

# 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:**

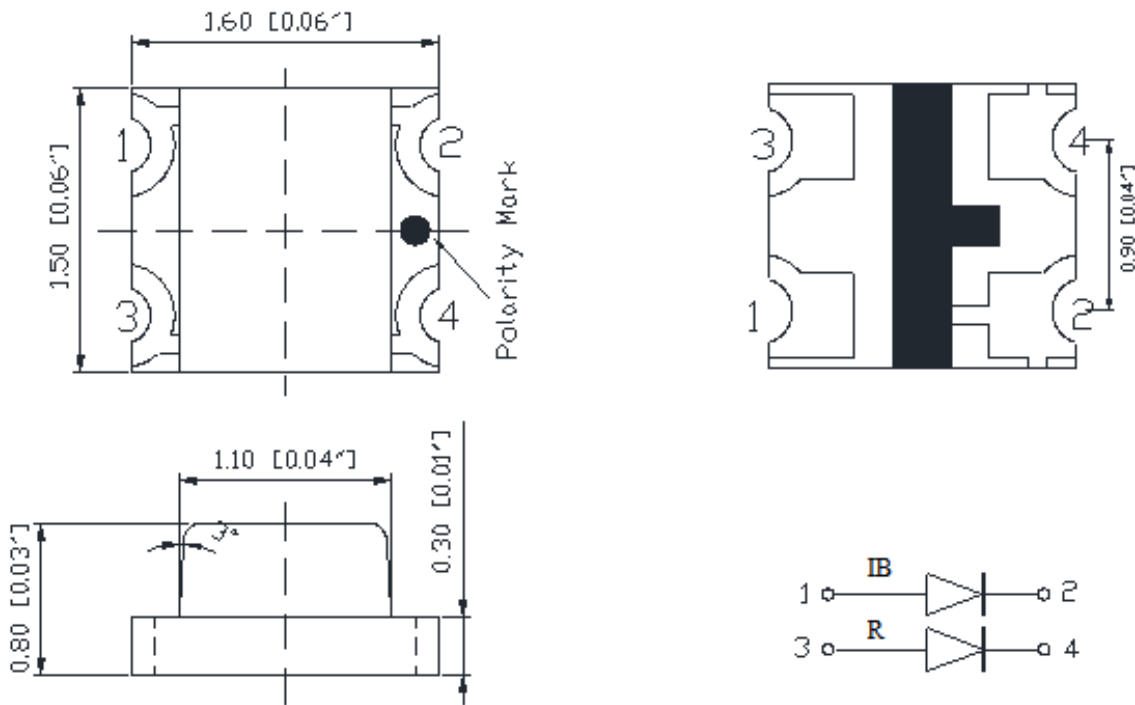
- Status indication
- Back lighting application

**Certification & Compliance:**

- TS16949
- ISO9001
- RoHS Compliant



**Dimension:**



Units: mm / tolerance = +/-0.1mm

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

Product	Color	I <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.
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 <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 (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<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  $I_v$  @  $I_F=20mA$** 

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	

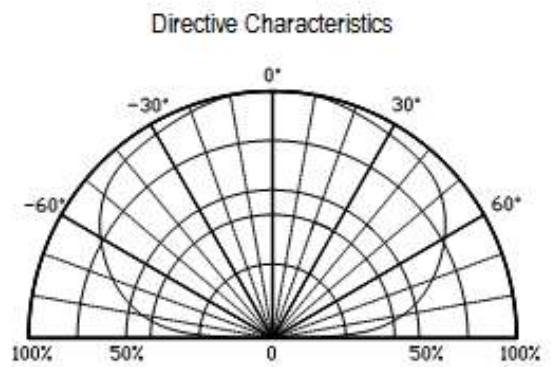
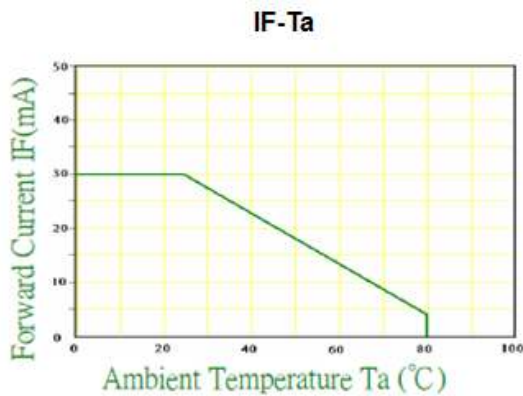
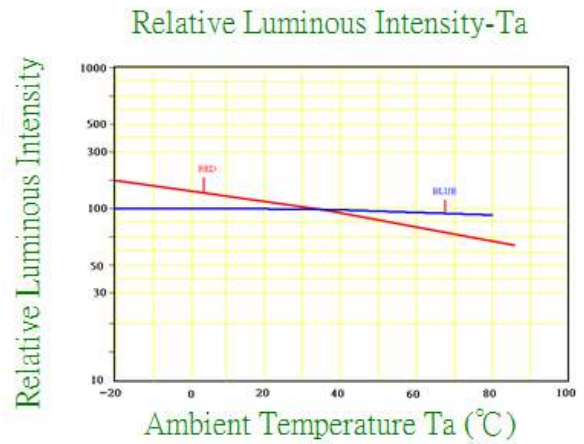
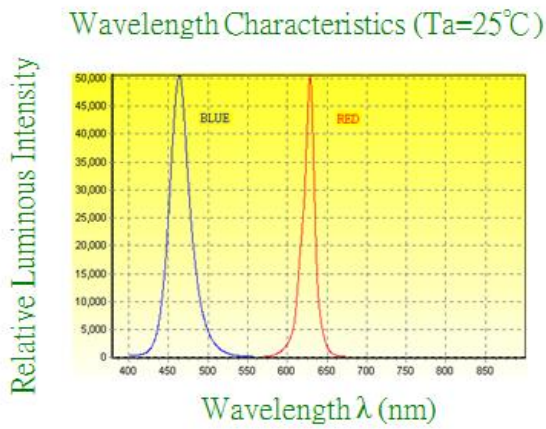
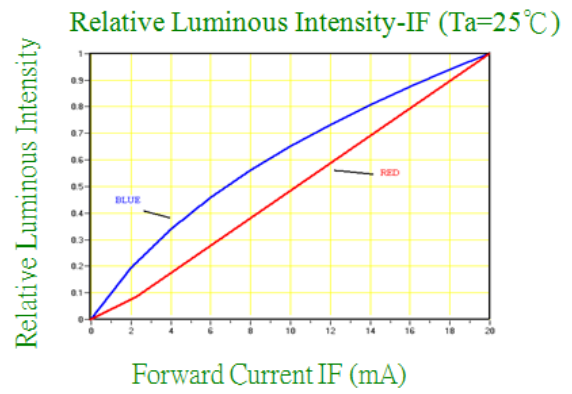
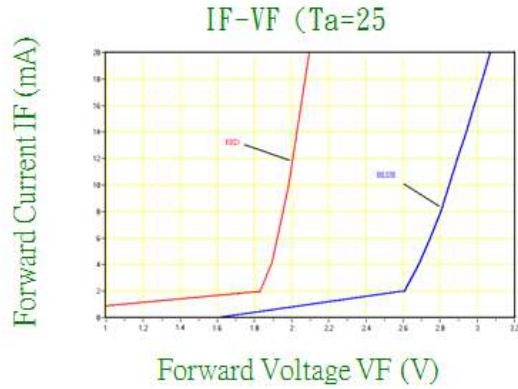
**Dominant Wavelength  $\lambda_D$  for Red @  $I_F=20mA$** 

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

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

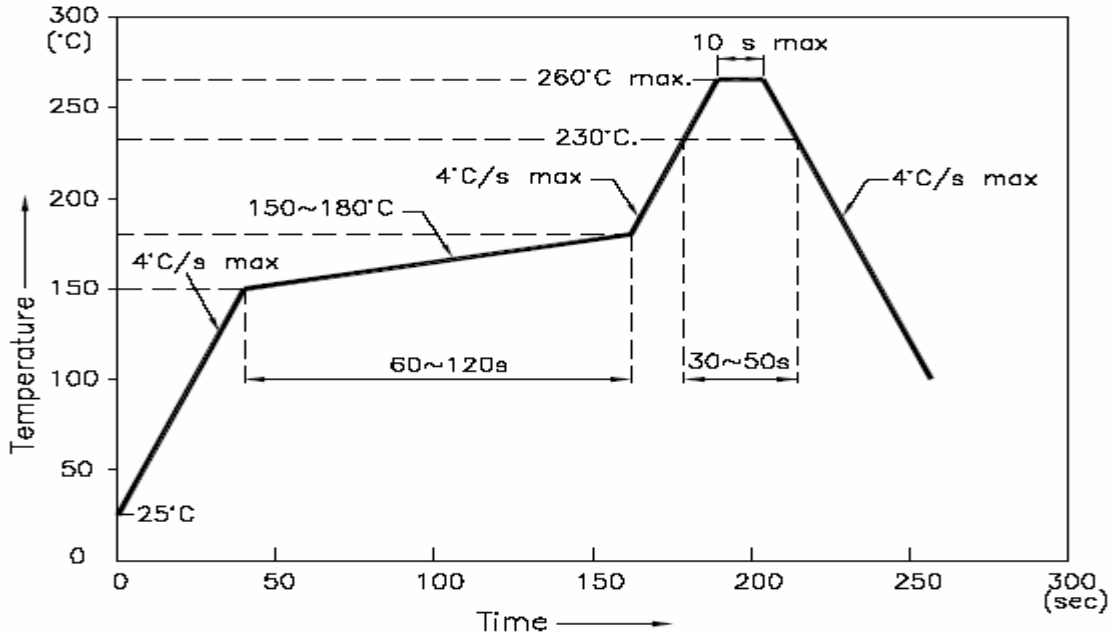
Bin	Min.	Max.	Unit
G	465	467.5	nm
H	467.5	470	
I	470	472.5	
J	472.5	475	

**Characteristic Curves**

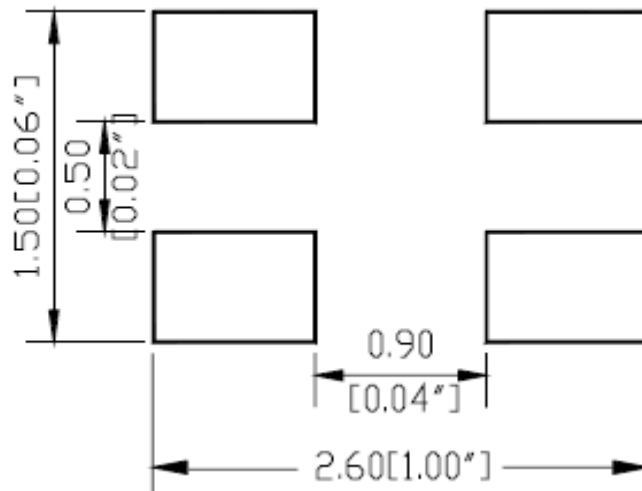


## Solder Profile & Footprint

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



### Recommended Pad Layout

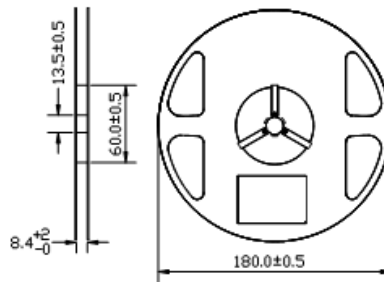


Units: mm

Tolerance: ± 0.1mm

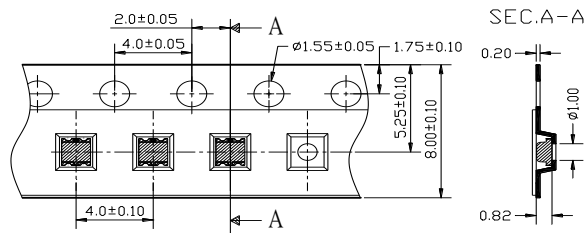
## Packing

Reel Dimension:



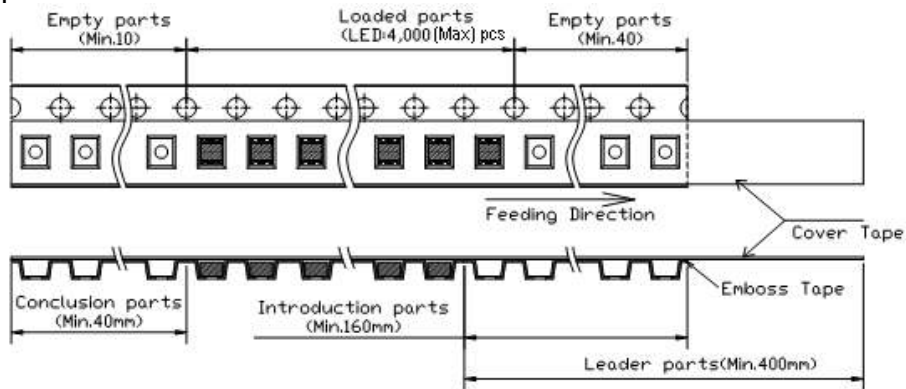
Unit: mm

Tape Dimension:

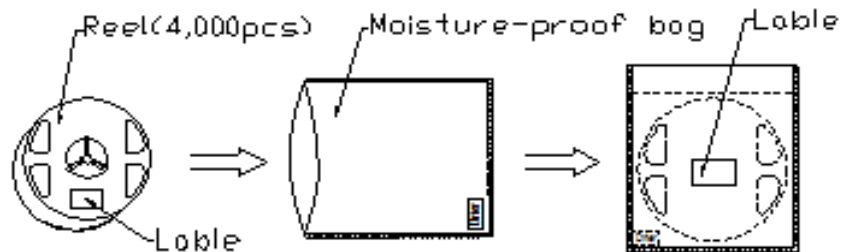


Unit: mm

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 <sub>F</sub> =20mA, λ <sub>D</sub> =630nm to 650nm Blue: Iv=110mcd typ. @ I <sub>F</sub> =20mA, λ <sub>D</sub> =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

## Disclaimer

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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.