

QT-Brightek Chip LED Series

SMD 0603 BI-Color LED

Part No.: QBLP601-RIBZ

Table of Contents:

Introduction	3
Electrical / Optical Characteristic (Ta=25 °C)	4
Absolute Maximum Rating	4
Characteristic Curves.....	6
Solder Profile & Footprint.....	8
Packing	9
Ordering Information	10
Revision History	11
Disclaimer	11

Introduction

Feature:

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

Description:

These ultra bright 0603 RIB 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:

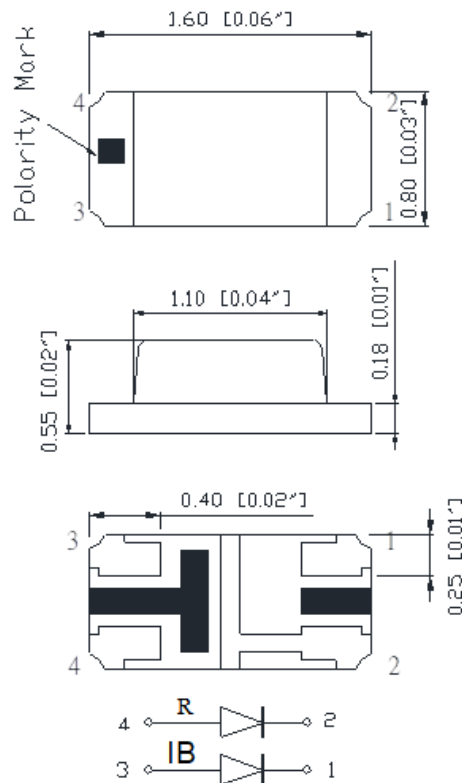
- Status indication
- Back lighting application

Certification & Compliance:

- TS16949
- ISO9001
- RoHS Compliant



Dimension:



Units: mm / tolerance = +/-0.1mm

Electrical / Optical Characteristic (Ta=25 °C)

Product	Color	I _F (mA)	V _F (V)		λ _D (nm)			I _v (mcd)	
			Typ.	Max	Min.	Typ.	Max.	Min.	Typ.
QBLP601-RIBZ	Red	2	2.0	2.5	615	620	630	25	45
	Blue	2	2.8	3.1	465	470	475	16	25

Absolute Maximum Rating

Material	P _d (mW)	I _F (mA)	I _{FP} (mA)*	V _R (V)	T _{OP} (°C)	T _{ST} (°C)	T _{SO L} (°C)**
AllnGaP	75	30	125	5	-40 ~ +80	-40 ~ +85	260
InGaN	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_F for AllnGaP @ I_F=2mA

Bin	Min.	Max.	Unit
□	1.7	2.5	V

Forward Voltage V_F for InGaN @ I_F=2mA

Bin	Min.	Max.	Unit
e	2.5	2.8	V
F	2.8	3.1	

Luminous Intensity I_v for Red @ I_F=2mA

Bin	Min.	Max.	Unit
E2	25	40	mcd
F2	40	63	

Luminous Intensity I_v for Blue @ I_F=2mA

Bin	Min.	Max.	Unit
D2	16	25	mcd
E2	25	40	

Dominant Wavelength λ_D for Red @ $I_F=2mA$

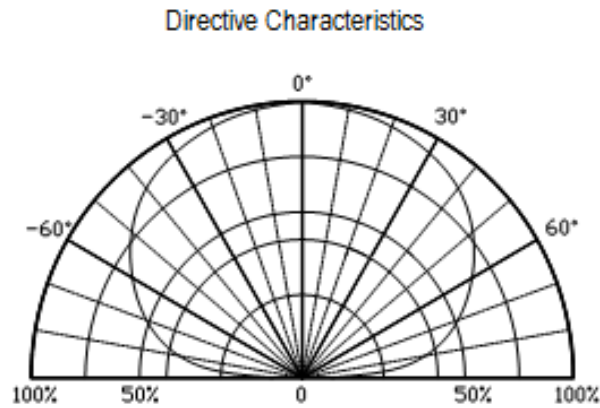
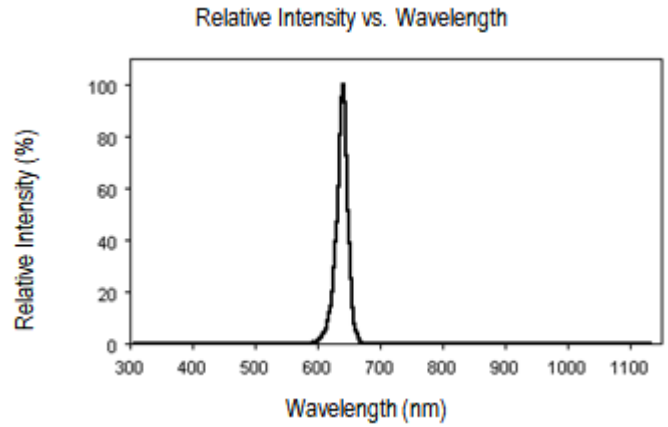
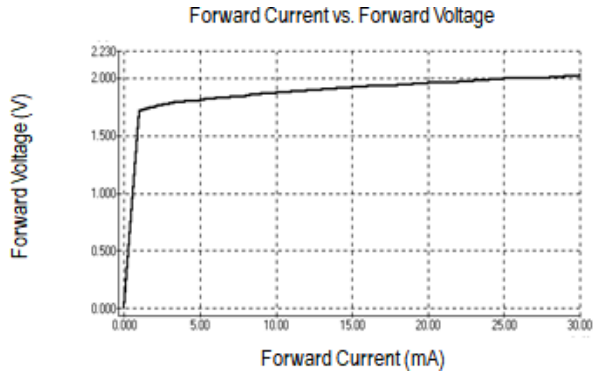
Bin	Min.	Max.	Unit
s	615	620	nm
t	620	625	
u	625	630	

Dominant Wavelength λ_D for Blue @ $I_F=2mA$

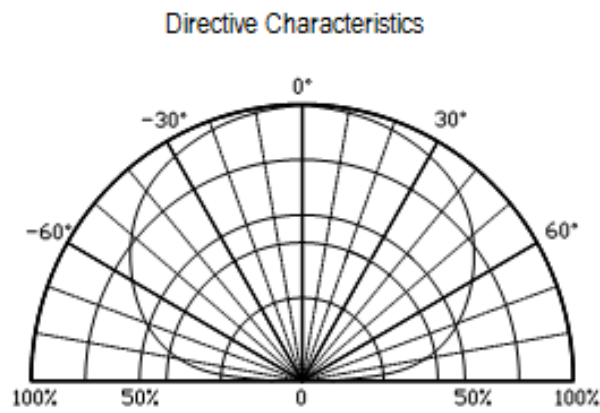
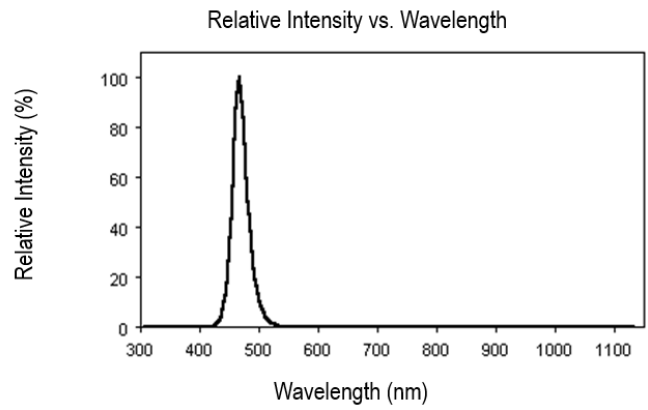
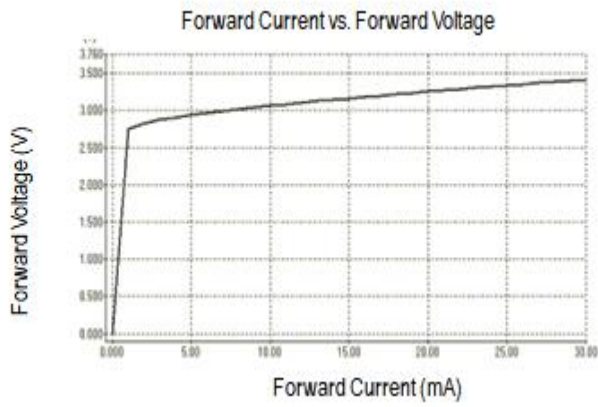
Bin	Min.	Max.	Unit
G	465	467.5	nm
H	467.5	470	
I	470	472.5	
J	472.5	475	

Characteristic Curves

Red

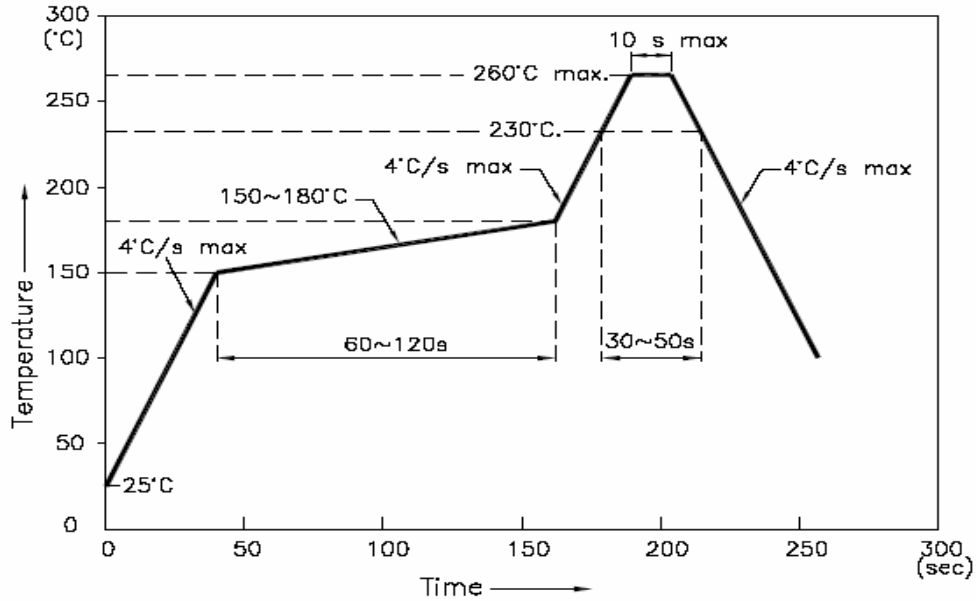


Blue

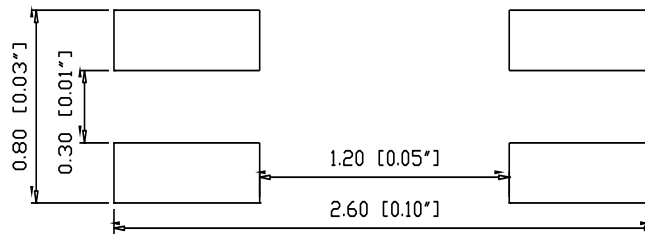


Solder Profile & Footprint

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



RECOMMEND PAD LAYOUT

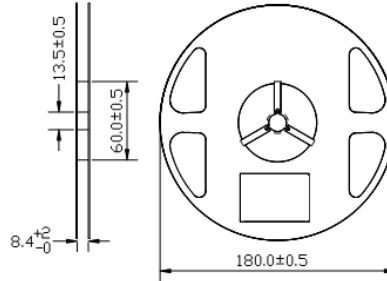


Units: mm

tolerance: +/- 0.1mm

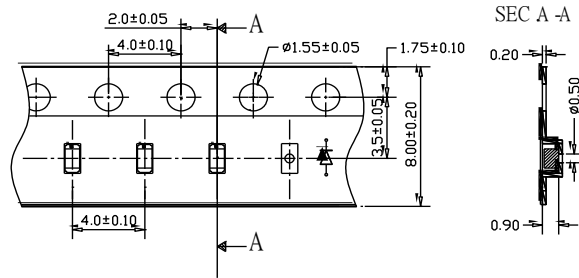
Packing

Reel Dimension:



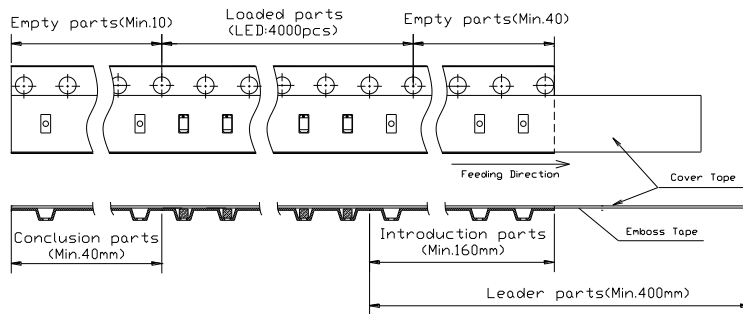
Unit: mm

Tape Dimension:

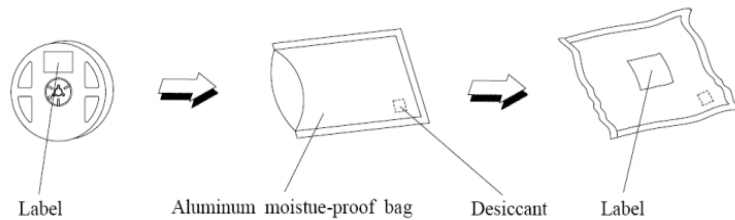


Unit: mm

Arrangement of Tape:



Packaging Specifications:





Ordering Information

Part #	Orderable Part #	Spec Range	Quantity per reel
QBLP601-RIBZ	QBLP601-RIBZ	Red (R): $I_V=45\text{mcd typ. @ } 2\text{mA} / \lambda_D:$ 615nm to 630nm	4000pcs
		Blue (IB): $I_V=25\text{mcd typ. @ } 2\text{mA} / \lambda_D:$ 465nm to 475nm	

Revision History

Description:	Revision #	Revision Date
New Release of QBLP601-RIBZ	V1.0	05/14/2019

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.