

QT-Brightek Chip LED Series

SMD 0603 LED with Lens

Part No.: QBLP601D Series

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Introduction

Feature:

- Water clear lens
- Package in tape and reel
- 0603 LED package with lens
- Viewing angle: 35deg typ.
- InGaN technology for IB/IG
- AlInGaP technology for R/O/Y/AG

Description:

These ultrabright 0603 LEDs have a height profile of 0.95mm. Combination of high brightness output and small footprint, these LEDs are ideal for keypad backlighting and status indication.

Application:

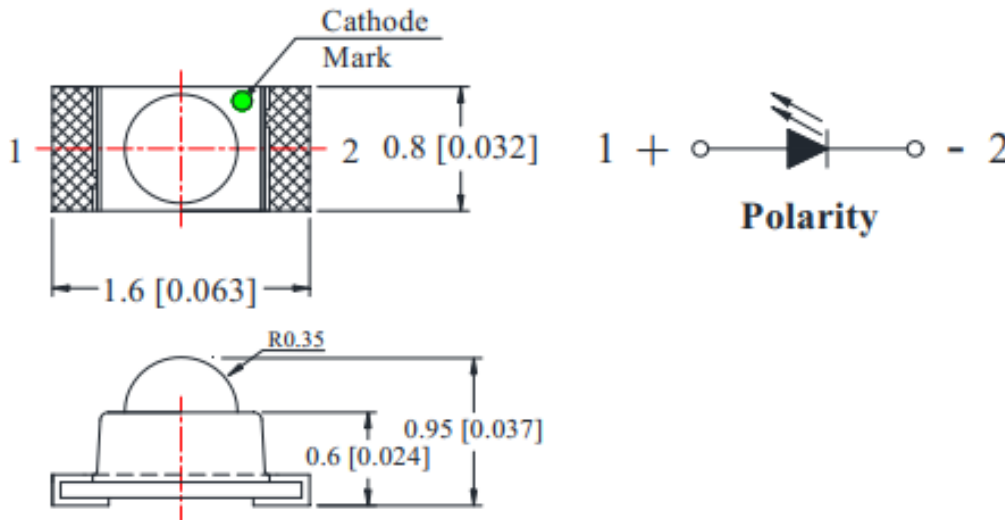
- Status indication
- Back lighting application

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) | | |
|-------------|--------------|---------------------|--------------------|------|------|---------------------|------|------|----------------------|------|------|
| | | | Min. | Typ. | Max. | Min. | Typ. | Max. | Min. | Typ. | Max. |
| QBLP601D-R | Red | 20 | 1.6 | 2.0 | 2.4 | 615 | 624 | 630 | 200 | 400 | 600 |
| QBLP601D-O | Orange | 20 | 1.6 | 2.0 | 2.4 | 600 | 605 | 610 | 200 | 400 | 600 |
| QBLP601D-Y | Yellow | 20 | 1.6 | 2.0 | 2.4 | 585 | 590 | 595 | 200 | 400 | 600 |
| QBLP601D-AG | Yellow Green | 20 | 1.6 | 2.0 | 2.4 | 565 | 573 | 575 | 80 | 130 | 200 |
| QBLP601D-IG | True Green | 20 | 2.6 | 3.2 | 3.4 | 515 | 520 | 530 | 1000 | 2000 | 2500 |
| QBLP601D-IB | Blue | 20 | 2.6 | 3.2 | 3.4 | 460 | 470 | 475 | 200 | 400 | 600 |

Absolute Maximum Rating

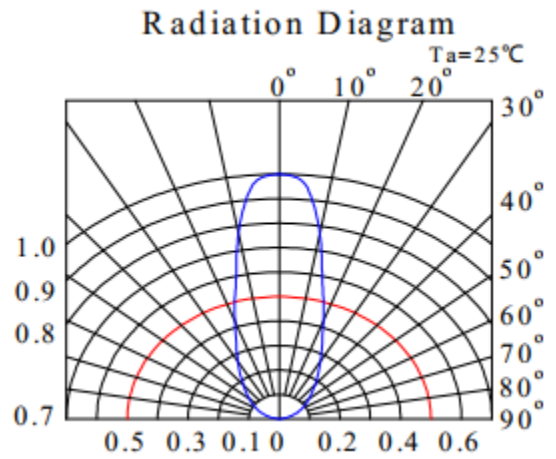
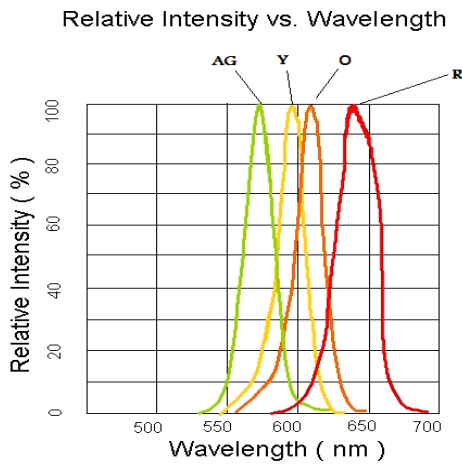
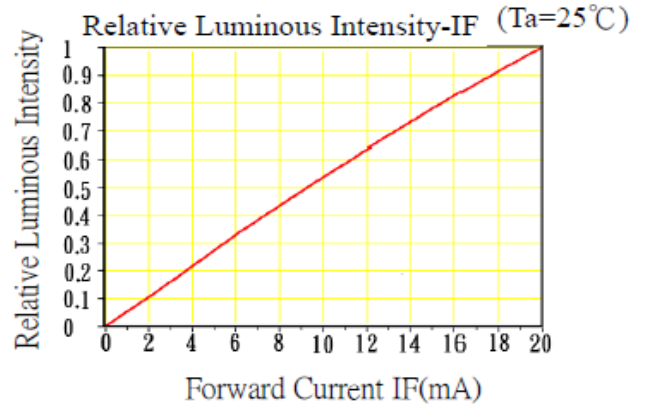
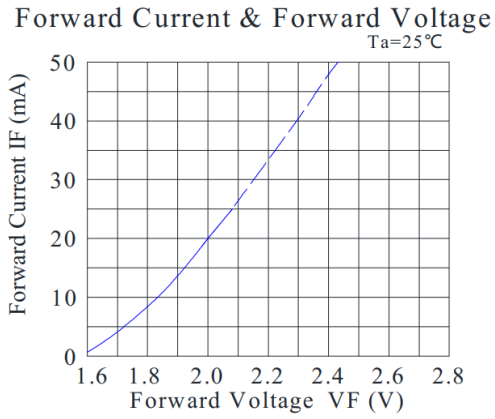
| Material | P _d (mW) | I _F (mA) | I _{FP} (mA)* | V _R (V) | T _{OP} (°C) | T _{ST} (°C) | T _{SOL} (°C)** |
|---------------------|---------------------|---------------------|-----------------------|--------------------|----------------------|----------------------|-------------------------|
| AllInGaP (R/AG/Y/O) | 60 | 25 | 100 | 5 | -40 ~ +80 | -40 ~ +85 | 260 |
| InGaN (IB/IG) | 90 | 25 | 100 | 5 | -40 ~ +80 | -40 ~ +85 | 260 |

*Duty 1/8 @ 1KHz

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

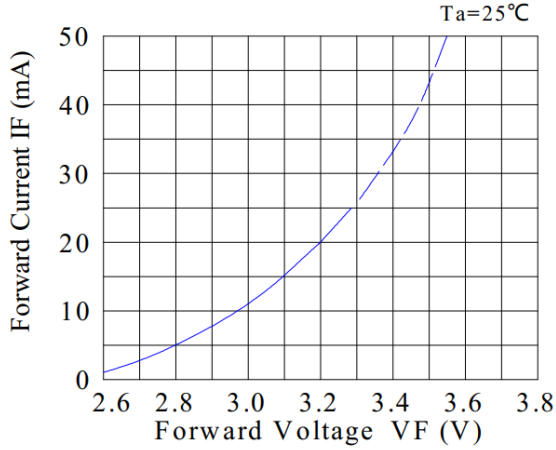
Characteristic Curves

AllnGaP (R/AG/Y/O)

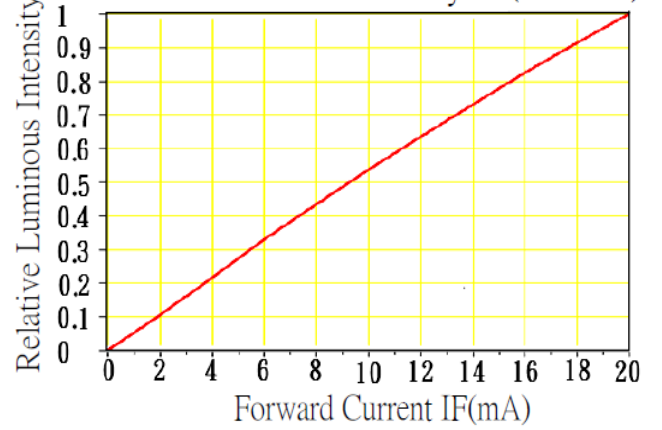


InGaN (IB/IG)

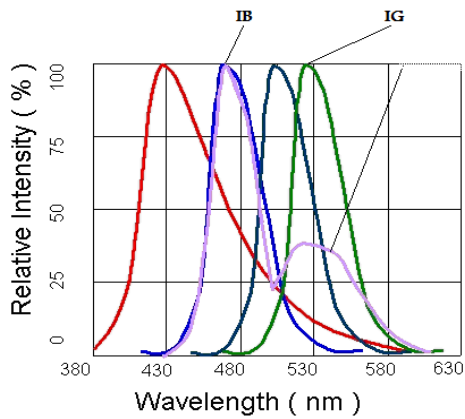
Forward Current & Forward Voltage



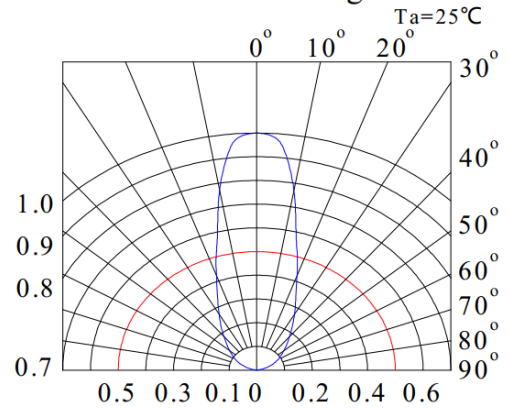
Relative Luminous Intensity-IF ($T_a=25^{\circ}\text{C}$)



Relative Intensity vs. Wavelength



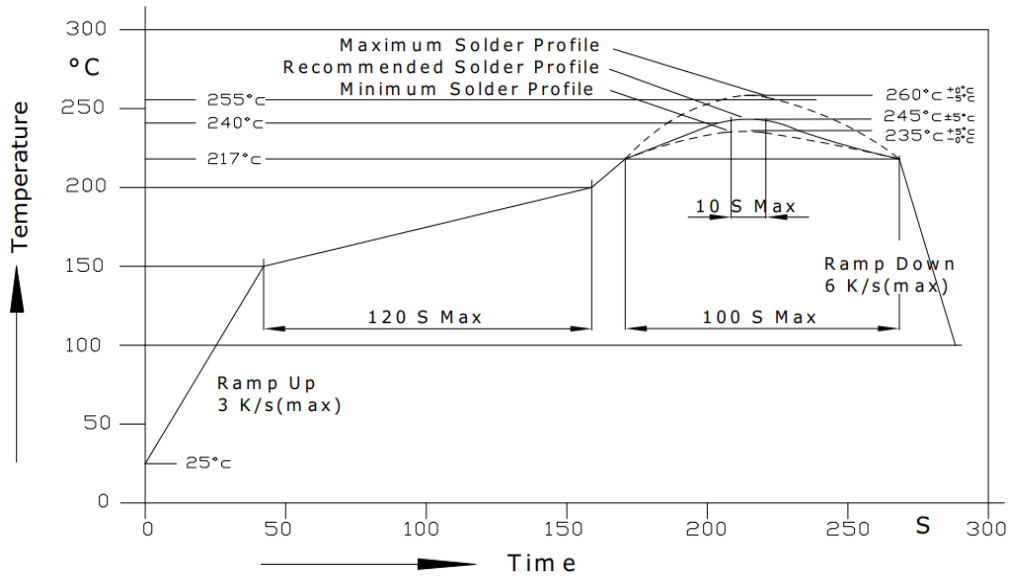
Radiation Diagram



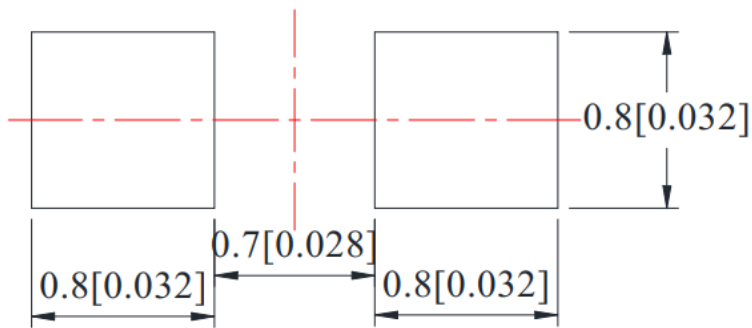
Solder Profile & Footprint

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

Pb-free solder temperature profile.



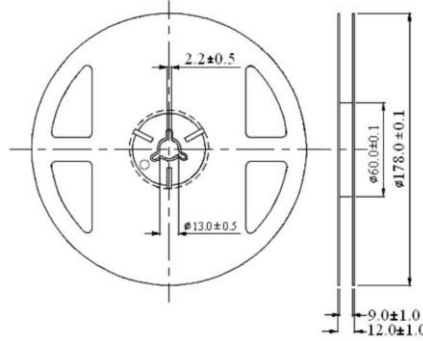
Recommended Pad Layout



Units: mm

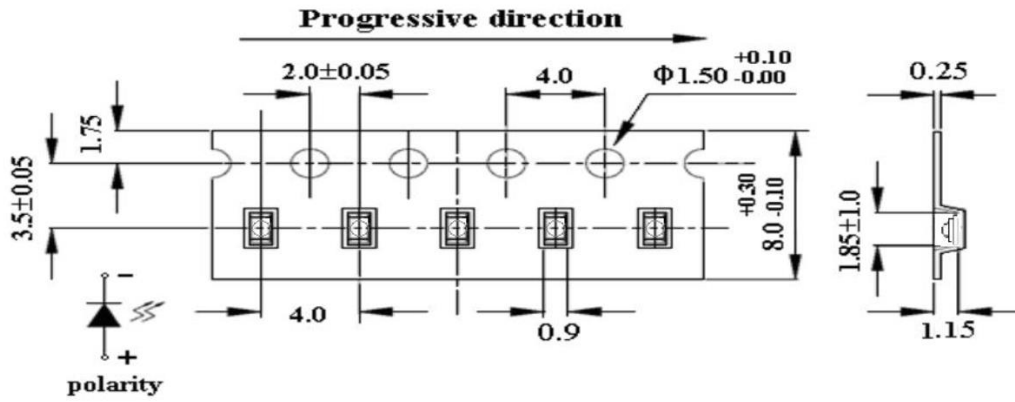
Packing

Reel Dimension:



Unit: mm

Tape Dimension:



Unit: mm

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 |
|-------------|------------------|---|-------------------|
| QBLP601D-R | QBLP601D-R | Iv=400mcd Typ. @ I _F =20mA / Color=615nm-630nm | 3,000 units |
| QBLP601D-O | QBLP601D-O | Iv=400mcd Typ. @ I _F =20mA / Color=600nm-610nm | 3,000 units |
| QBLP601D-Y | QBLP601D-Y | Iv=400mcd Typ. @ I _F =20mA / Color=585nm-595nm | 3,000 units |
| QBLP601D-AG | QBLP601D-AG | Iv=130mcd Typ. @ I _F =20mA / Color=565nm-575nm | 3,000 units |
| QBLP601D-IG | QBLP601D-IG | Iv=2000mcd Typ. @ I _F =20mA / Color=515nm-530nm | 3,000 units |
| QBLP601D-IB | QBLP601D-IB | Iv=400mcd Typ. @ I _F =20mA / Color=460nm-475nm | 3,000 units |



Revision History

| Description: | Revision # | Revision Date |
|--------------------------------|------------|---------------|
| New Release of QBLP601D series | V1.0 | 5/27/2020 |
| | | |
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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.