

QT-Brightek Chip LED Series

SMD 0603 BI-Color LED

Part No.: QBLP601-RIBZ

Product: QBLP601-RIBZ	Date: May 14, 2019	Page 1 of 11
	Version# 1.1	

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Introduction

Feature:

- Water clear lens
- Package in tape and reel
- Ultra bright 0603 LED package
- AllnGaP 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:

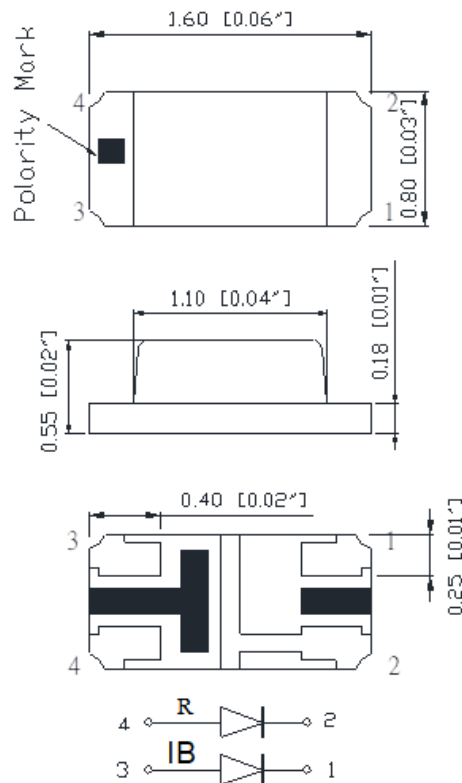
- Status indication
- Back lighting application

Certification & Compliance:

- 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	20	36
	Blue	2	3.1	3.7	465	470	475	12.5	22

Absolute Maximum Rating

Material	P _d (mW)	I _F (mA)	I _{FP} (mA)*	V _R (V)	T _{OP} (°C)	T _{ST} (°C)	T _{SOL} (°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	
g	3.1	3.4	

Luminous Intensity I_V for Red @ I_F=2mA

Bin	Min.	Max.	Unit
C	20	25	mcd
D	25	32	
E	32	40	
F	40	50	
G	50	63	

Luminous Intensity I_V for Blue @ I_F=2mA

Bin	Min.	Max.	Unit
A	12.5	16	mcd
B	16	20	
C	20	25	
D	25	32	
E	32	40	

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

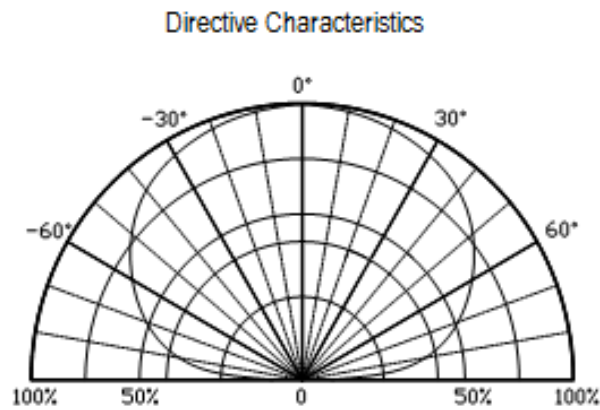
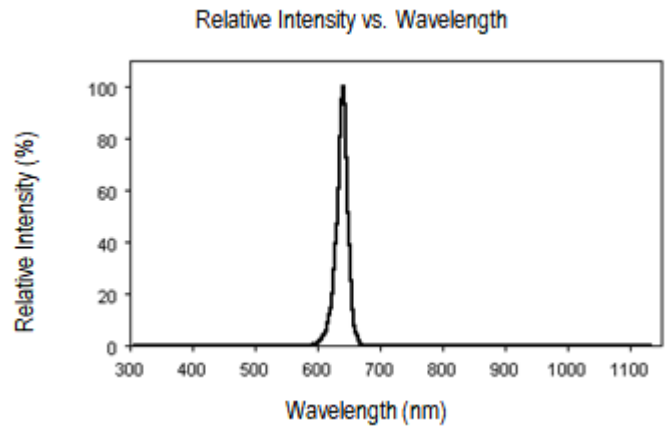
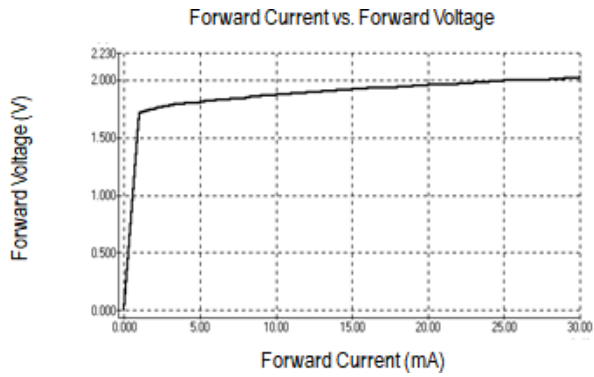
Bin	Min.	Max.	Unit
s	615	620	nm
t	620	625	
u	625	630	

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	

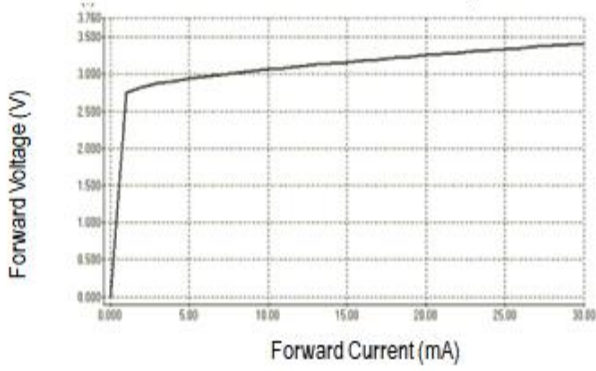
Characteristic Curves

Red

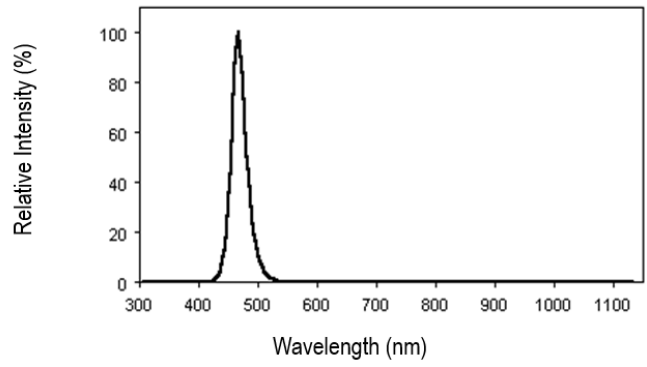


Blue

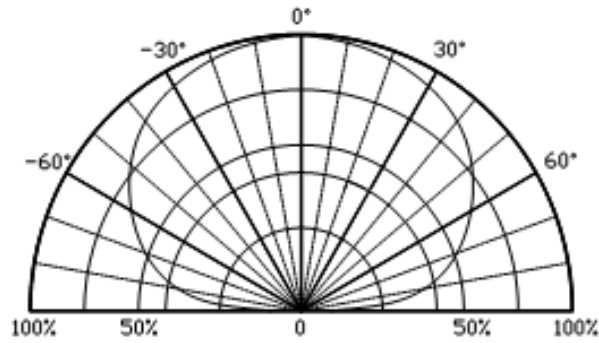
Forward Current vs. Forward Voltage



Relative Intensity vs. Wavelength

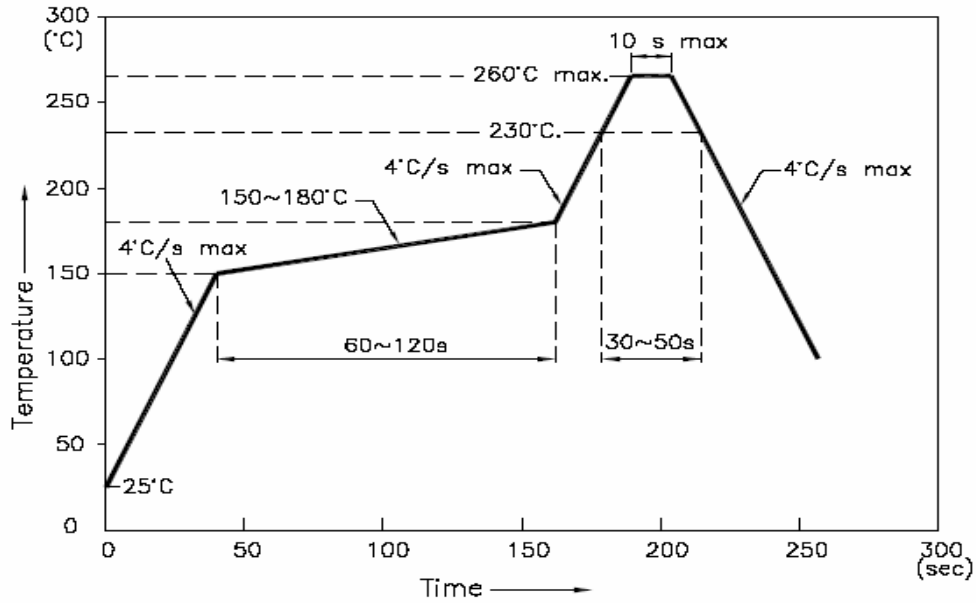


Directive Characteristics

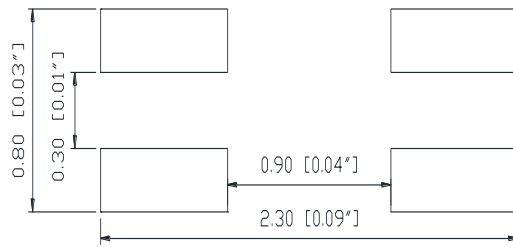


Solder Profile & Footprint

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



RECOMMENDED PAD LAYOUT

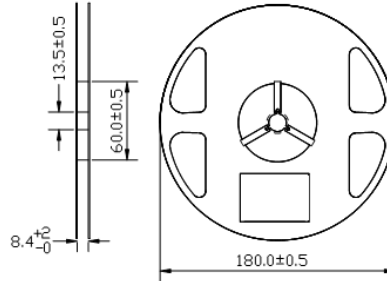


Units: mm

tolerance: +/- 0.1mm

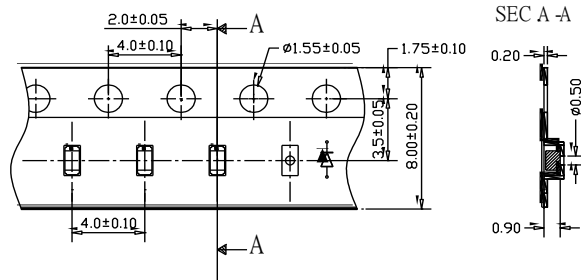
Packing

Reel Dimension:



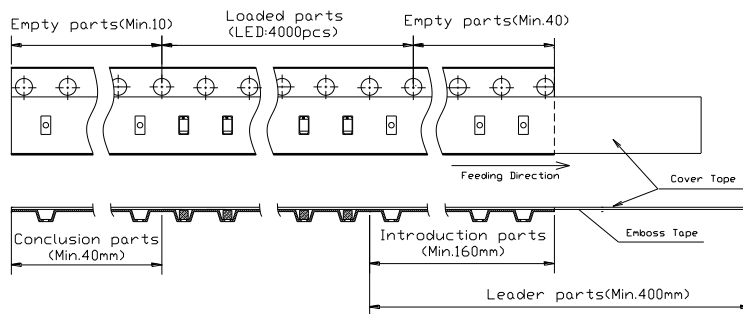
Unit: mm

Tape Dimension:

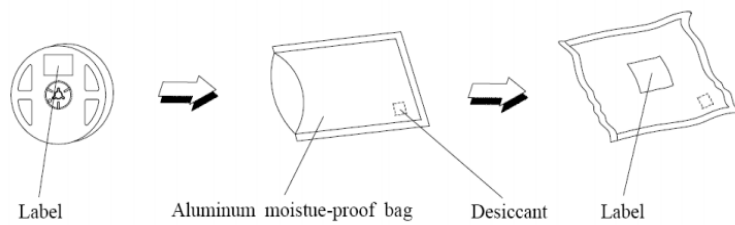


Unit: mm

Arrangement of Tape:



Packaging Specifications:



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Ordering Information

Orderable Part #	Spec Range	Quantity per reel
QBLP601-RIBZ	Red (R): $I_V=36\text{mcd typ. @ } 2\text{mA} / \lambda_D: 615\text{nm to } 630\text{nm}$	4000pcs
	Blue (IB): $I_V=22\text{mcd typ. @ } 2\text{mA} / \lambda_D: 465\text{nm to } 475\text{nm}$	

Revision History

Description:	Revision #	Revision Date
New Release of QBLP601-RIBZ	V1.0	05/14/2019
Update recommend pad layout	V1.1	08/24/2023



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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.