

QT-Brightek Chip LED Series

SMD 0606 RGB LED

Part No.: QBLP600-RIB

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Introduction

Feature:

- Water clear lens
- Package in tape and reel
- Ultra bright 0606 LED package
- AlInGaP technology for R
- InGaN technology for IB

Description:

These ultra bright 0606 RIG LEDs have a height profile of 0.80mm. Combination of high brightness output and small footprint, these LEDs are ideal for keypad backlighting, status indication, and color mixing applications.

Application:

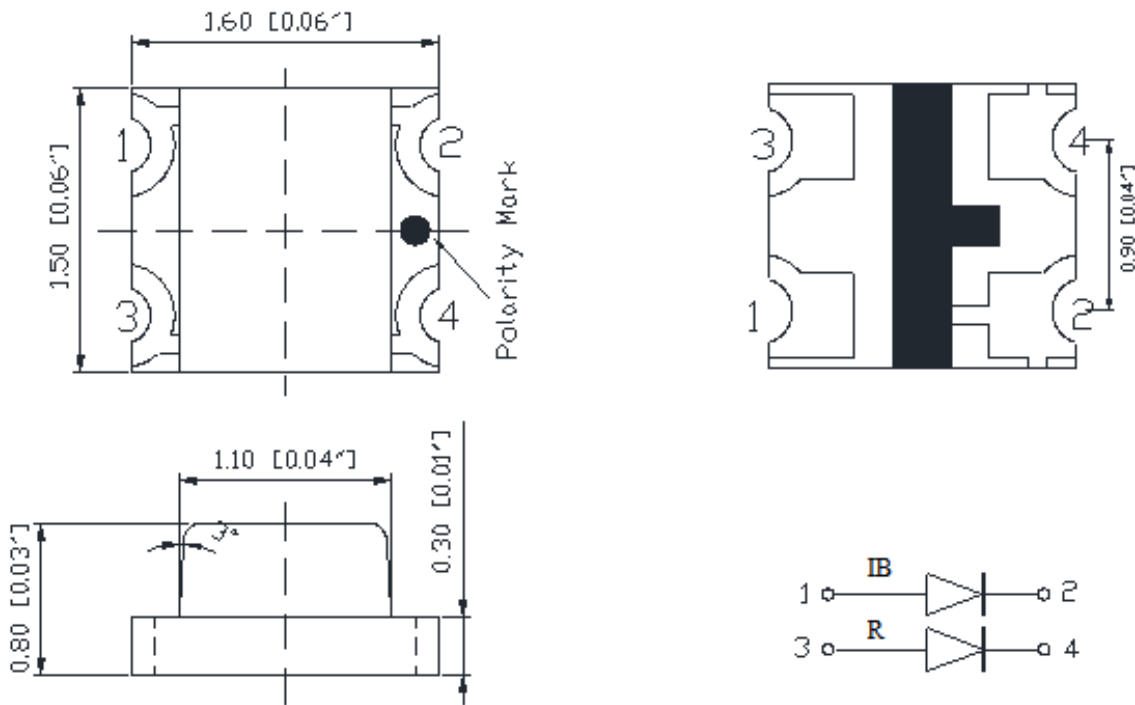
- Status indication
- Back lighting application

Certification & Compliance:

- TS16949
- ISO9001
- RoHS Compliant



Dimension:



Units: mm / tolerance = +/-0.1mm

Electrical / Optical Characteristic (Ta=25 °C)

| Product | Color | I _F (mA) | V _F (V) | | λ _D (nm) | | | I _V (mcd) | |
|-------------|-------|---------------------|--------------------|-----|---------------------|------|-----|----------------------|------|
| | | | Typ. | Max | Min | Typ. | Max | Min | Typ. |
| QBLP600-RIB | Red | 20 | 2.0 | 2.5 | 630 | 640 | 650 | 40 | 55 |
| | Blue | 20 | 3.1 | 3.7 | 465 | 470 | 475 | 80 | 110 |

Absolute Maximum Rating

| Material | P _d (mW) | I _F (mA) | I _{FP} (mA)* | V _R (V) | T _{OP} (°C) | T _{ST} (°C) | T _{SO L} (°C)** |
|-------------|---------------------|---------------------|-----------------------|--------------------|----------------------|----------------------|--------------------------|
| AllnGaP (R) | 75 | 30 | 125 | 5 | -40 ~ + 80 | -40 ~ +85 | 260 |
| InGaN (IB) | 111 | 30 | 125 | 5 | -40 ~ + 80 | -40 ~ +85 | 260 |

*Duty 1/8 @ 1KHz

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

Forward Voltage V_F for AllnGaP @ I_F=20mA

| Bin | Min. | Max. | Unit |
|-----|------|------|------|
| □ | 1.7 | 2.5 | V |

Forward Voltage V_F for InGaN @ I_F=20mA

| Bin | Min. | Max. | Unit |
|-----|------|------|------|
| f | 2.8 | 3.1 | V |
| g | 3.1 | 3.4 | |
| h | 3.4 | 3.7 | |

Luminous Intensity I_v @ $I_F=20mA$

| Bin | Min. | Max. | Unit |
|-----|------|------|------|
| F | 40 | 50 | mcd |
| G | 50 | 63 | |
| H | 63 | 80 | |
| I | 80 | 100 | |
| J | 100 | 125 | |
| K | 125 | 160 | |
| L | 160 | 200 | |

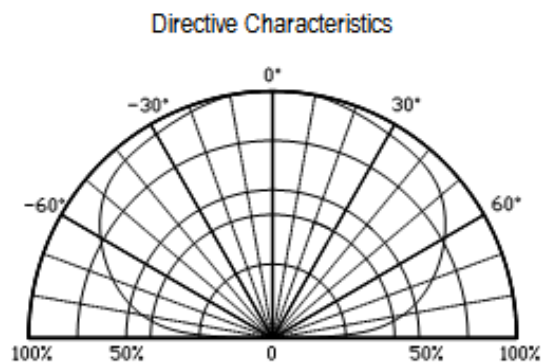
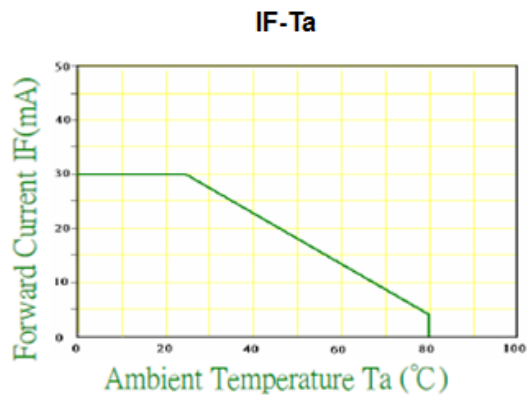
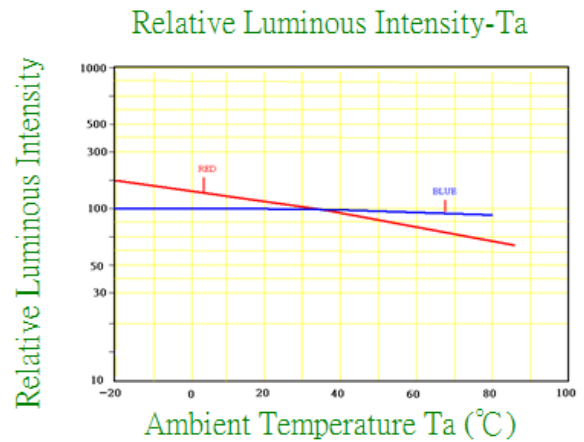
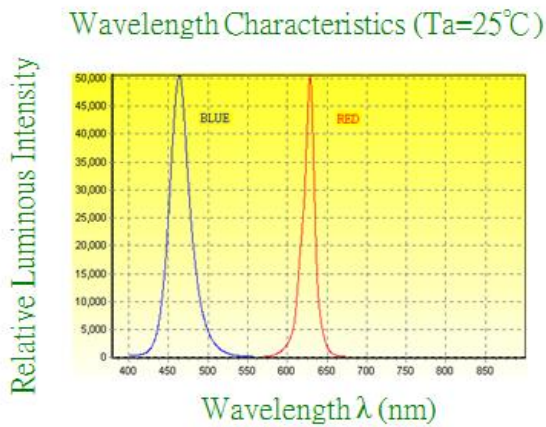
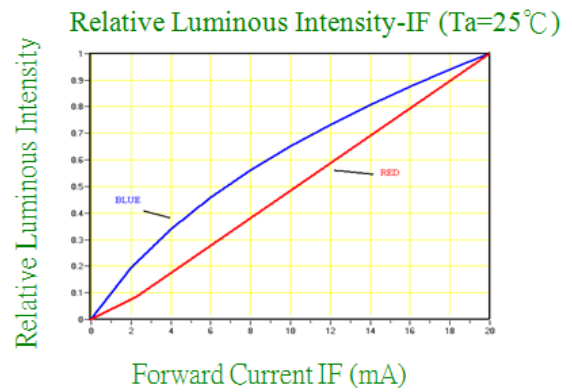
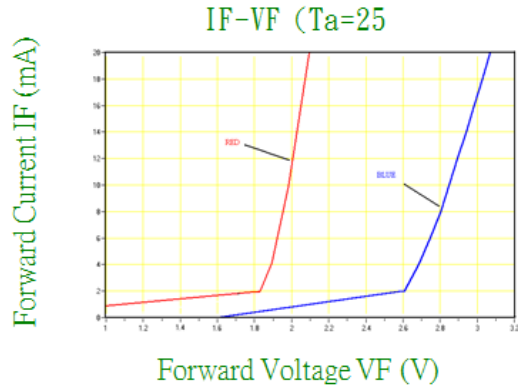
Dominant Wavelength λ_D for Red @ $I_F=20mA$

| Bin | Min. | Max. | Unit |
|-----|------|------|------|
| v | 630 | 635 | nm |
| w | 635 | 650 | |

Dominant Wavelength λ_D for Blue @ $I_F=20mA$

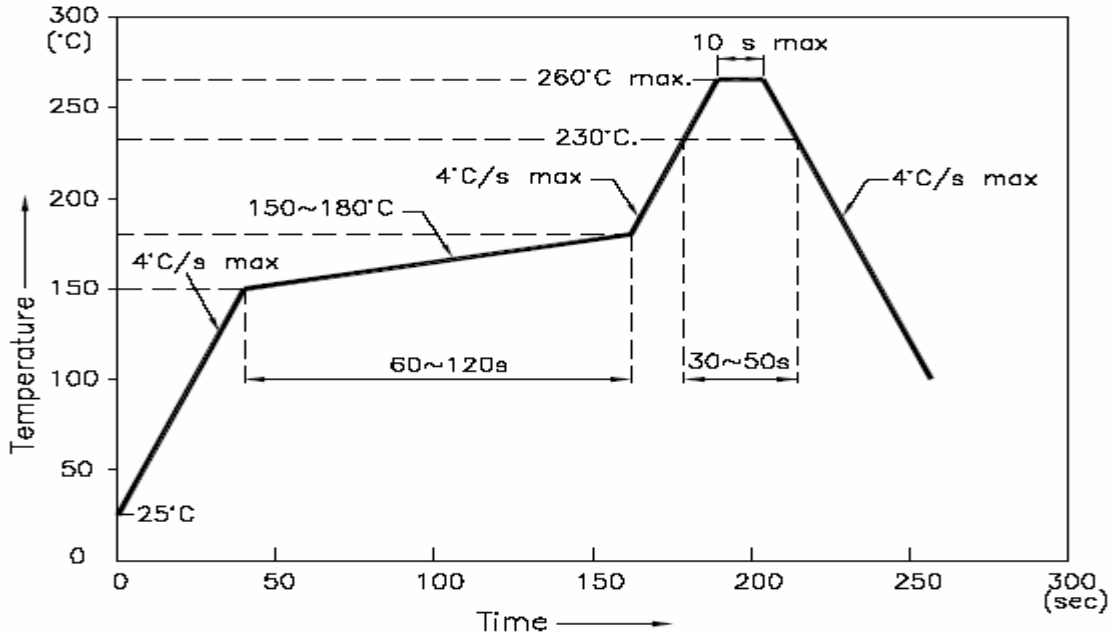
| Bin | Min. | Max. | Unit |
|-----|-------|-------|------|
| G | 465 | 467.5 | nm |
| H | 467.5 | 470 | |
| I | 470 | 472.5 | |
| J | 472.5 | 475 | |

Characteristic Curves

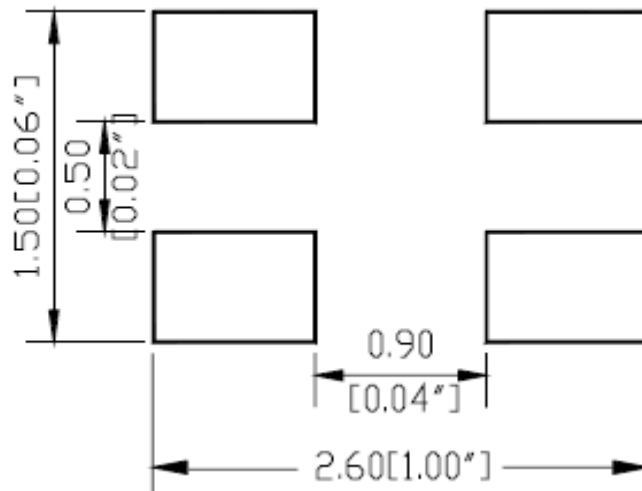


Solder Profile & Footprint

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



Recommended Pad Layout

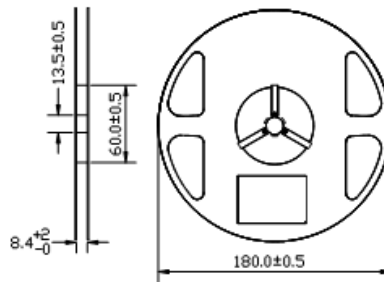


Units: mm

Tolerance: ± 0.1mm

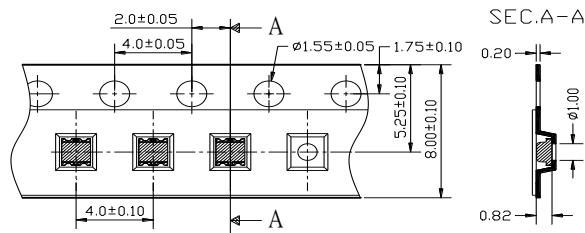
Packing

Reel Dimension:



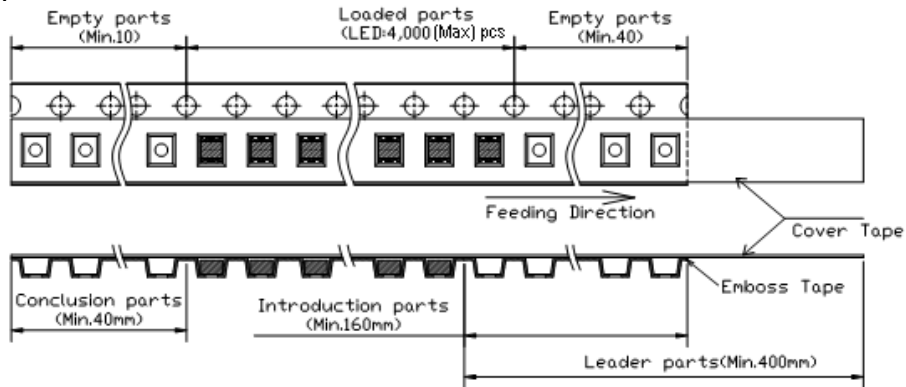
Unit: mm

Tape Dimension:

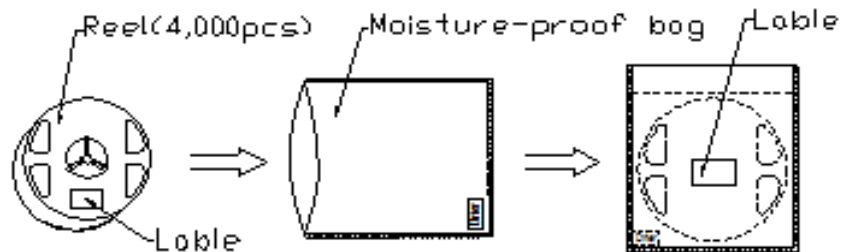


Unit: mm

Arrangement of Tape:



Packaging Specification:



Labeling

Part No: _____

Customer P/N: _____

Item: _____

Q'ty: _____

Vf: _____

Iv: _____

WI: _____

Date: _____

Made in China**Ordering Information**

| Part # | Orderable Part # | Spec Range | Quantity per reel |
|-------------|------------------|--|-------------------|
| QBLP600-RIB | QBLP600-RIB | Red: Iv=55mcd typ. @ I _F =20mA, λ _D =630nm to 650nm Blue: Iv=110mcd typ. @ I _F =20mA, λ _D =465nm to 475nm | 4,000 units |

Revision History

| Description: | Revision # | Revision Date |
|---------------------------------------|------------|---------------|
| New Release of QBLP600-RIB | V1.0 | 06/25/2011 |
| Update Spec | V1.1 | 12/09/2011 |
| Update to new format / Update drawing | V2.0 | 06/20/2016 |
| | | |
| | | |
| | | |
| | | |

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