

**QT-Brightek Chip LED Series**

**SMD 0603 Red LED**

**Part No.: QBLP601-R35**

**R3: 625 to 639nm (AlInGaP)  
5: 5mA**



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## Introduction

### Feature:

- Water clear lens
- Dominant Wavelength: 631nm typ.
- Color: Red
- Package in tape and reel
- Ultra bright 0603 LED package
- AllnGaP technology
- Viewing angle: 140 deg typ.
- Height profile: 0.6mm

### Application:

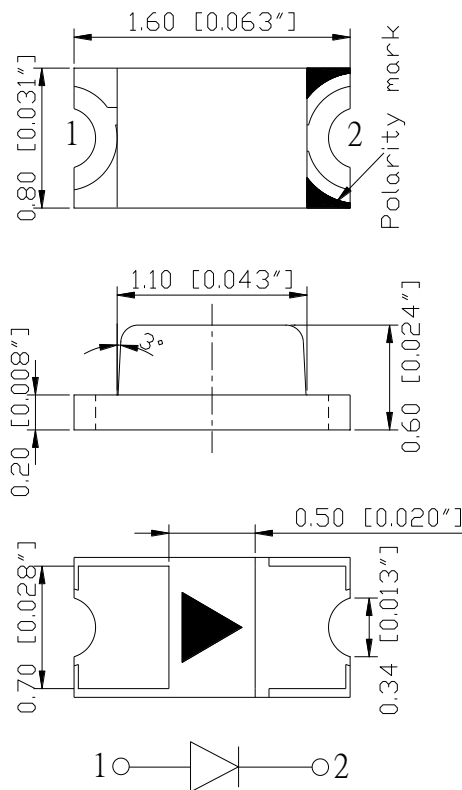
- Status indication
- Back lighting application

### Certification & Compliance:

- ISO9001
- RoHS Compliant



### 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-R35 | Red   | 5                   | 1.9                | 2.3  | 625                 | 631  | 639  | 639                 | 16                   | 26   |

## 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)** |
|----------|---------------------|---------------------|-----------------------|--------------------|----------------------|----------------------|-------------------------|
| AllnGaP  | 75                  | 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 |
|-----|------|------|------|
| A   | 1.7  | 2.0  | V    |
| B   | 2.0  | 2.3  |      |

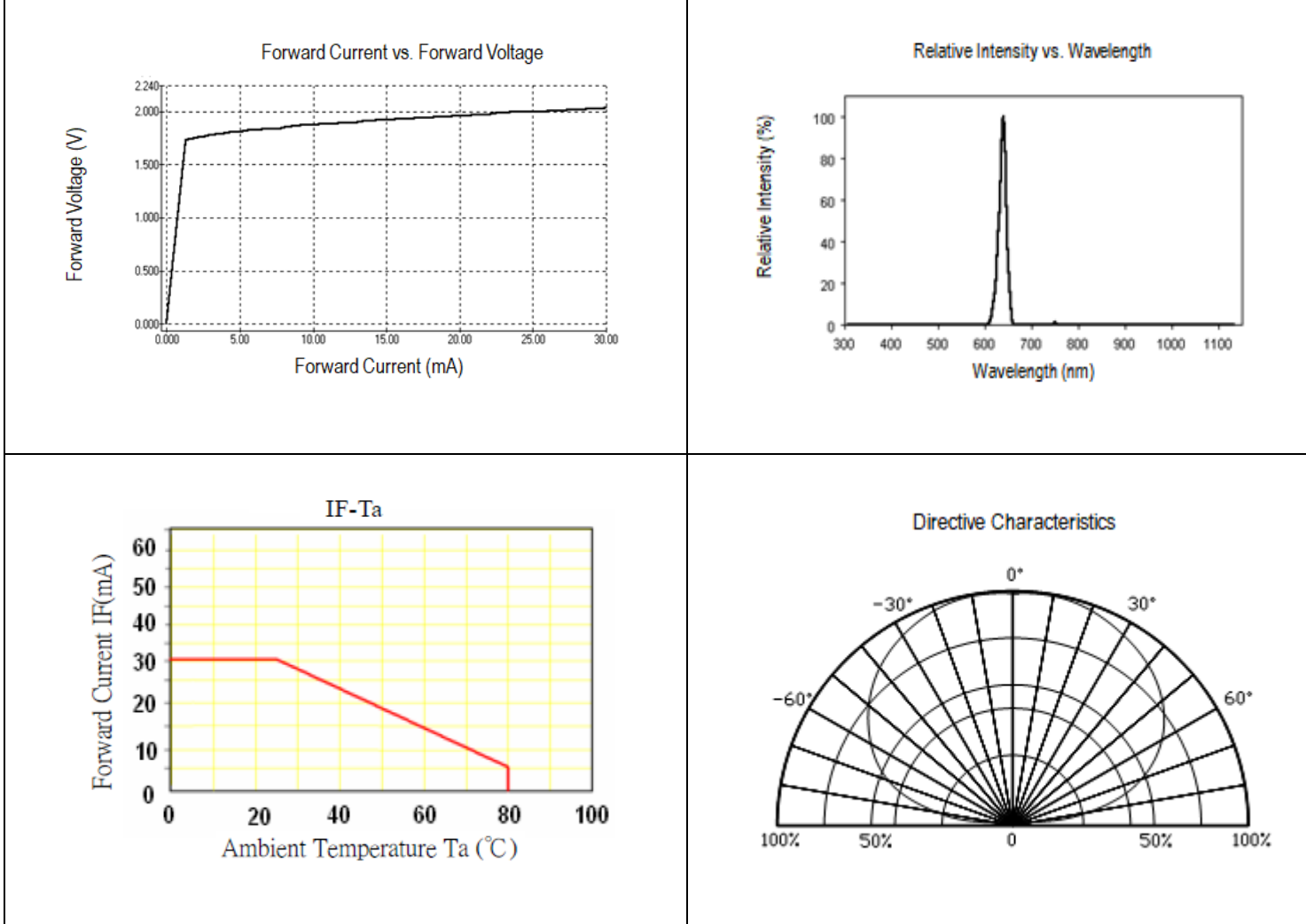
## Luminous Intensity I<sub>V</sub> @ I<sub>F</sub>=5mA

| Bin | Min. | Max. | Unit |
|-----|------|------|------|
| B   | 16   | 20   | mcd  |
| C   | 20   | 25   |      |
| D   | 25   | 32   |      |
| E   | 32   | 40   |      |
| F   | 40   | 50   |      |

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

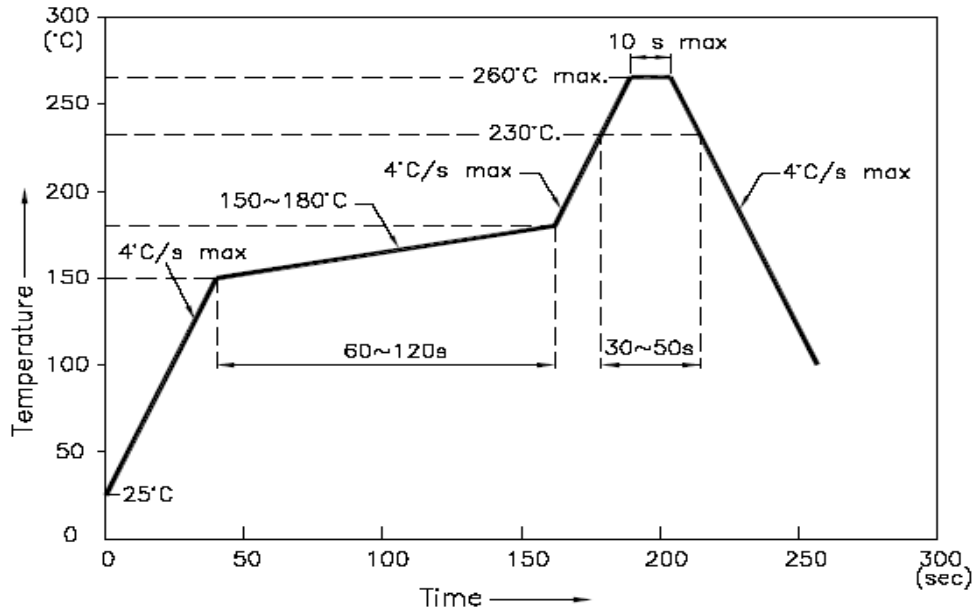
| Bin | Min. | Max. | Unit |
|-----|------|------|------|
| U   | 625  | 630  | nm   |
| V   | 630  | 635  |      |
| W   | 635  | 639  |      |

## Characteristic Curves

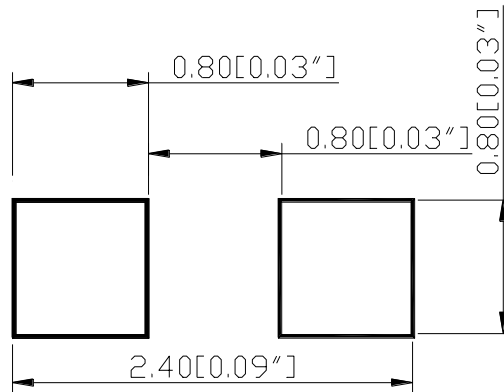


## Solder Profile & Footprint

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



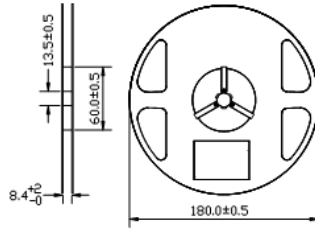
### Recommended Pad Layout



Units: mm

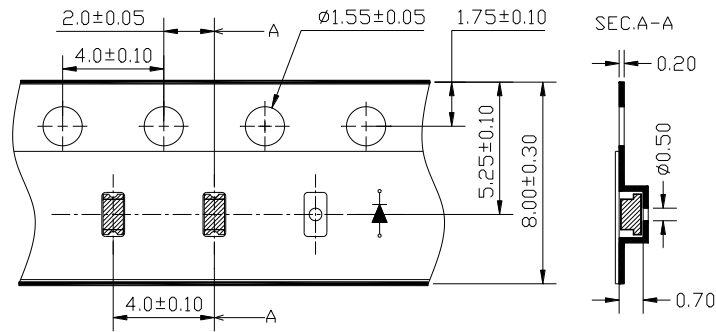
## Packing

### Reel Dimension:



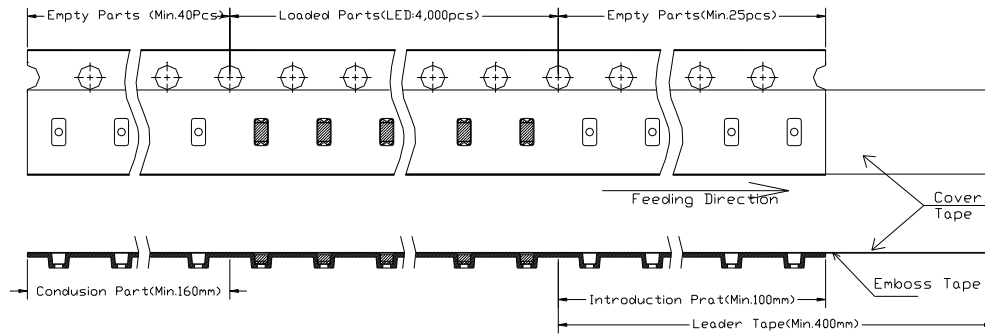
Unit: mm

### Tape Dimension:

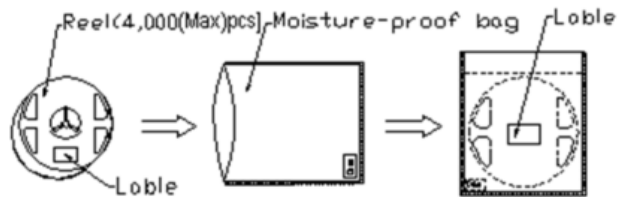


Unit: mm

### Arrangement of Tape:



### Packaging Specifications:





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## Ordering Information

| Orderable Part # | Spec Range   | Quantity per reel |
|------------------|--|-------------------|
| QBLP601-R35      | Iv=26mcd typ. @ I <sub>F</sub> =5mA / Color=625 to 639nm | 4,000 units       |

|                      |                        |             |
|----------------------|------------------------|-------------|
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|                      | Version# 1.1           |             |





## Revision History

| Description:  | Revision # | Revision Date |
|---|------------|---------------|
| New Release of QBLP601-R35                              | V1.0       | 08/19/2021    |
| Update typical Iv and add typical peak wavelength value | V1.1       | 01/26/2025    |
|   |            |               |
|   |            |               |
|   |            |               |

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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.