

# **QT-Brightek Chip LED Series**

**SMD 0603 BI-Color LED**

**Part No.: QBLP601-RY**

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## Introduction

### Feature:

- Water clear lens
- Package in tape and reel
- Ultra bright 0603 LED package
- AlInGaP technology for red (R) & Yellow (Y)
- Viewing angle: 140 deg typ.

### Description:

These ultra bright 0603 RY bi-color LEDs have a height profile of 0.55mm. Combination of high brightness output and small footprint, these LEDs are ideal for keypad backlighting, status indication, and color mixing applications.

### Application:

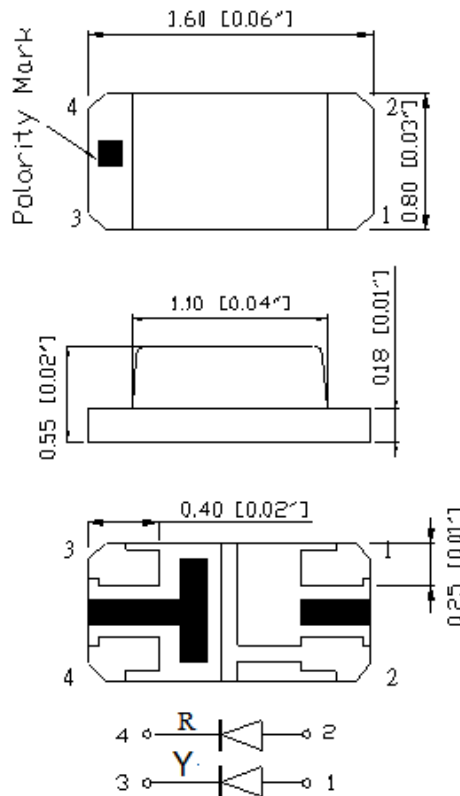
- Status indication
- Back lighting application

### Certification & Compliance:

- TS16949
- ISO9001
- RoHS Compliant



### Dimension:



Units: mm / tolerance = +/-0.1mm

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

Product	Color	I <sub>F</sub> (mA)	V <sub>F</sub> (V)		λ <sub>D</sub> (nm)			I <sub>v</sub> (mcd)	
			Typ.	Max	Min.	Typ.	Max.	Min.	Typ.
QBLP601-RY	Red	20	2.0	2.5	625	630	635	50	100
	Yellow	20	2.0	2.5	585	591	595	100	170

### 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>SO L</sub> (°C)**
AllnGaP	75	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<sub>F</sub> for AllnGaP @ I<sub>F</sub>=20mA

Bin	Min.	Max.	Unit
□	1.7	2.5	V

### Luminous Intensity I<sub>v</sub> for Red @ I<sub>F</sub>=20mA

Bin	Min.	Max.	Unit
G1	50	80	mcd
H1	80	125	

### Luminous Intensity I<sub>v</sub> for Yellow @ I<sub>F</sub>=20mA

Bin	Min.	Max.	Unit
H2	100	160	mcd
I2	160	250	

### Dominant Wavelength λ<sub>D</sub> for Red @ I<sub>F</sub>=20mA

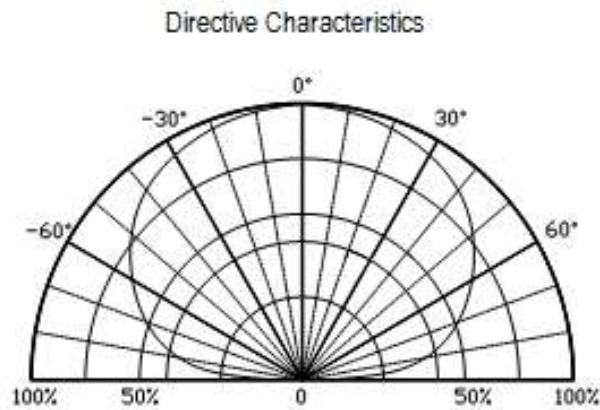
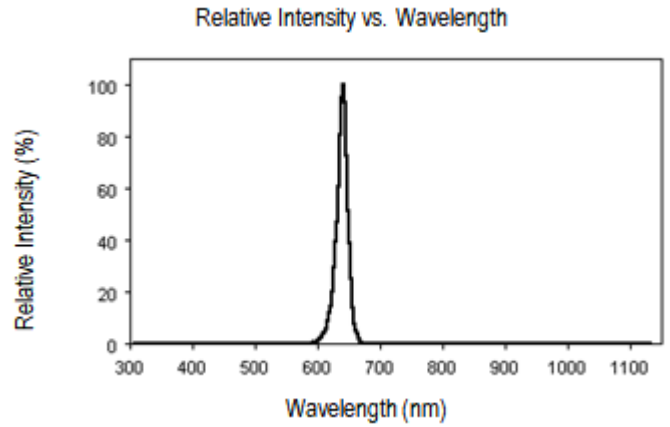
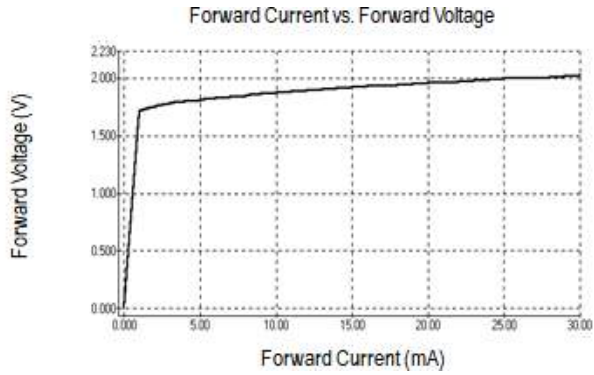
Bin	Min.	Max.	Unit
u	625	630	nm
v	630	635	

### Dominant Wavelength λ<sub>D</sub> for Yellow @ I<sub>F</sub>=20mA

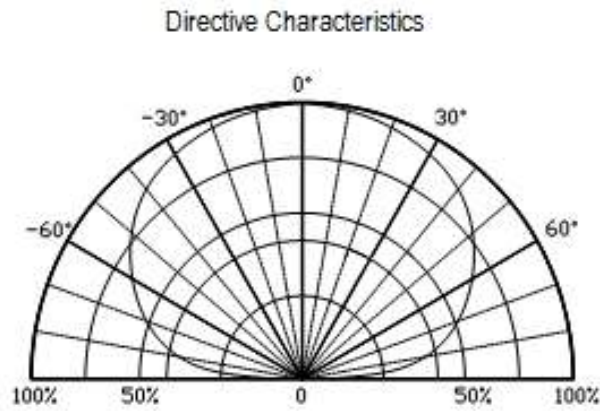
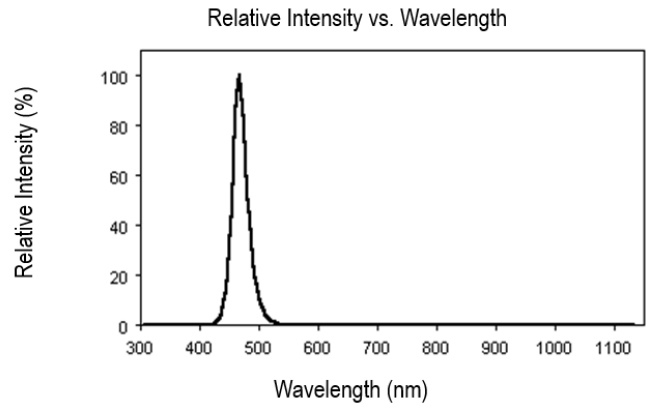
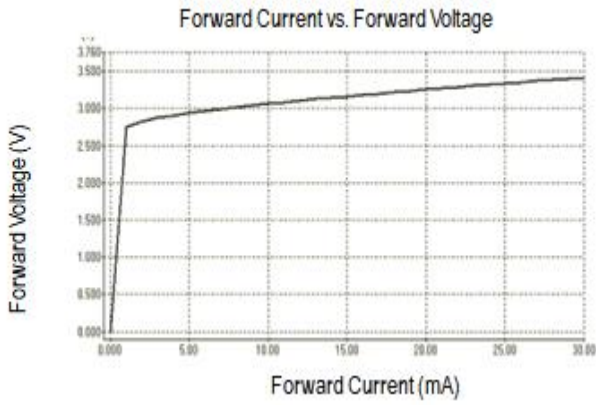
Bin	Min.	Max.	Unit
m	585	590	nm
n	590	595	

## Characteristic Curves

Red

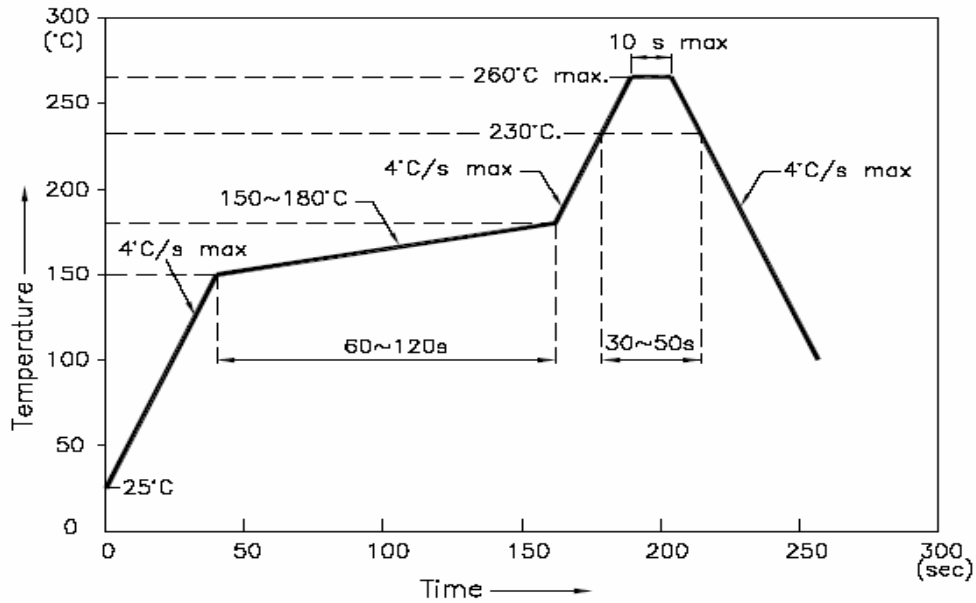


Blue

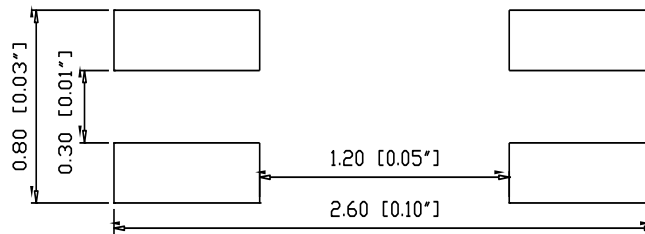


## Solder Profile & Footprint

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



### RECOMMEND PAD LAYOUT

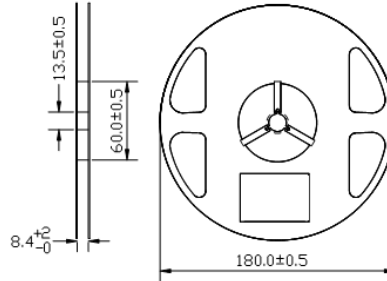


Units: mm

tolerance: +/- 0.1mm

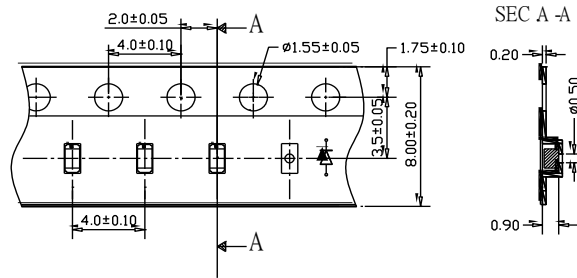
## Packing

### Reel Dimension:



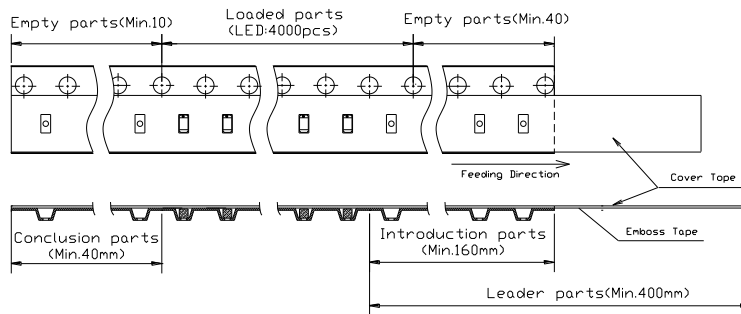
Unit: mm

### Tape Dimension:

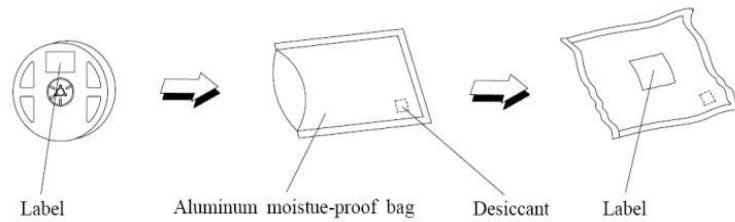


Unit: mm

### Arrangement of Tape:



### Packaging Specifications:





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**Ordering Information**

Part #	Orderable Part #	Spec Range	Quantity per reel
QBLP601-RY	QBLP601-RY	Red (R): $I_V=100\text{mcd typ. @ } 20\text{mA} / \lambda_D:$ 625nm to 635nm	4000pcs
		Yellow (Y): $I_V=170\text{mcd typ. @ } 20\text{mA} / \lambda_D:$ 585nm to 595nm	

**Revision History**

Description:	Revision #	Revision Date
New Release of QBLP601-RY	V1.0	05/02/2019

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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.