QT-Brightek Chip LED Series

SMD 0606 RGB LED

Part No.: QBLP600-RGB5-3164

5: 5mA
3164: High Brightness and White Diffused Lens Version

Table of Contents:

Introduction

Feature:

- White diffused 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.

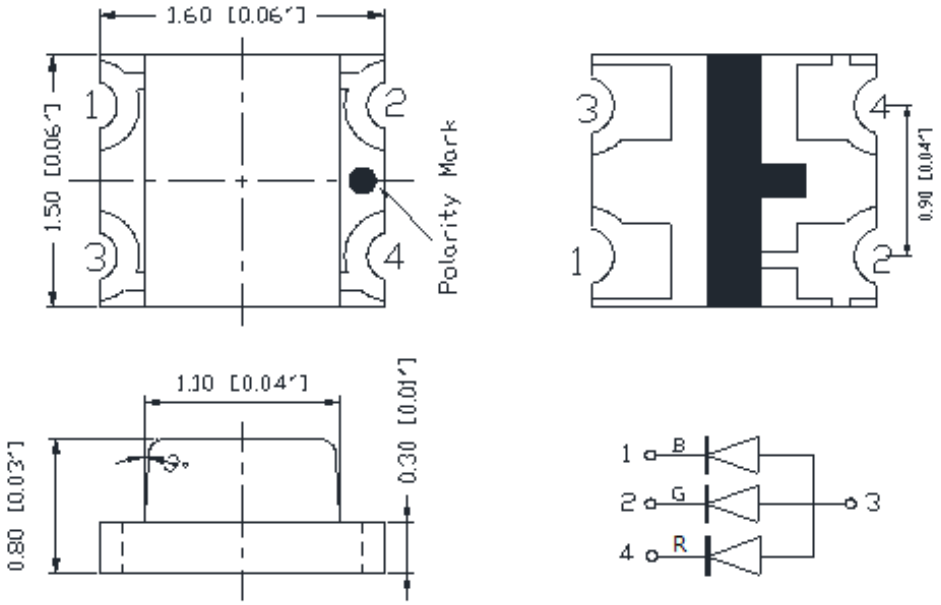
Application:

- 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-RGB5-3164	Red	5	1.9	2.3	615	620	630	20	35
	Green	5	2.8	3.1	525	528	535	125	230
	Blue	5	2.8	3.1	470	470	480	20	34

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)**
AlInGaP (R)	69	30	125	5	-40 ~ +80	-40 ~ +85	260
InGaN (B/G)	93	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 AlInGaP @ 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	2.5	2.8	V
B	2.8	3.1	

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
K	125	160	mcd
L	160	200	
M	200	250	
N	250	320	
O	320	400	

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

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

Dominant Wavelength λ_D for Red @ I_F=5mA

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

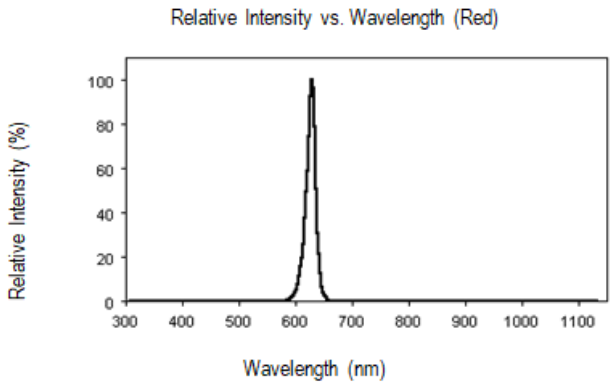
Dominant Wavelength λ_D for Green @ I_F=5mA

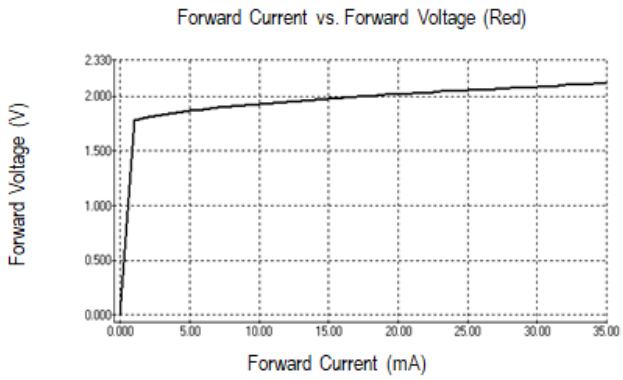
Bin	Min.	Max.	Unit
W	525	527.5	nm
X	527.5	530	
Y	530	532.5	
Z	532.5	535	

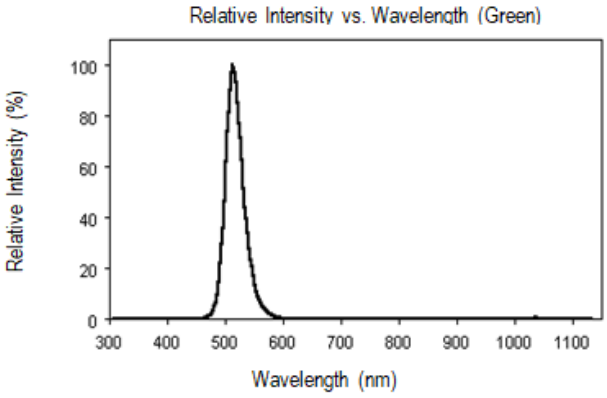
Dominant Wavelength λ_D for Blue @ I_F=5mA

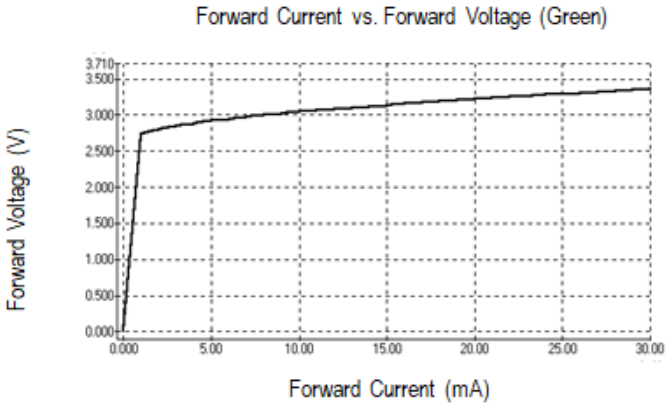
Bin	Min.	Max.	Unit
I	465	467.5	nm
J	467.5	470	
K	470	472.5	
L	472.5	475	

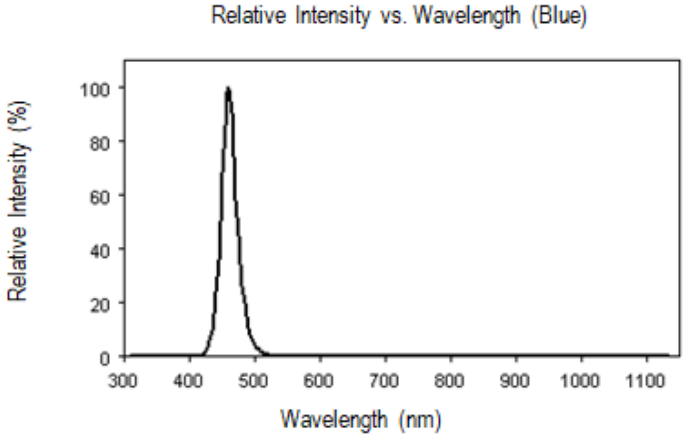
Characteristic Curves

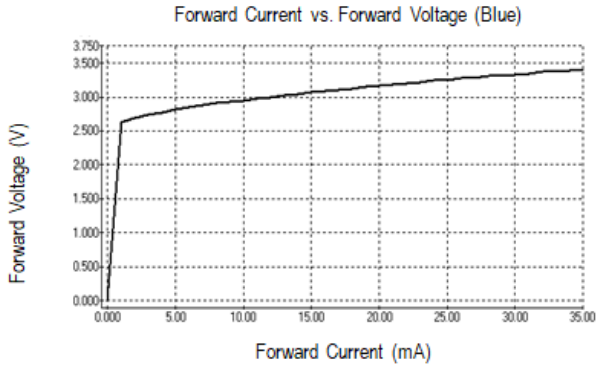




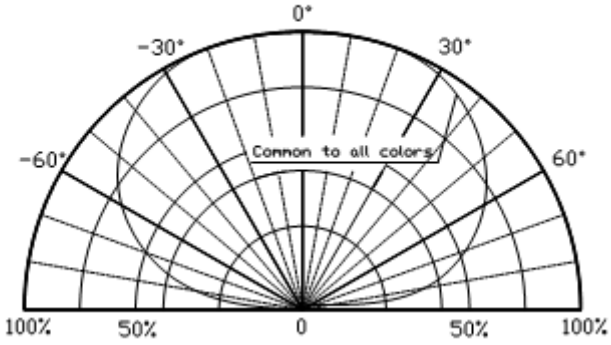






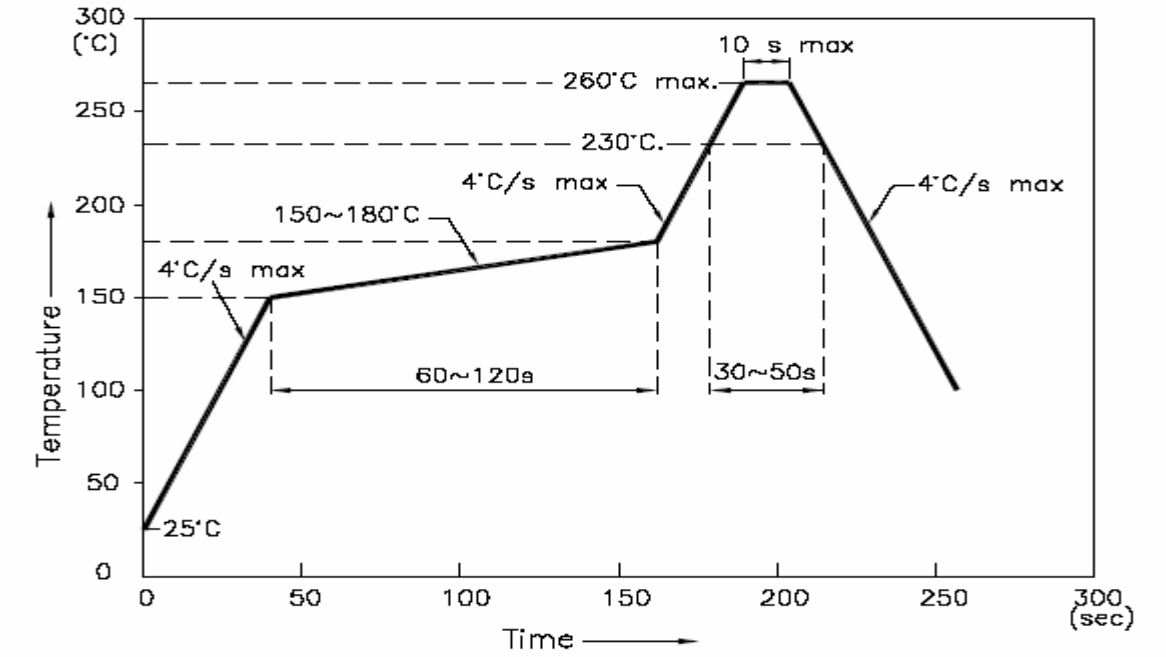


Directive Characteristics

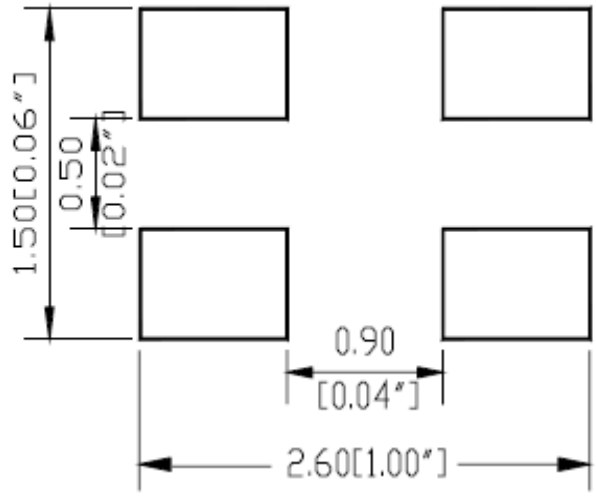


Solder Profile & Footprint

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



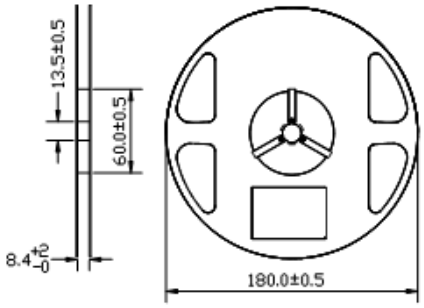
Recommended Pad Layout



Units: mm

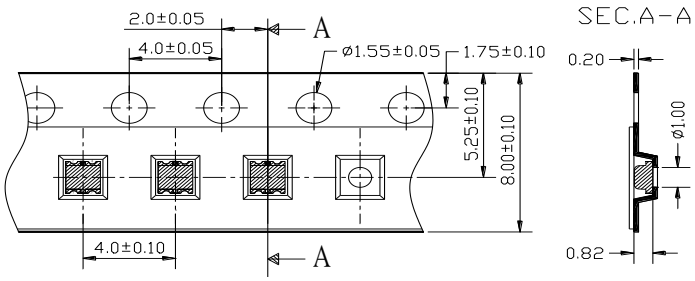
Packing

Reel Dimension:



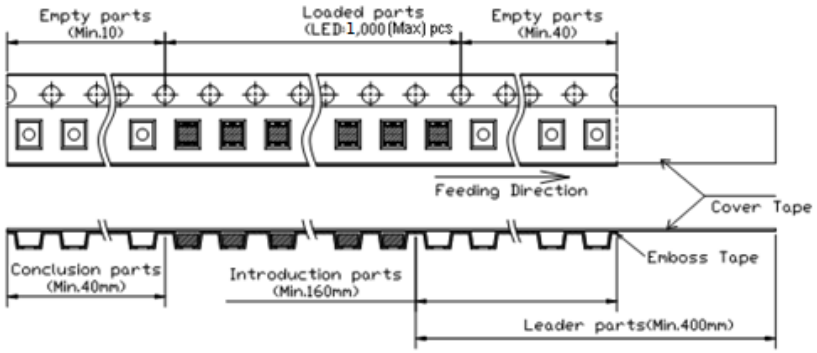
Unit: mm

Tape Dimension:

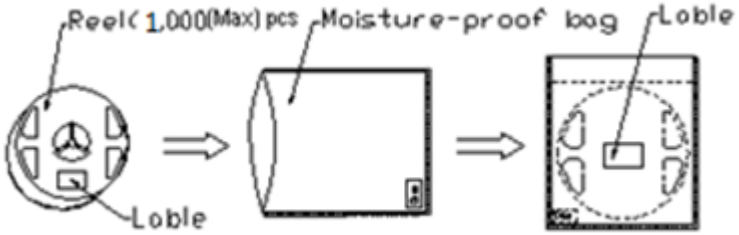


Unit: mm

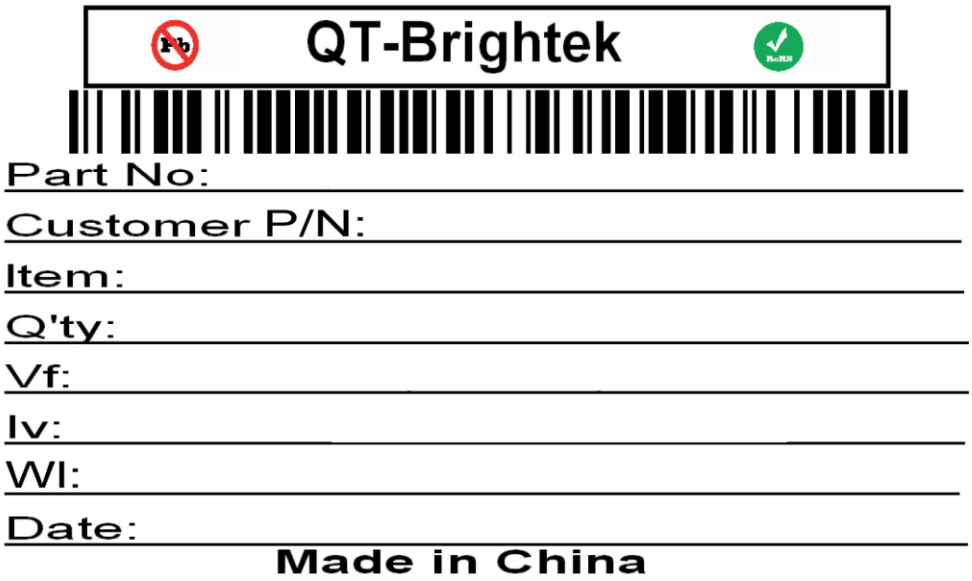
Arrangement of Tape:



Packaging Specification:



Labeling



Ordering Information

Part #	Orderable Part #	Spec Range	Quantity per reel
QBLP600-RGB5-3164	QBLP600-RGB5-3164	Red (R): Iv=35mcd typ. @ I_F=5mA, λ_D=615nm to 630nm	1,000 units
		Green (G): Iv=230mcd typ. @ I_F=5mA, λ_D=525nm to 535nm	
		Blue (B): Iv=34mcd typ. @ I_F=5mA, λ_D=470nm to 480nm	

Revision History

Description:	Revision #	Revision Date
New Release of QBLP600-RGB5-3164	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.