

# **QT-Brightek Chip LED Series**

## **1204 BI-Color LED**

**Part No.: QBLP613-RIG**



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## Introduction

### Feature:

- Water clear lens
- Package in tape and reel
- Bright side view Bi-color LED
- AllnGaP technology for Red
- InGaN technology for True Green
- Viewing Angle: 150° typ.

### Description:

This bright Bi-color Red and Yellow Green LED has a height profile of 1.0mm. It is ideal for keypad backlighting and status indication.

### Application:

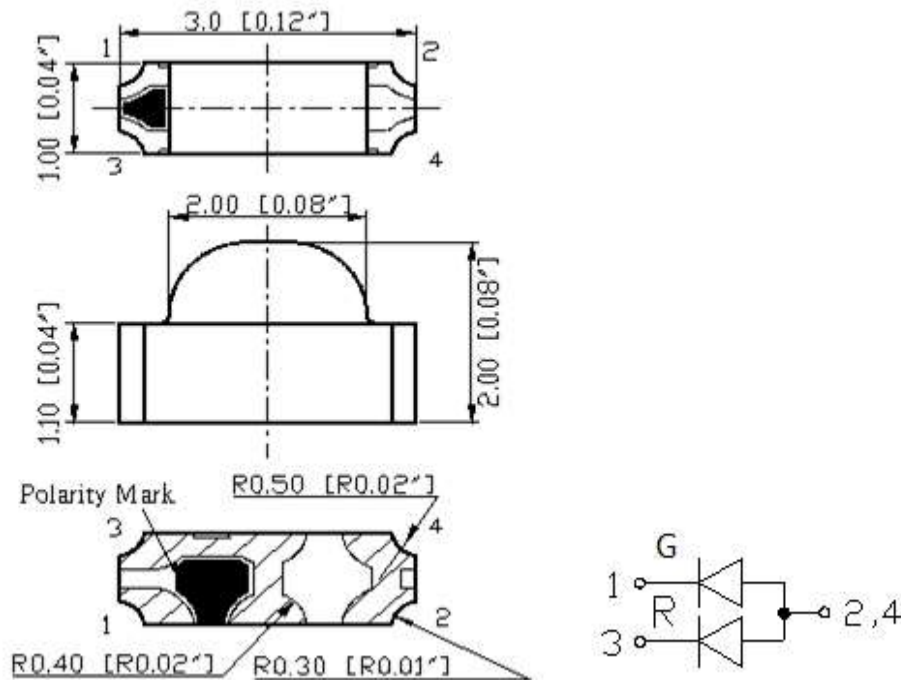
- Status indication
- Back lighting application

### Certification & Compliance:

- TS16949
- ISO9001
- RoHS Compliant



### Dimension:



Units: mm / tolerance = +/-0.1mm

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

Product	Color	I <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.
QBLP613-RIG	Red	20	2.0	2.5	615	625	630	80	175
	True Green	20	3.1	3.7	525	530	535	200	440

### 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 (R)	75	30	125	5	-40 ~ +80	-40 ~ +85	260
InGaN (IG)	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<sub>F</sub> for AllnGaP @ I<sub>F</sub>=20mA

Bin	Min.	Max.	Unit
□	1.7	2.5	V

### Forward Voltage V<sub>F</sub> for InGaN @ I<sub>F</sub>=20mA

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

**Luminous Intensity  $I_V$  for Red @  $I_F=20mA$**

Bin	Min.	Max.	Unit
I	80	100	mcd
J	100	125	
K	125	160	
L	160	200	
M	200	250	

**Luminous Intensity  $I_V$  for True Green @  $I_F=20mA$**

Bin	Min.	Max.	Unit
M	200	250	mcd
N	250	320	
O	320	400	
P	400	500	
Q	500	630	
R	630	800	

**Dominant Wavelength  $\lambda_D$  for Red @  $I_F=20mA$**

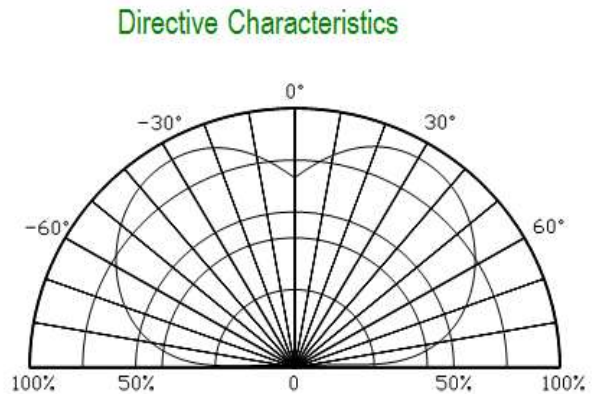
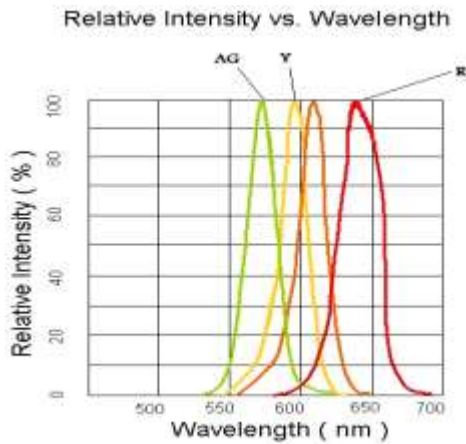
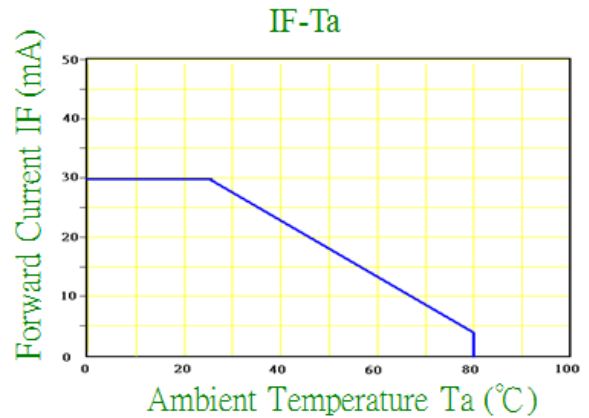
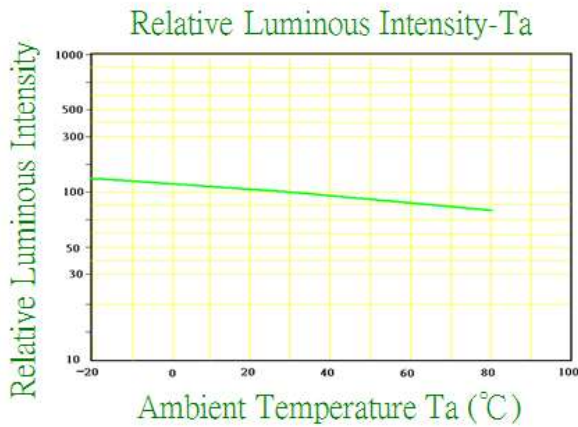
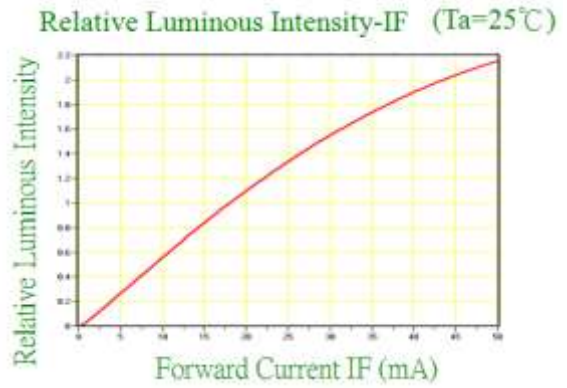
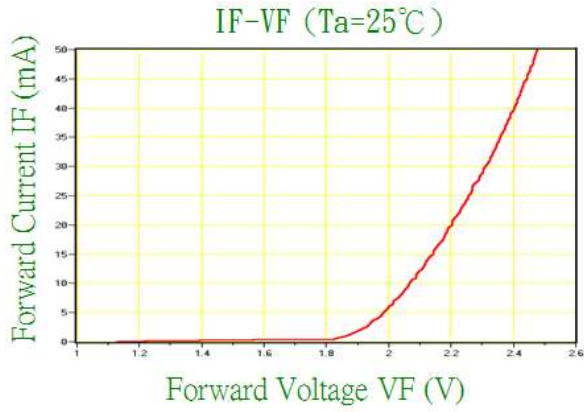
Bin	Min.	Max.	Unit
s	615	620	nm
t	620	625	
u	625	630	

**Dominant Wavelength  $\lambda_D$  for Green @  $I_F=20mA$**

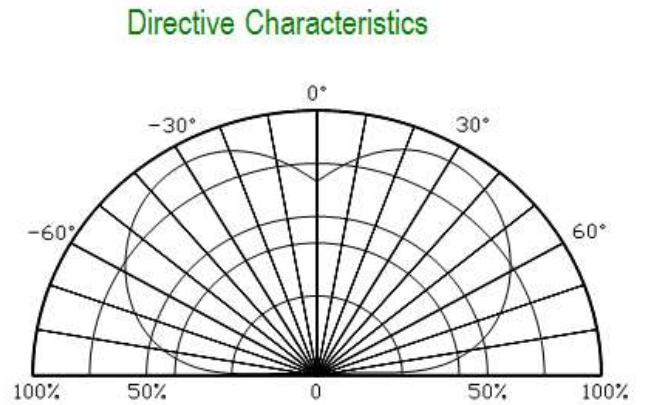
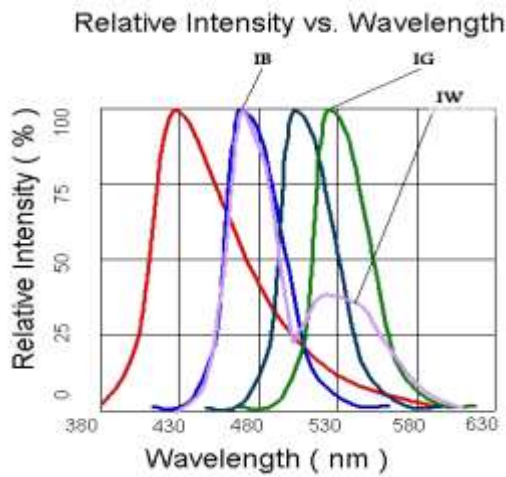
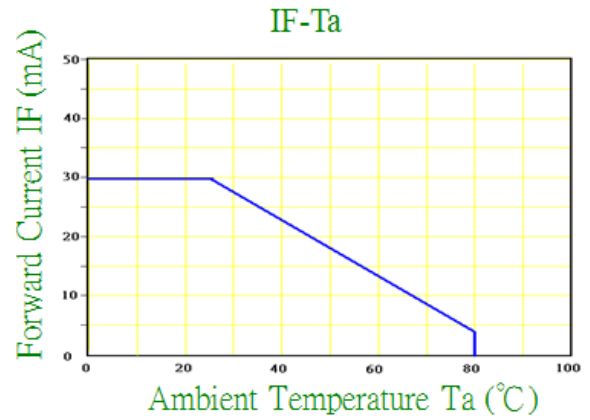
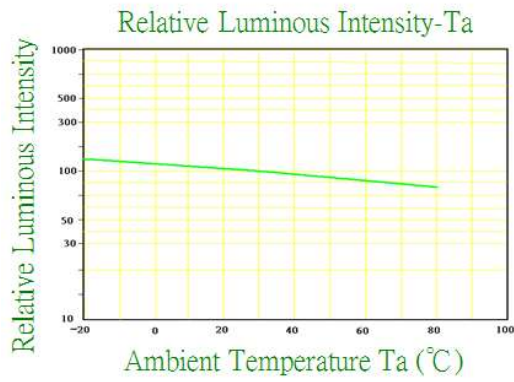
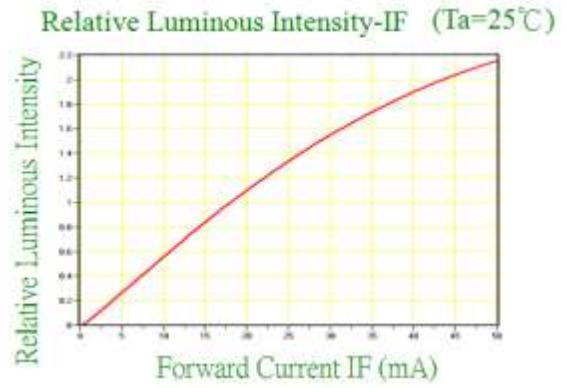
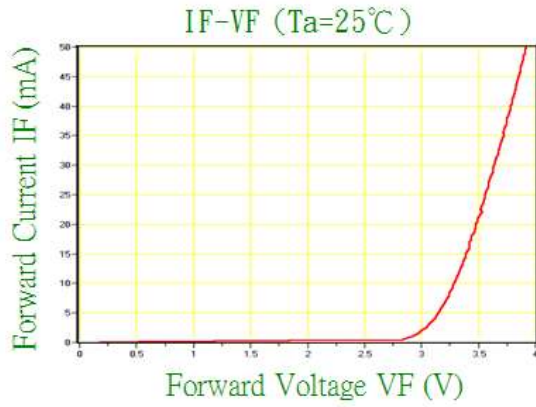
Bin	Min.	Max.	Unit
W	525	527.5	nm
X	527.5	530	
Y	530	532.5	
Z	532.5	535	

## Characteristic Curves

AllnGaP

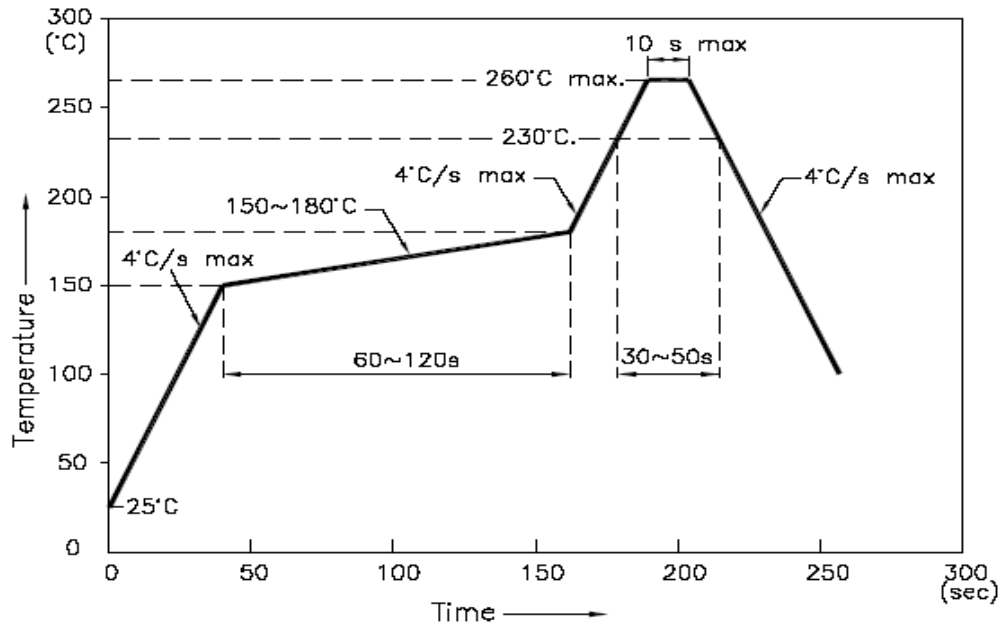


InGaN

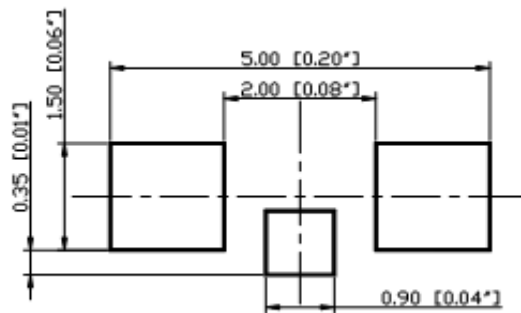


## Solder Profile & Footprint

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



### Recommended Pad Layout



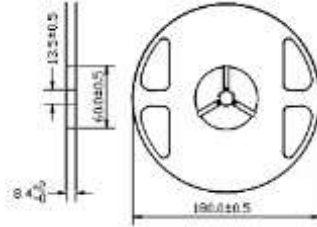
Units: mm

Tolerance: ± 0.1mm

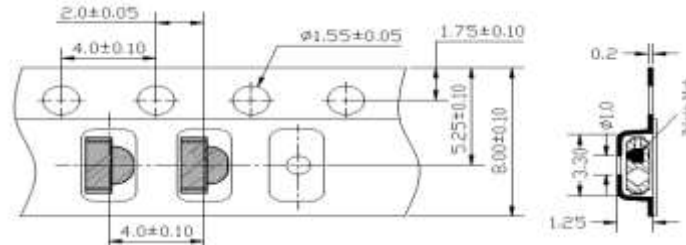


## Packing

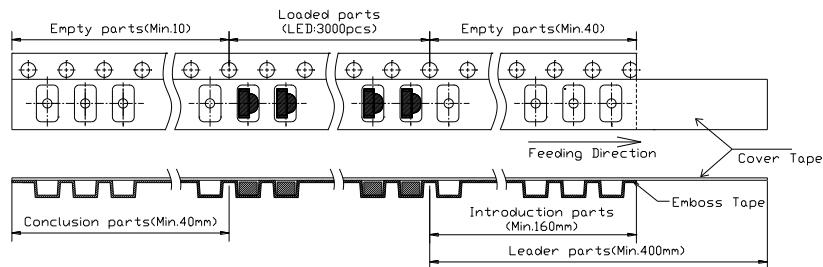
### Reel Dimension:



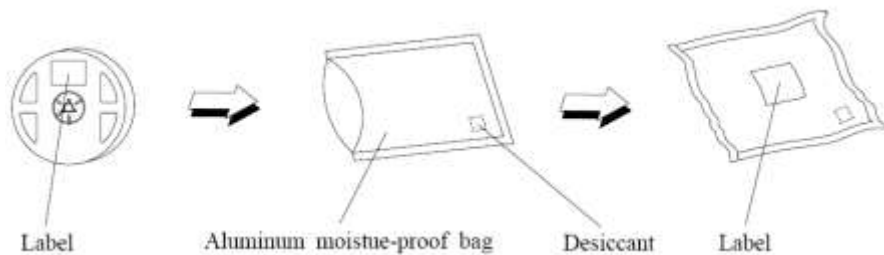
### Tape Dimension:



### Arrangement of Tape:



### Packaging Specifications:



**Labeling:**

 <span style="font-size: 1.2em; font-weight: bold;">QT-Brightek</span> 

Part No: _____
Customer P/N: _____
Item: _____
Q'ty: _____
Vf: _____
Iv: _____
WI: _____
Date: _____
<b>Made in China</b>

**Ordering Information**

Part #	Orderable Part #	Spec Range	Quantity per reel
QBLP613-RIG	QBLP613-RIG	R: Iv=175mcd typ. @ 20mA / Color=615nm to 630nm	3,000 units
		IG: Iv=440mcd typ. @ 20mA / Color=525nm to 535nm	



## Revision History

Description:	Revision #	Revision Date
New Release of QBLP613-RIG	V1.0	04/18/2012
Update Spec	V1.1	11/04/2014
Amend circuitry	V1.2	04/21/2016
Add viewing angle at description / Update Logo	V1.3	08/28/2019

## Disclaimer

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1. Life support devices or systems are devices or systems which, (a) are intended for surgical implant into the body, or (b) support or sustain life, and (c) whose failure to perform when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in a significant injury of the user.
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.