

QT-Brightek Chip LED Series

SMD 0606 RGB LED

Part No.: QBLP600-RGB5

5: 5mA

Product: QBLP600-RGB5	Date: August 8 th , 2022	Page 1 of 12
	Version# 1.0	

Table of Contents:

Introduction	3
Electrical / Optical Characteristic (Ta=25 °C)	4
Absolute Maximum Rating	4
Characteristic Curves.....	7
Solder Profile & Footprint.....	9
Packing	10
Labeling	11
Ordering Information	11
Revision History	12
Disclaimer	12

Introduction

Feature:

- Water clear lens
- Package in tape and reel
- Ultra bright 0606 LED package
- Common Anode
- InGaN technology for B/G
- AlInGaP technology for R
- Viewing angle: 140 deg typ.

Description:

These ultra bright 0606 RGB 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:

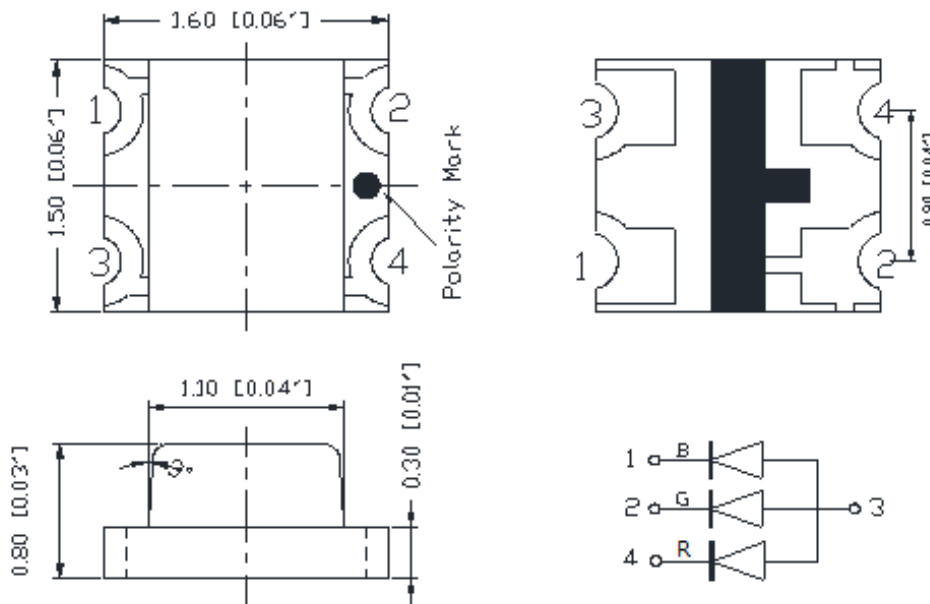
- Status indication
- Back lighting application

Certification & Compliance:

- 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.
QBLP600-RGB5	Red	5	1.8	2.3	615	620	630	20	35
	Green	5	2.9	3.2	525	532	535	100	170
	Blue	5	2.9	3.2	470	473	480	16	28

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 (R)	69	30	125	5	-40 ~ +80	-40 ~ +85	260
InGaN (B/G)	96	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=5mA

Bin	Min.	Max.	Unit
□	1.7	2.3	V

Forward Voltage V_F for InGaN (B & G) @ I_F=5mA

Bin	Min.	Max.	Unit
A	2.6	2.9	V
B	2.9	3.2	

Luminous Intensity I_v @ $I_F=5mA$ for Red (R)

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

Luminous Intensity I_v @ $I_F=5mA$ for Green (G)

Bin	Min.	Max.	Unit
J	100	125	mcd
K	125	160	
L	160	200	
M	200	250	
N	250	320	

Luminous Intensity I_v @ $I_F=5mA$ for Blue (B)

Bin	Min.	Max.	Unit
B	16	20	mcd
C	20	25	
D	25	32	
E	32	40	
F	40	50	

Dominant Wavelength λ_D for Red @ $I_F=5mA$

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

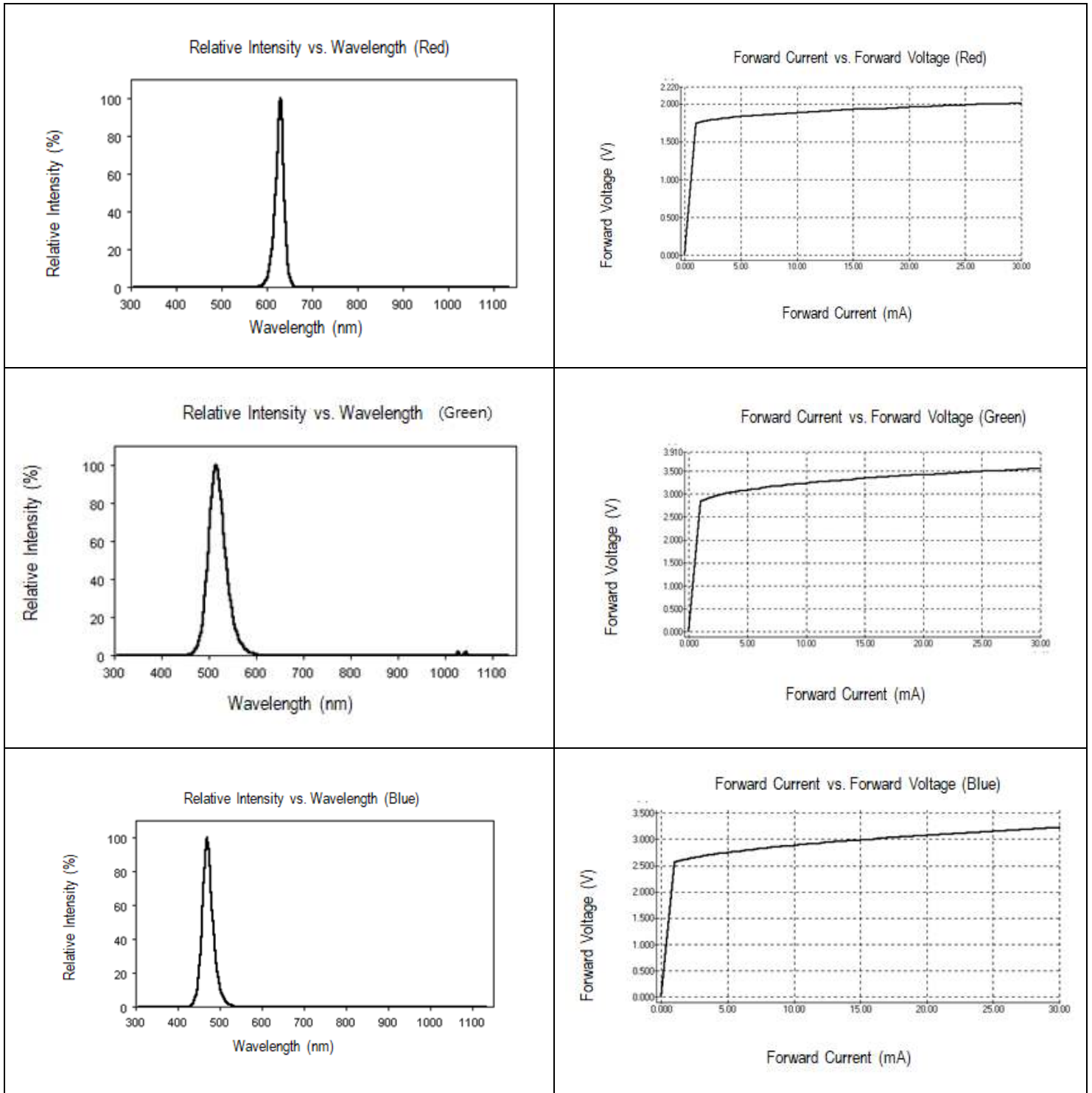
Dominant Wavelength λ_D for Green @ $I_F=5mA$

Bin	Min.	Max.	Unit
W	525	527.5	nm
X	527.5	530	
Y	530	532.5	
Z	532.5	535	

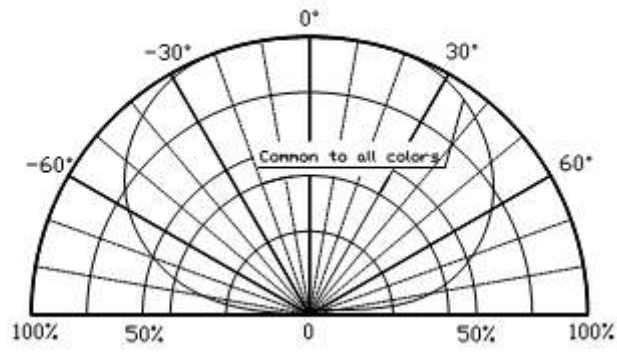
Dominant Wavelength λ_D for Blue @ $I_F=5mA$

Bin	Min.	Max.	Unit
I	470	472.5	nm
J	472.5	475	
K	475	477.5	
L	477.5	480	

Characteristic Curves

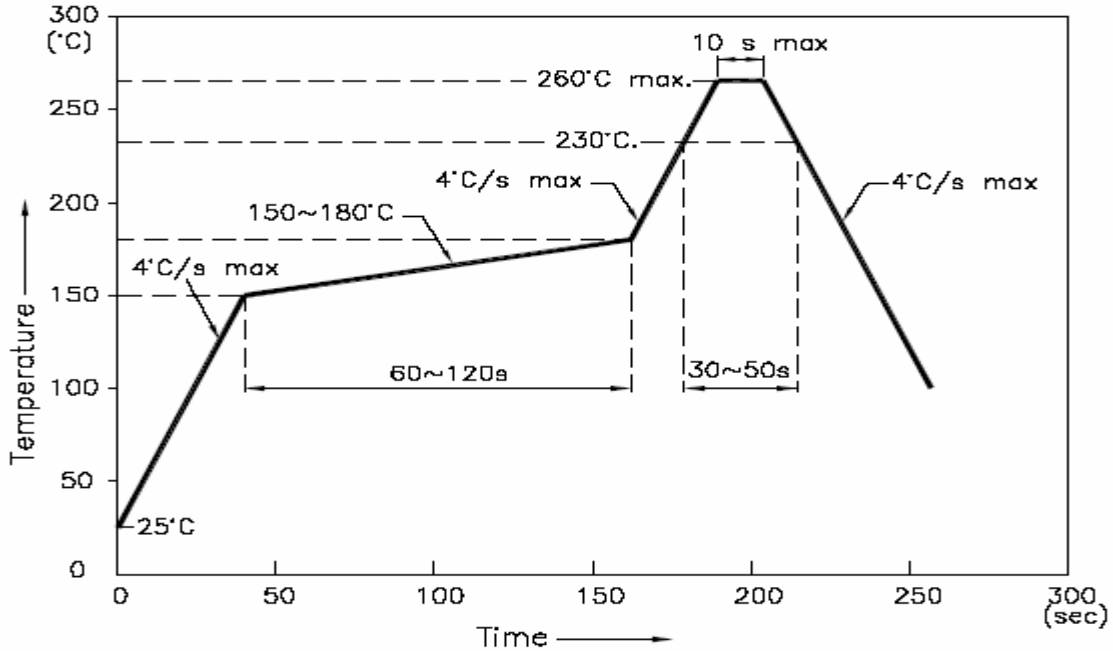


Directive Characteristics

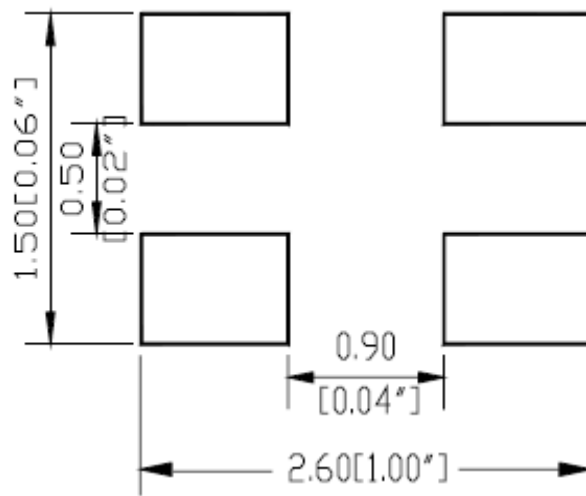


Solder Profile & Footprint

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



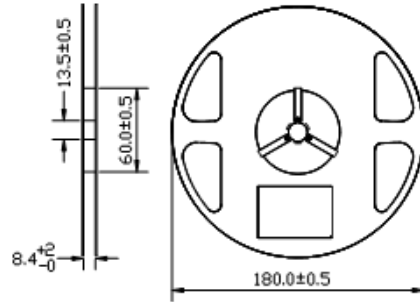
Recommended Pad Layout



Units: mm

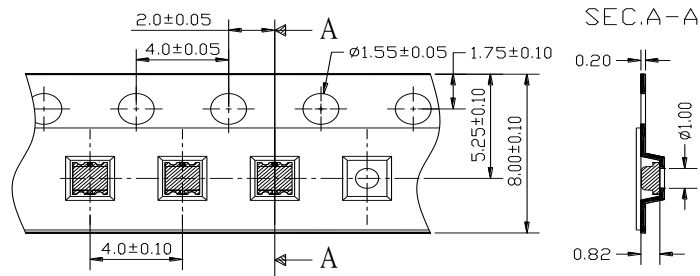
Packing

Reel Dimension:



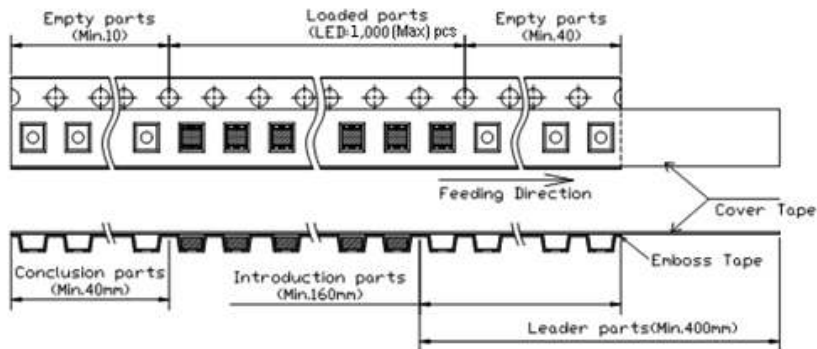
Unit: mm

Tape Dimension:

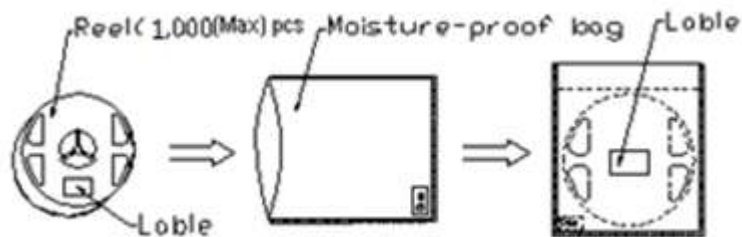


Unit: mm

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	QBLP600-RGB5	Red (R): $I_v=35\text{mcd typ. @ } I_F=5\text{mA}$, $\lambda_D=615\text{nm to } 630\text{nm}$	1,000 units
		Green (G): $I_v=170\text{mcd typ. @ } I_F=5\text{mA}$, $\lambda_D=525\text{nm to } 535\text{nm}$	
		Blue (B): $I_v=28\text{mcd typ. @ } I_F=5\text{mA}$, $\lambda_D=470\text{nm to } 480\text{nm}$	

Revision History

Description:	Revision #	Revision Date
New Release of QBLP600-RGB5	V1.0	08/08/2022



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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.