

QT-Brightek Chip LED Series**4-SMD RGB LED****Part No.: QBLP600-RGB-3053****3053: White color created by RGB**

Product: QBLP600-RGB-3053	Date: March 13, 2023	Page 1 of 11
	Version# 1.0	



Table of Contents:

Introduction3
Electrical / Optical Characteristic (Ta=25 °C)4
Absolute Maximum Rating4
Correlated Color Temperature Chart5
Characteristic Curves.....6
Solder Profile & Footprint8
Packing9
Labeling 10
Ordering Information 10
Revision History 11
Disclaimer 11

Introduction

Feature:

- White diffused lens
- Package in tape and reel
- Ultra bright 4-SMD package
- Common Anode
- InGaN technology for B/G
- AlInGaP technology for R
- Viewing angle: 140 deg typ.
- 0606 RGB

Description:

These ultra bright 0606 RGB LEDs have a height profile of 0.80mm. White light with specific color coordinate can be created by driving individual R, G, B chip with specific current as illustrated in page 5.

Application:

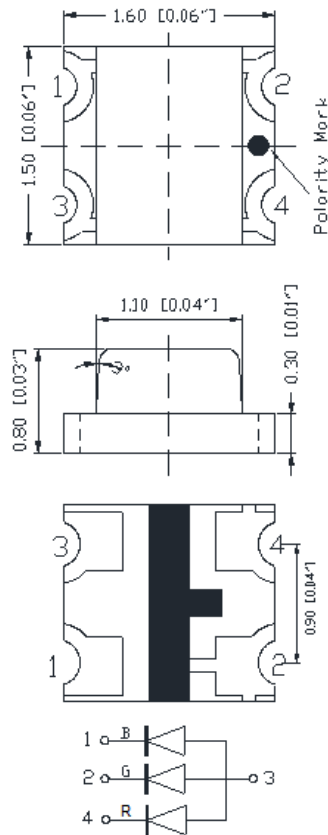
- Status indication
- Back lighting application

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.	Max.
QBLP600-RGB-3053	Red	9.8	1.9	2.5	615	620	630	50	160
	True Green	7	2.7	3.2	520	529	530	160	500
	Blue	6	2.8	3.2	465	470	475	25	80

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)**
InGaN (G)	96	30	125	5	-40 to +80	-40 to +85	260
InGaN (B)	96	30	125	5	-40 to +80	-40 to +85	260
AllnGaP (R)	75	30	125	5	-40 to +80	-40 to +85	260

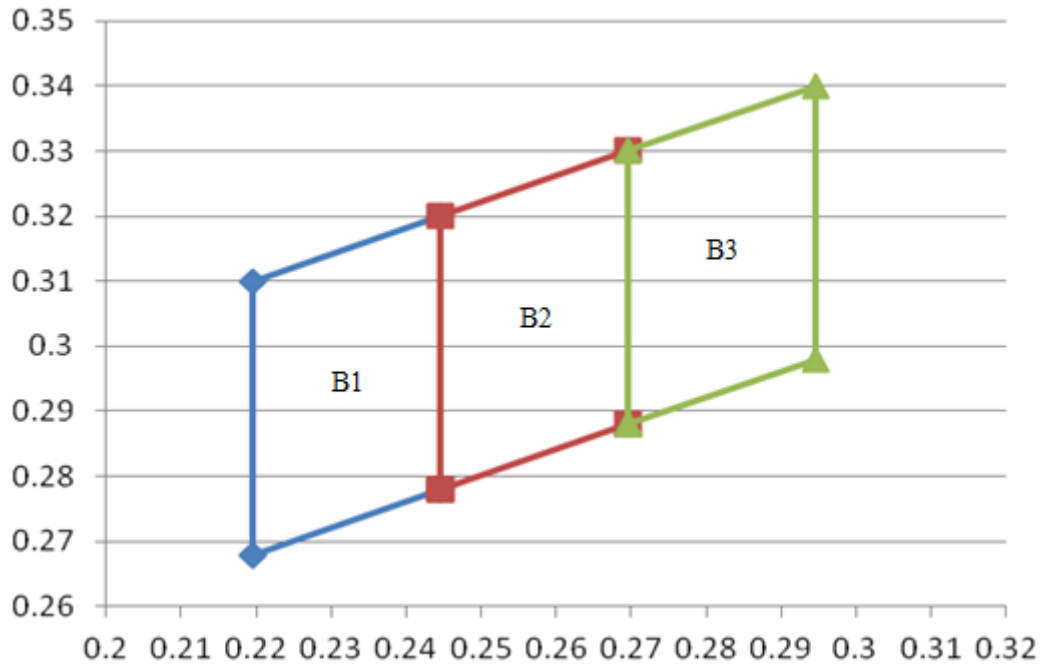
*Duty 1/8 @ 1KHz

**IR Reflow for no more than 10 sec @ 260 °C

Luminous Intensity I_V for White (RGB Color Mixing) @ Red I_F=9.8mA, Green I_F=7mA, Blue I_F=6mA

Bin	Min.	Max.	Unit
B	360	450	mcd
C	450	565	
D	565	715	
E	715	900	

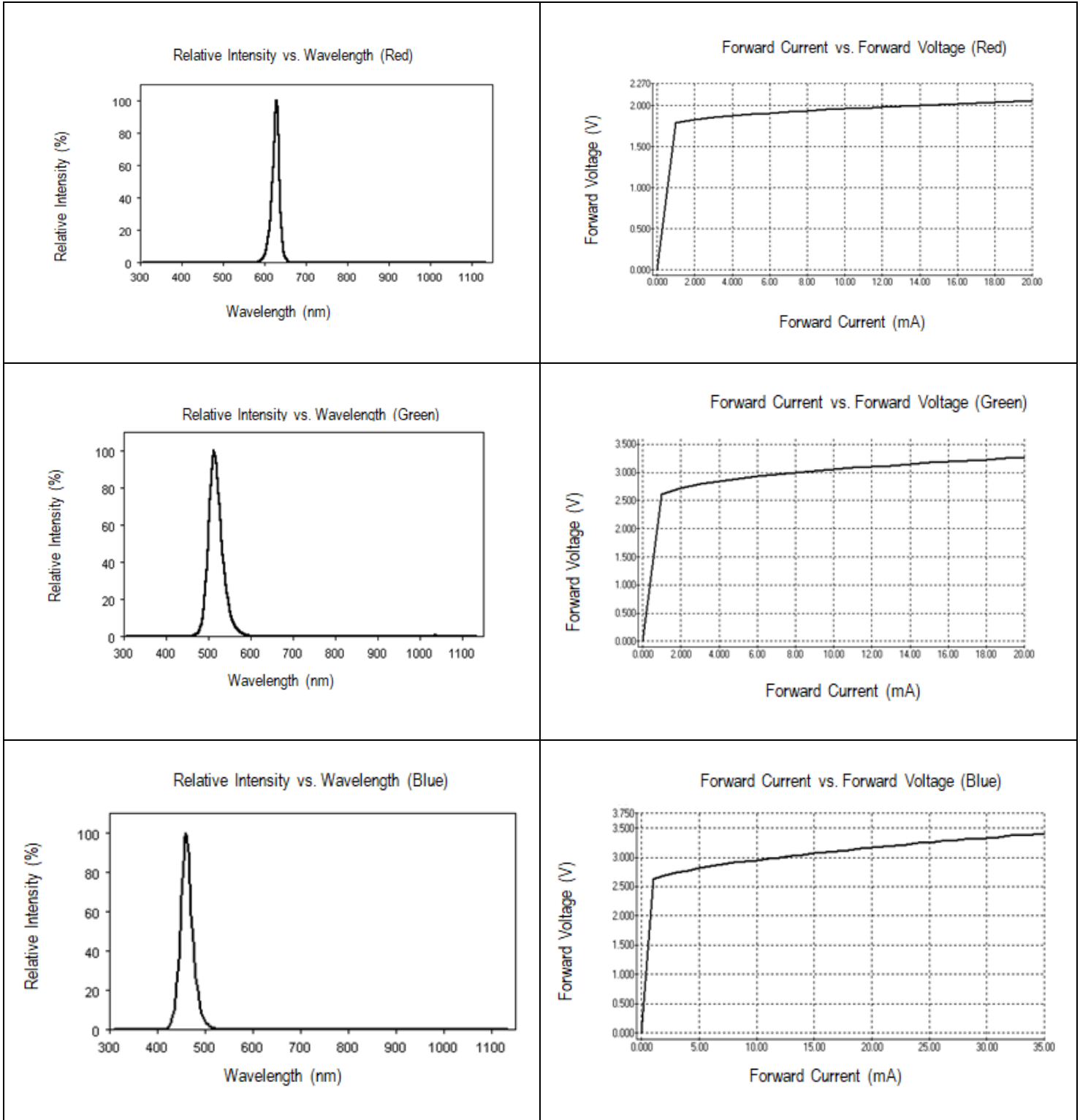
Correlated Color Temperature Chart



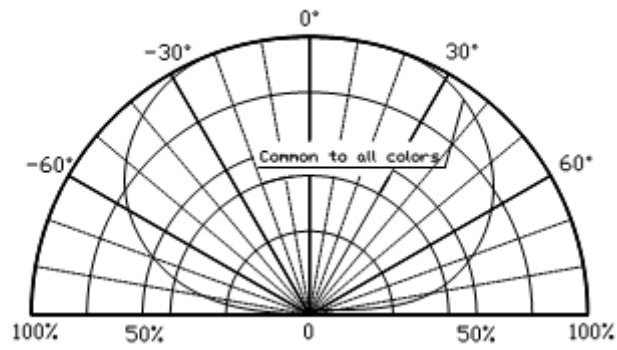
RGB Color Mixing Condition: Red $I_F=9.8\text{mA}$, Green $I_F=7\text{mA}$, Blue $I_F=6\text{mA}$

B1	X	0.2195	0.2195	0.2445	0.2445
	Y	0.268	0.31	0.32	0.278
B2	X	0.2445	0.2445	0.2695	0.2695
	Y	0.278	0.32	0.33	0.288
B3	X	0.2695	0.2695	0.2945	0.2945
	Y	0.288	0.33	0.34	0.298

Characteristic Curves

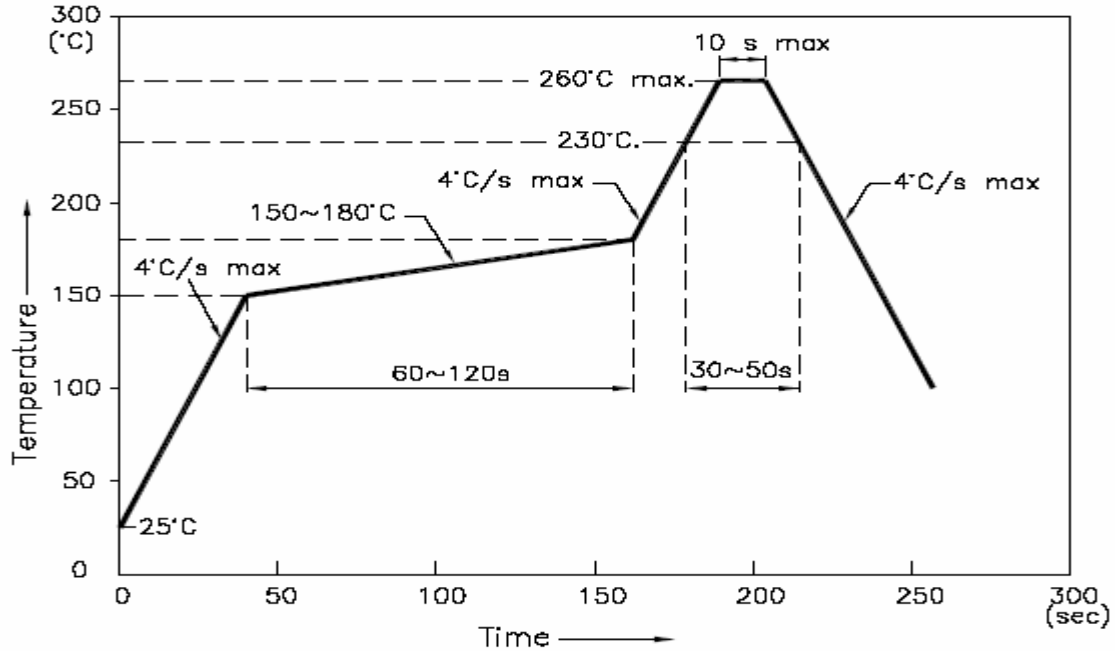


Directive Characteristics

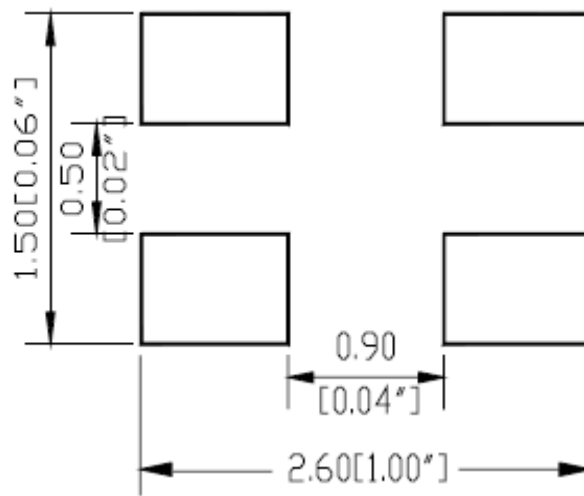


Solder Profile & Footprint

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



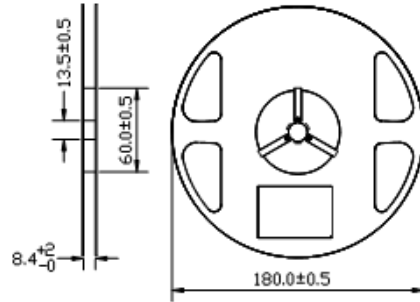
Recommended Pad Layout



Units: mm

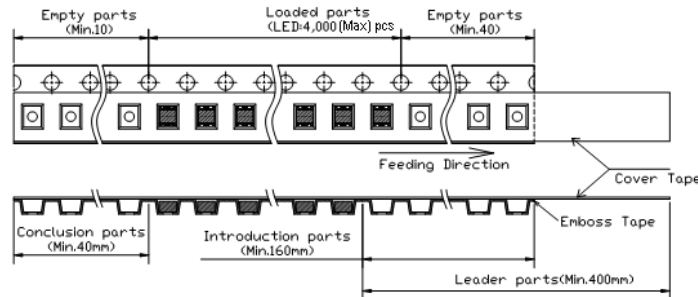
Packing

Reel Dimension:



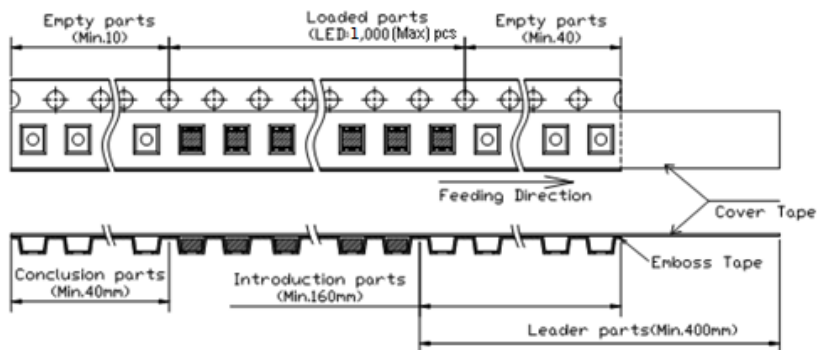
Unit: mm

Tape Dimension:

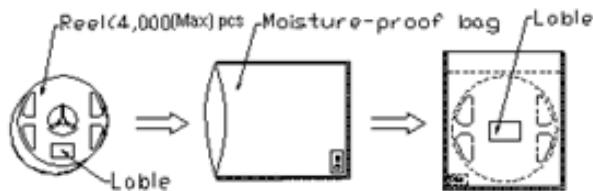


Unit: mm

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-RGB5-3053	QBLP600-RGB5-3053	Red: 615 to 630nm True Green: 520 to 530nm Blue: 465 to 475nm White (RGB Mixing): (X=0.26, Y=0.31) typ. @ Red I _F =9.8mA, True Green I _F =7mA, Blue I _F =6mA	4,000 units

Revision History

Description:	Revision #	Revision Date
New Release of QBLP600-RGB-3053	V1.0	03/13/2023

Disclaimer

QT-BRIGHTEK reserves the right to make changes without further notice to any products herein to improve reliability, function or design. QT-BRIGHTEK 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-BRIGHTEK's products are not authorized for use as critical components in life support devices or systems without the express written approval of QT-BRIGHTEK. 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.