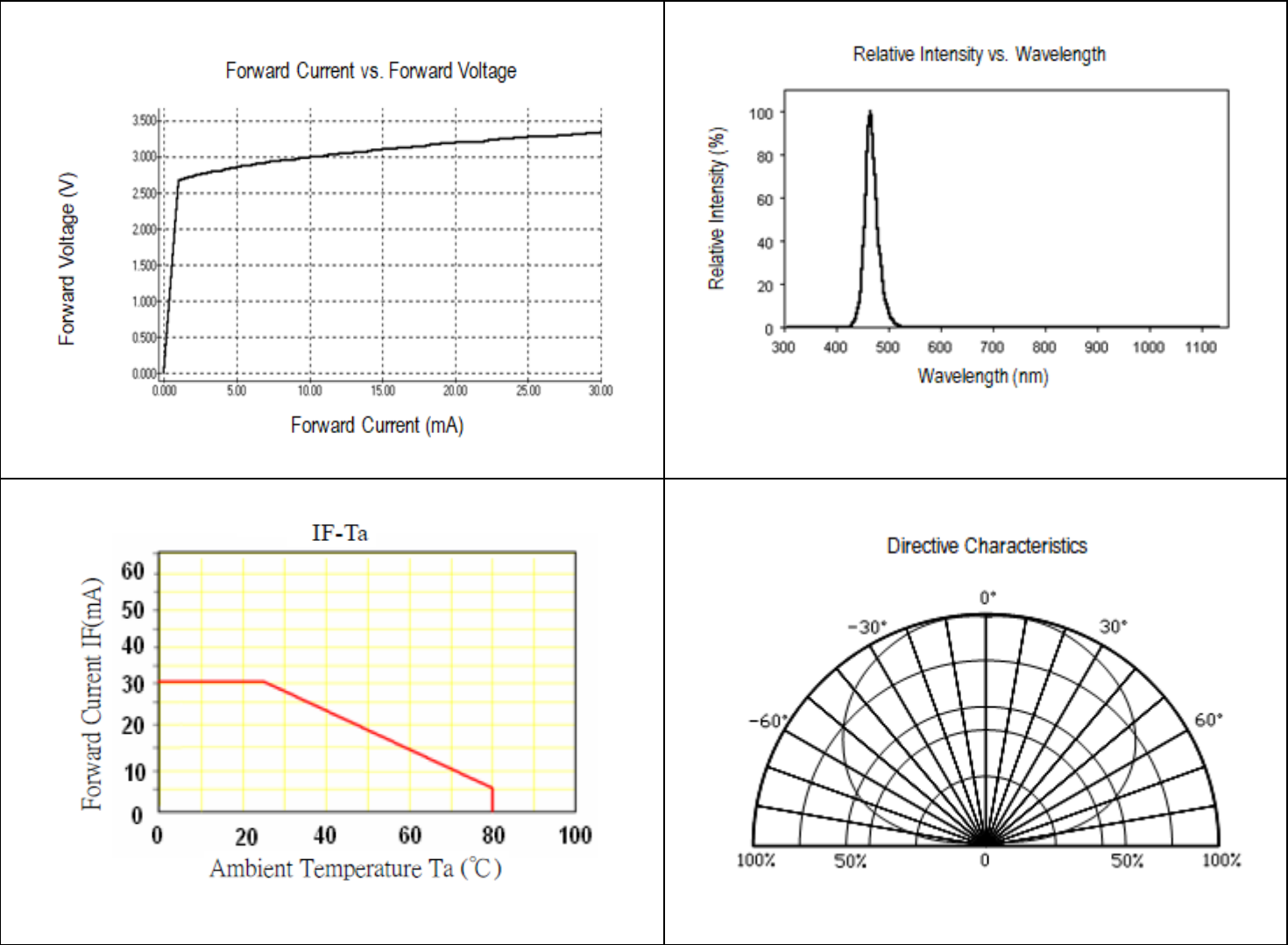
## Luminous Intensity I<sub>V</sub> @ I<sub>F</sub>=5mA

| Bin | Min. | Max. | Unit |
|-----|------|------|------|
| C   | 20   | 25   | mcd  |
| D   | 25   | 32   |      |
| E   | 32   | 40   |      |
| F   | 40   | 50   |      |
| G   | 50   | 63   |      |

## Dominant Wavelength λ<sub>D</sub> @ I<sub>F</sub>=5mA

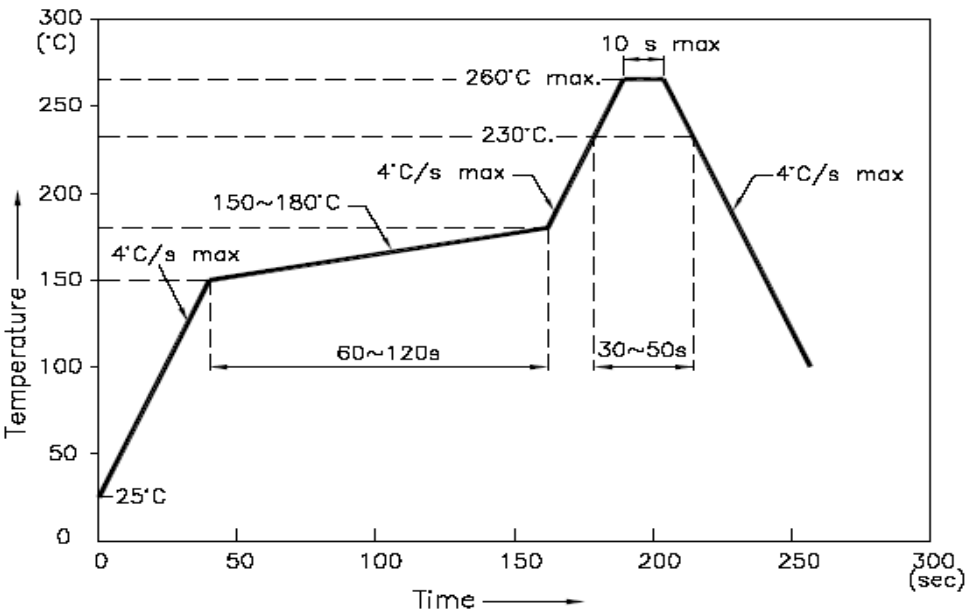
| Bin | Min. | Max. | Unit |
|-----|------|------|------|
| B0  | 460  | 465  | nm   |
| B1  | 465  | 470  |      |

## Characteristic Curves

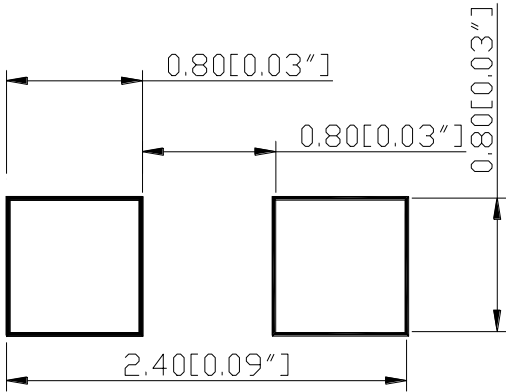


Solder Profile & Footprint

-The recommended reflow soldering profile is as follows (temperatures indicated are as measured on the surface of the LED resin):



Recommended Pad Layout

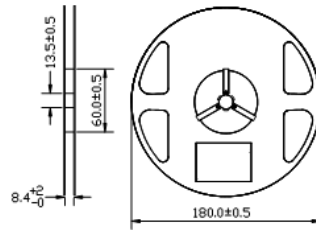


Units: mm

Tolerance: ±0.1mm

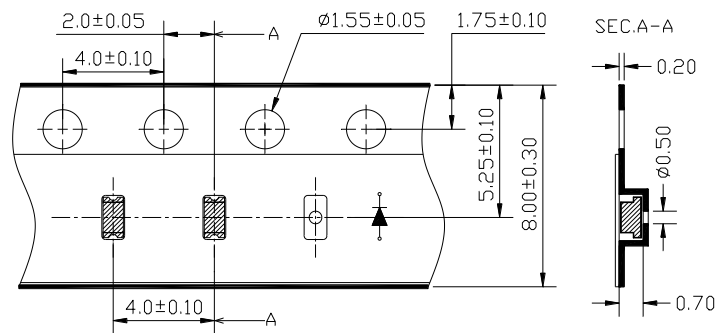
## Packing

### Reel Dimension:



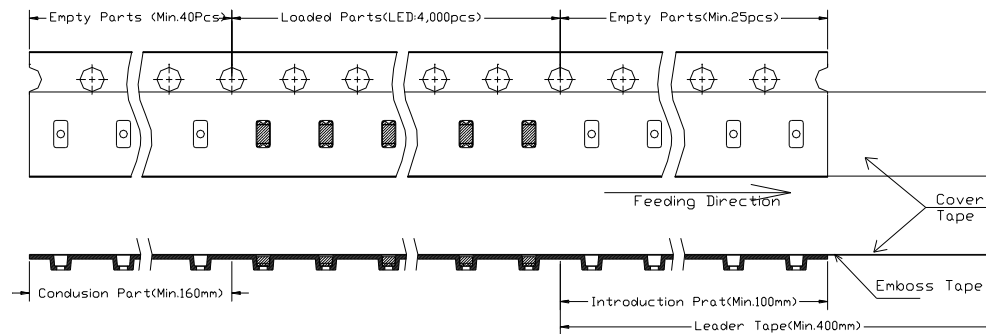
Unit: mm

### Tape Dimension:

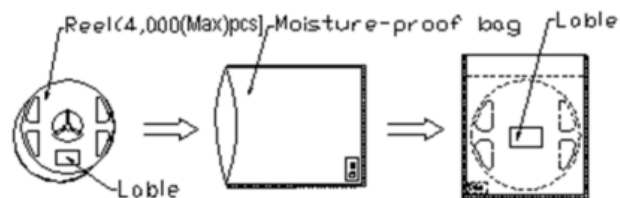


Unit: mm

### Arrangement of Tape:



### Packaging Specifications:





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## Ordering Information

| Orderable Part # | Spec Range                                                  | Quantity per reel |
|------------------|-------------------------------------------------------------|-------------------|
| QBLP601-2IB5     | Iv=35mcd typ. @ I <sub>F</sub> =5mA /<br>Color=460 to 470nm | 4,000 units       |

|                       |                        |             |
|-----------------------|------------------------|-------------|
| Product: QBLP601-2IB5 | Date: January 28, 2025 | Page 8 of 9 |
|                       | Version# 1.1           |             |



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## Revision History

| Description:                | Revision # | Revision Date |
|-----------------------------|------------|---------------|
| New Release of QBLP601-2IB5 | V1.0       | 09/01/2021    |
| Add peak wavelength info    | V1.1       | 01/25/2025    |
|                             |            |               |
|                             |            |               |
|                             |            |               |

## Disclaimer

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2. A critical component in any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.