

QT-Brightek Chip LED Series

SMD 0603 BI-Color LED

Part No.: QBLP601-RIG

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Introduction

Feature:

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

Description:

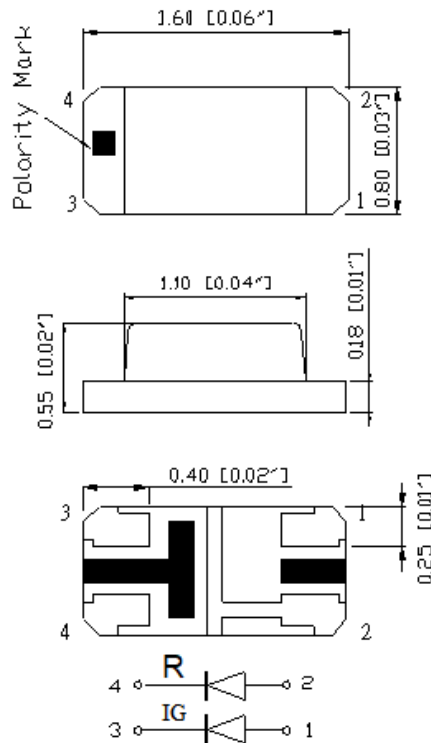
These ultra bright 0603 RIG bi-color LEDs have a height profile of 0.55mm. Combination of high brightness output and small footprint, these LEDs are ideal for keypad backlighting, status indication, and color mixing applications.

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-RIG	Red	20	2.0	2.5	625	630	635	80	125
	True Green	20	3.1	3.7	515	520	525	320	550

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=20mA

Bin	Min.	Max.	Unit
□	1.7	2.5	V

Forward Voltage V_F for InGaN @ I_F=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
H1	80	125	mcd
I1	125	200	

Luminous Intensity I_V for True Green @ I_F=20mA

Bin	Min.	Max.	Unit
K1	320	500	mcd
L1	500	800	

Dominant Wavelength λ_D for Red @ $I_F=20mA$

Bin	Min.	Max.	Unit
u	625	630	nm
v	630	635	

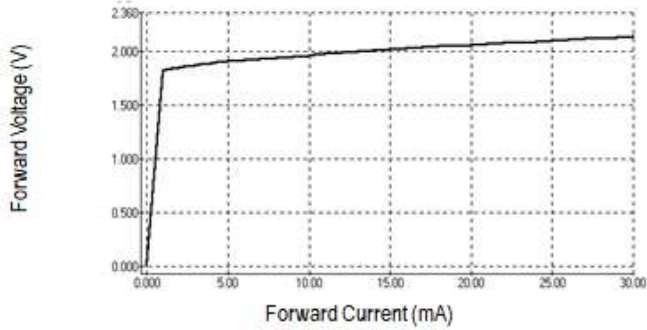
Dominant Wavelength λ_D for True Green @ $I_F=20mA$

Bin	Min.	Max.	Unit
S	515	517.5	nm
T	517.5	520	
U	520	522.5	
V	522.5	525	

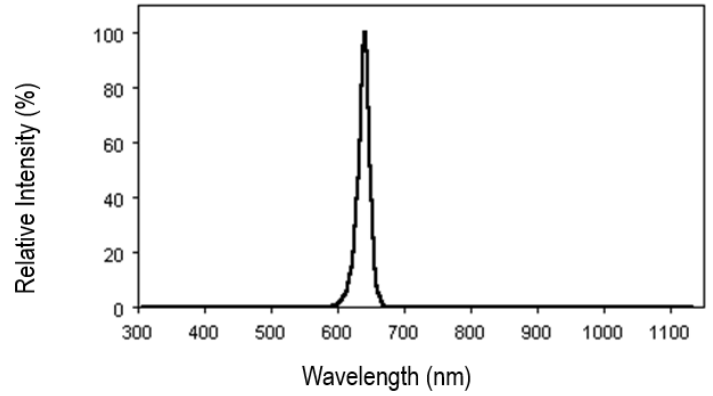
Characteristic Curves

Red

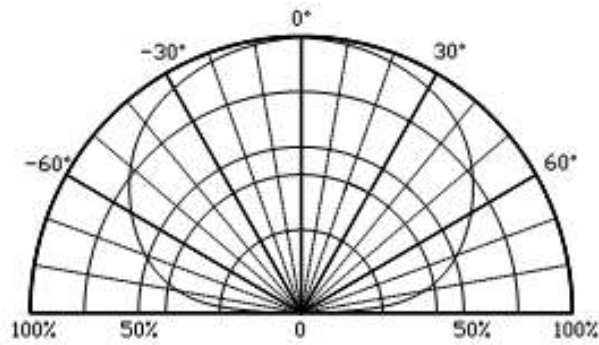
Forward Current vs. Forward Voltage



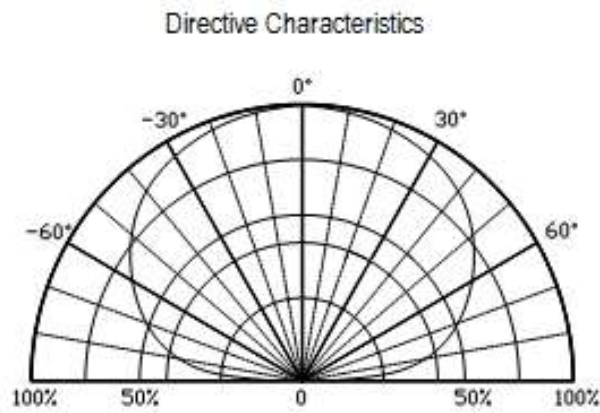
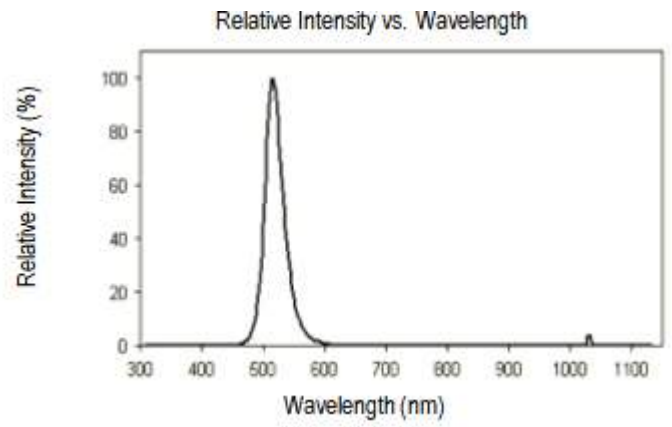
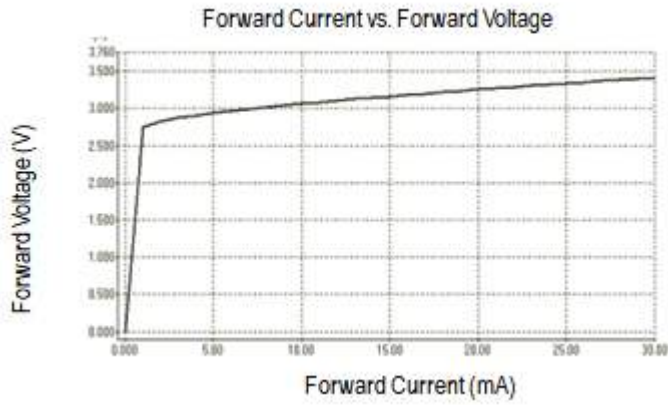
Relative Intensity vs. Wavelength



Directive Characteristics

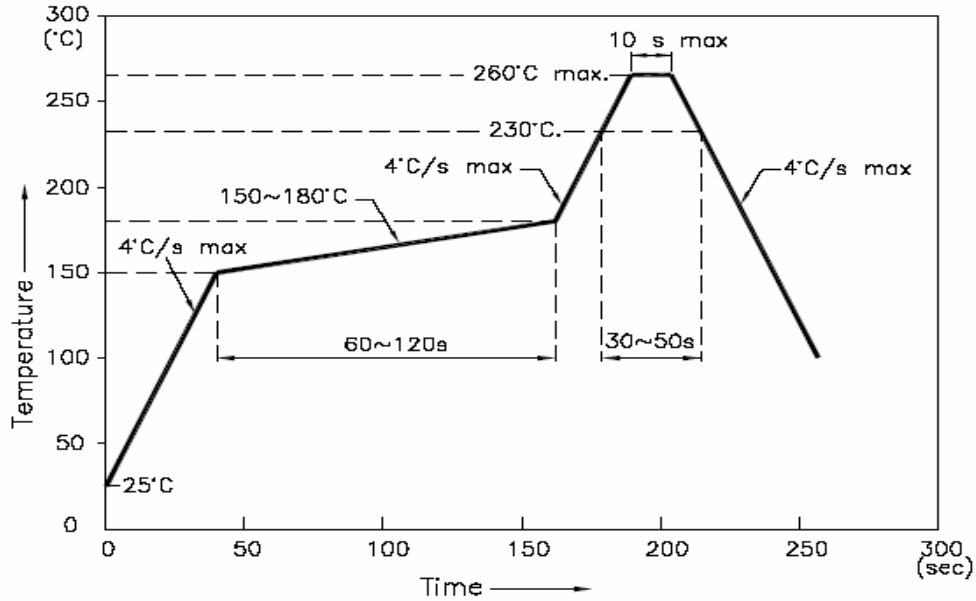


True Green

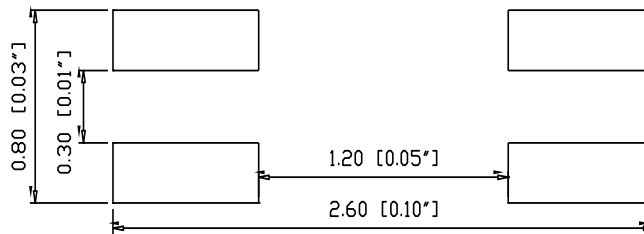


Solder Profile & Footprint

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



RECOMMEND PAD LAYOUT

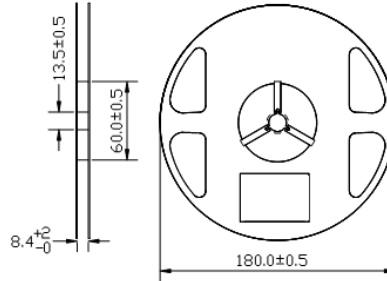


Units: mm

tolerance: +/- 0.1mm

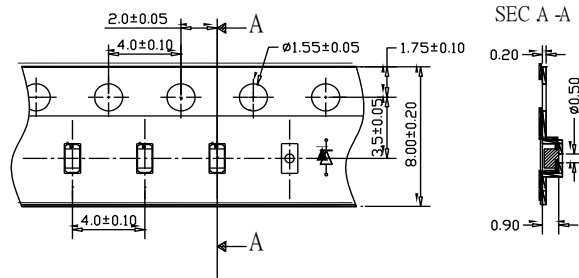
Packing

Reel Dimension:



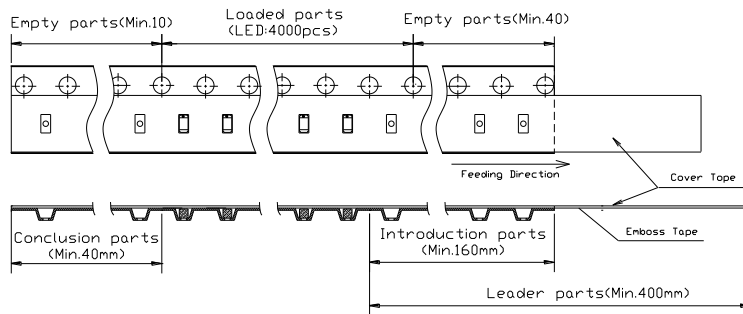
Unit: mm

Tape Dimension:

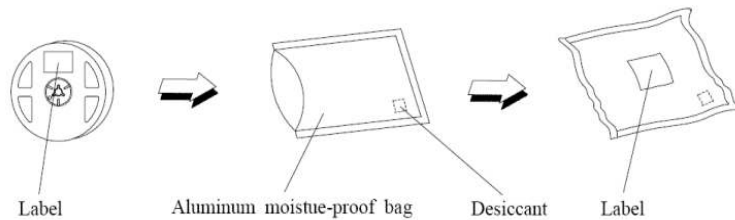


Unit: mm

Arrangement of Tape:



Packaging Specifications:



Ordering Information

Part #	Orderable Part #	Spec Range	Quantity per reel
QBLP601-RIG	QBLP601-RIG	Red (R): $I_v=125\text{mcd typ. @ }20\text{mA} / \lambda_D:$ 625nm to 635nm	4000pcs
		True Green (IG): $I_v=550\text{mcd typ. @ }20\text{mA} /$ $\lambda_D:$ 515nm to 525nm	

Revision History

Description:	Revision #	Revision Date
New Release of QBLP601-RIG	V1.0	05/02/2019

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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.