

**QT-Brightek Chip LED Series**

**SMD 0606 BI-Color LED**

**Part No.: QBLP600-RAG**

---

**Table of Contents:**

Introduction .....	3
Electrical / Optical Characteristic (Ta=25 °C) .....	4
Absolute Maximum Rating .....	4
Characteristic Curves.....	5
Solder Profile & Footprint.....	6
Packing .....	7
Labeling .....	8
Ordering Information .....	8
Revision History .....	9
Disclaimer .....	9

## Introduction

**Feature:**

- Water clear lens
- Package in tape and reel
- Ultra bright 0606 LED package
- AllInGaP technology for Red/ Yellow Green
- 140° Viewing Angle

**Description:**

These ultra bright 0606 RAG 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:**

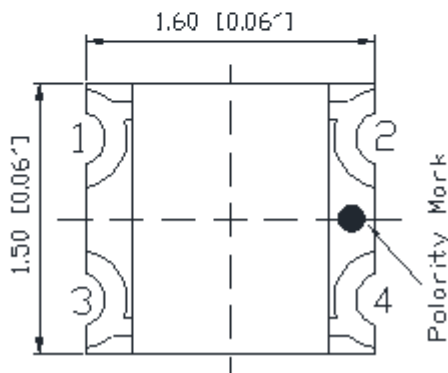
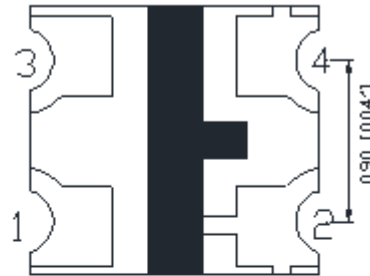
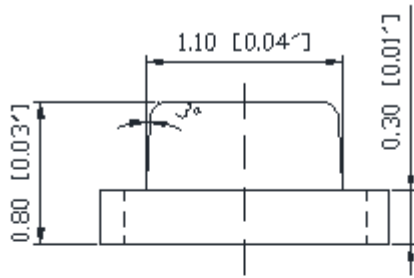
- Status indication
- Back lighting application

**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-RAG	Red	20	2.0	2.5	615	620	630	80	140
	Yellow Green	20	2.0	2.5	565	570	576	25	40

**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> @ I<sub>F</sub>=20mA**

Bin	Min.	Max.	Unit
□	1.7	2.5	V

**Luminous Intensity I<sub>V</sub> @ I<sub>F</sub>=20mA**

Bin	Min.	Max.	Unit
D	25	32	mcd
E	32	40	
F	40	50	
G	50	63	
H	63	80	
I	80	100	
J	100	125	
K	125	160	
L	160	200	
M	200	250	

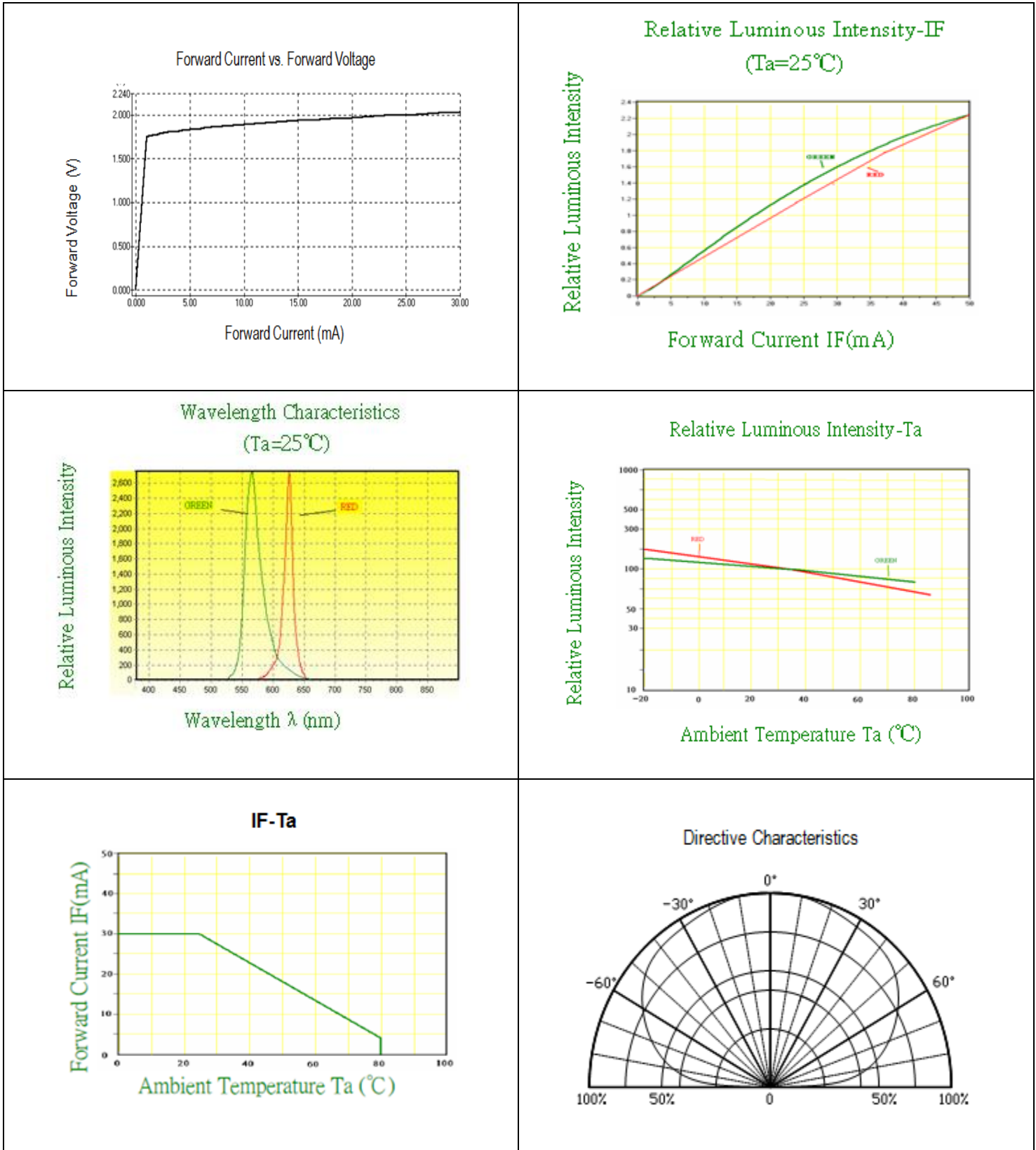
**Dominant Wavelength λ<sub>D</sub> for Yellow Green @ I<sub>F</sub>=20mA**

Bin	Min.	Max.	Unit
h	565	568	nm
i	568	572	
j	572	576	

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

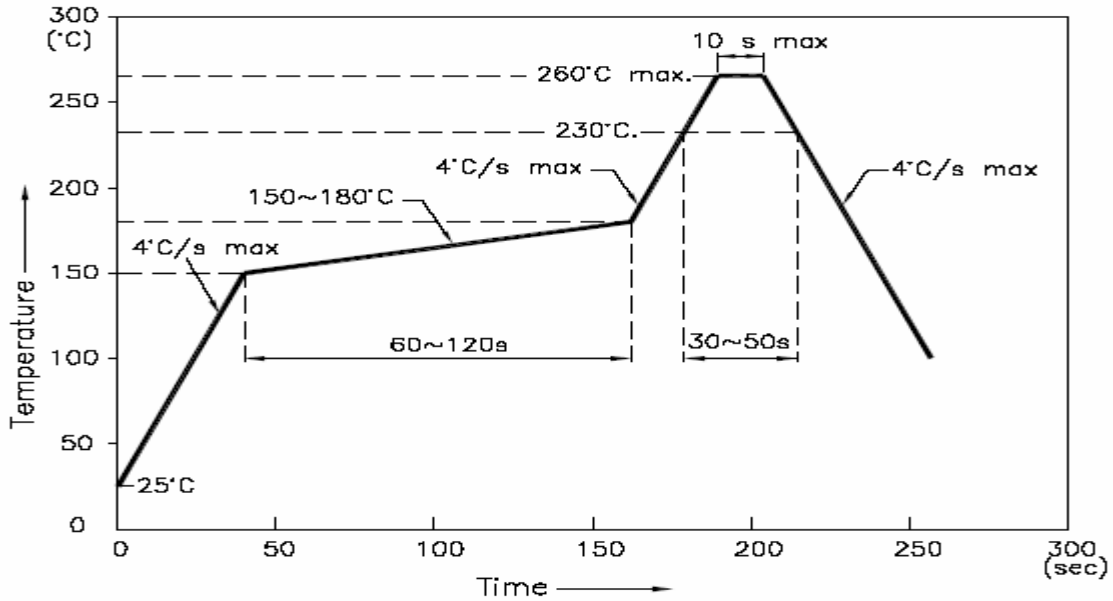
Bin	Min.	Max.	Unit
s	615	620	nm
t	620	625	
u	625	630	

### Characteristic Curves

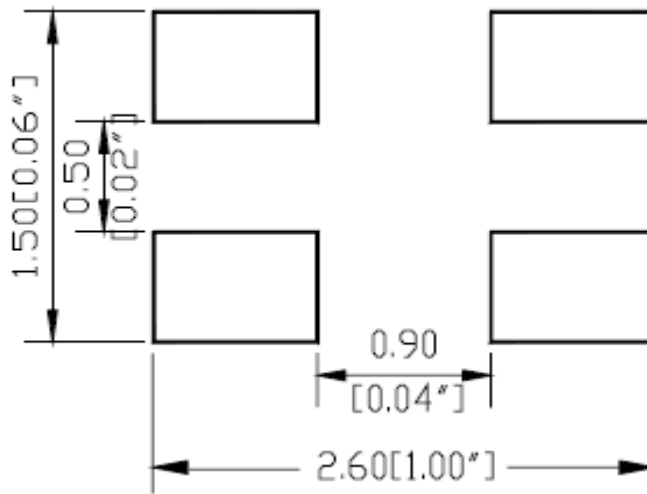


## Solder Profile & Footprint

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



### Recommended Pad Layout

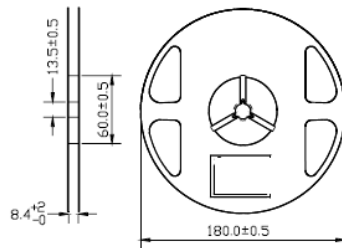


Units: mm

Tolerance: ± 0.1mm

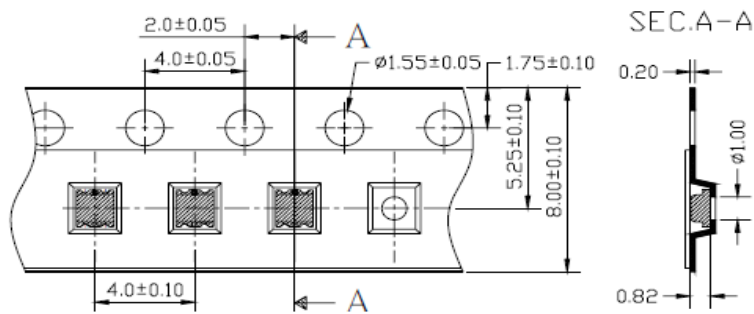
## Packing

### Reel Dimension:



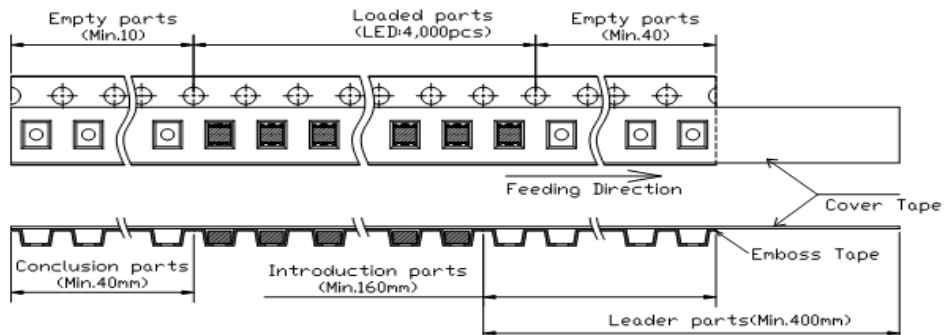
Unit: mm

### Tape Dimension:

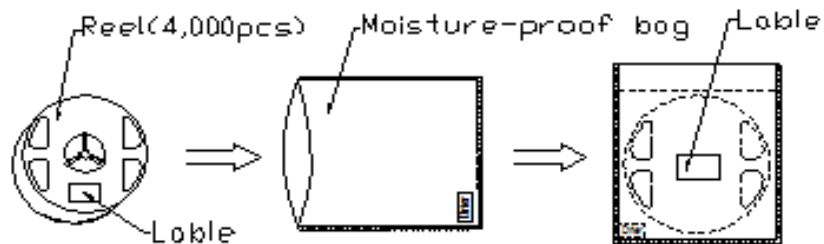


Unit in mm

### Arrangement of Tape:



### Packaging Specifications:



**Labeling**

Part No: \_\_\_\_\_

Customer P/N: \_\_\_\_\_

Item: \_\_\_\_\_

Q'ty: \_\_\_\_\_

Vf: \_\_\_\_\_

Iv: \_\_\_\_\_

VI: \_\_\_\_\_

Date: \_\_\_\_\_

**Made in China****Ordering Information**

Part #	Orderable Part #	Spec Range	Quantity per reel
QBLP600-RAG	QBLP600-RAG	Red: $I_V=140\text{mcd typ. @ } 20\text{mA}$ / Wavelength: 615nm to 630nm	4,000 units
		Yellow Green: $I_V=40\text{mcd typ. @ } 20\text{mA}$ / Wavelength: 565nm to 576nm	



---

## Revision History

Description:	Revision #	Revision Date
New Release of QBLP600-RAG	V1.0	09/20/2010
Brightness updates	V1.1	06/25/2011
Add Bin code	V1.2	08/29/2011
Amend Dimension	V1.3	11/17/2011
Update Specification	V1.4	12/09/2011
Update to new format/update information	V1.5	06/25/2012
Fix a typo at absolute maximum rating	V1.6	01/13/2016
Update drawing in the dimension section	V2.0	07/28/2016

## Disclaimer

QT-BRIGHTTEK reserves the right to make changes without further notice to any products herein to improve reliability, function or design. QT-BRIGHTTEK does not assume any liability arising out of the application or use of any product or circuit described herein; neither does it convey any license under its patent rights, nor the rights of others.

## Life Support Policy

QT-BRIGHTTEK's products are not authorized for use as critical components in life support devices or systems without the express written approval of QT-BRIGHTTEK. As used herein:

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.