

QT-Brightek Chip LED Series**4-SMD RGB LED****Part No.: QBLP600L-RGB-3189**



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Introduction

Feature:

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

Description:

These ultra bright 0606 RGB LEDs have a height profile of 0.60mm. Combination of high brightness output and small footprint, these LEDs are ideal for keypad backlighting, status indication, and color mixing applications.

Application:

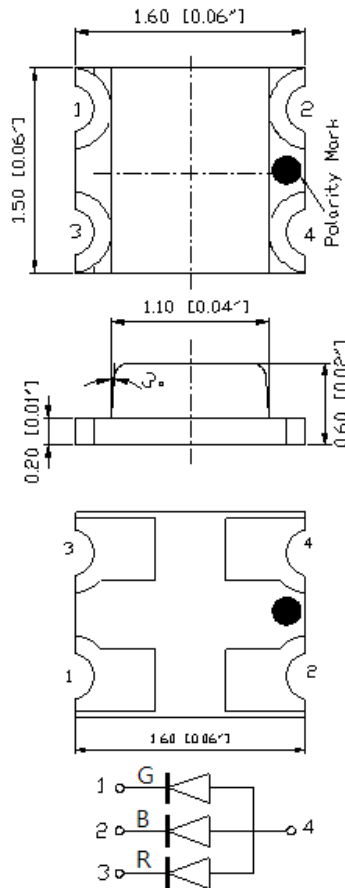
- Status indication
- Back lighting application

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.	Max.
QBLP600L-RGB-3189	Red	20	2.0	2.5	615	620	630	71	160	280
	Green	20	3.1	3.7	520	525	530	180	440	720
	Blue	20	3.1	3.7	465	470	475	28	90	180

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 (R)	75	30	125	5	-40 ~ +80	-40 ~ +85	260
InGaN (G/B)	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 Red @ I_F=20mA

Bin	Min.	Max.	Unit
□	1.7	2.5	V

Forward Voltage V_F for Green @ 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
Q	71	112	mcd
R	112	180	
S	180	280	

Luminous Intensity I_V for Green @ I_F=20mA

Bin	Min.	Max.	Unit
S	180	280	mcd
T	280	450	
U	450	720	

Luminous Intensity I_V for Blue @ $I_F=20mA$

Bin	Min.	Max.	Unit
N	28	45	mcd
P	45	71	
Q	71	112	
R	112	180	

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

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

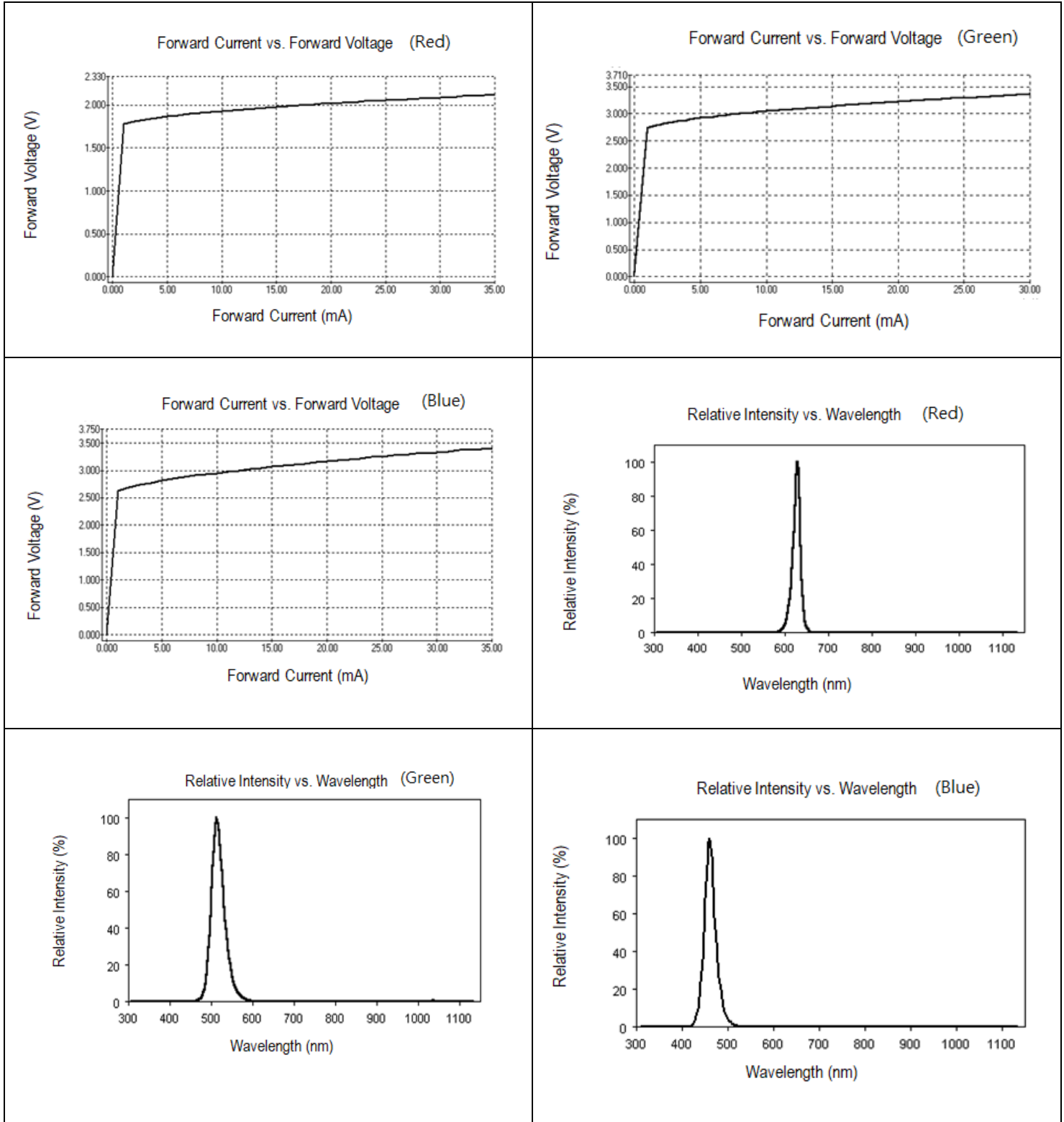
Dominant Wavelength λ_D for Green @ $I_F=20mA$

Bin	Min.	Max.	Unit
U	520	522.5	nm
V	522.5	525	
W	525	527.5	
X	527.5	530	

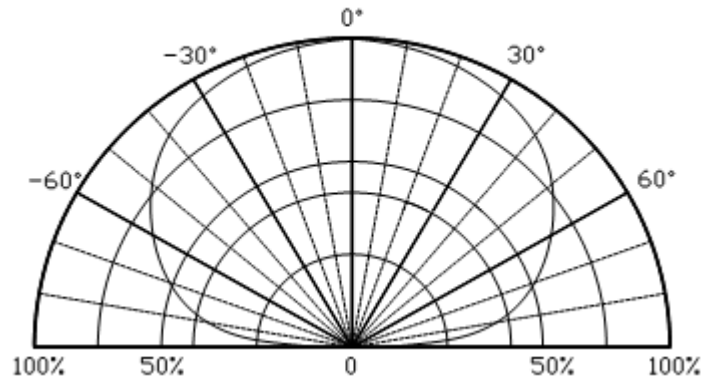
Dominant Wavelength λ_D for Blue @ $I_F=20mA$

Bin	Min.	Max.	Unit
G	465	467.5	nm
H	467.5	470	
I	470	472.5	
J	472.5	475	

Characteristic Curves

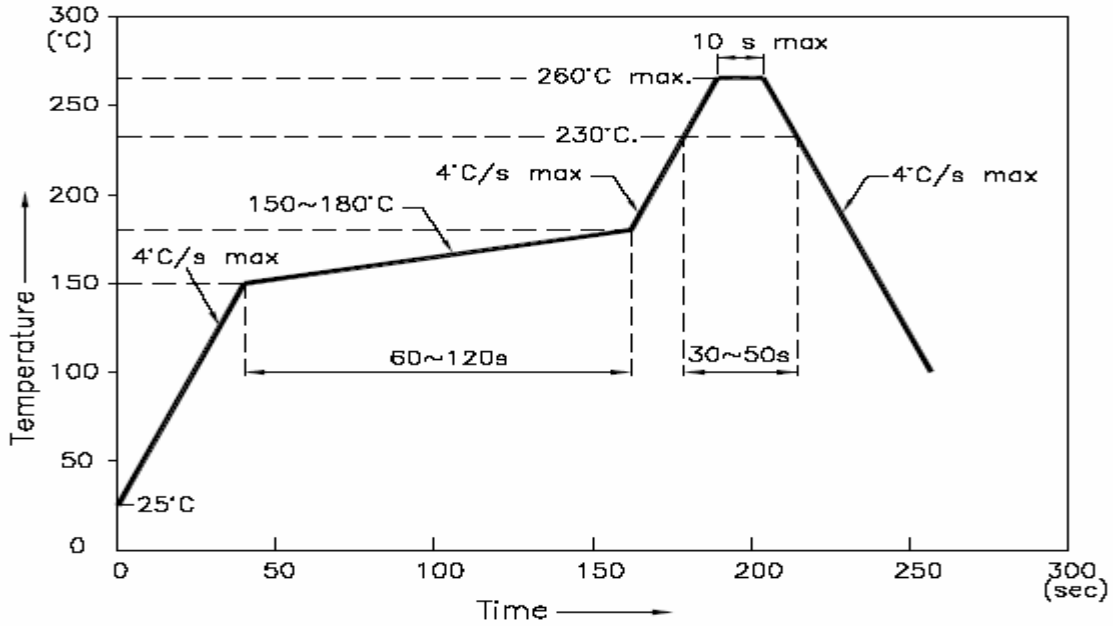


Directive Characteristics

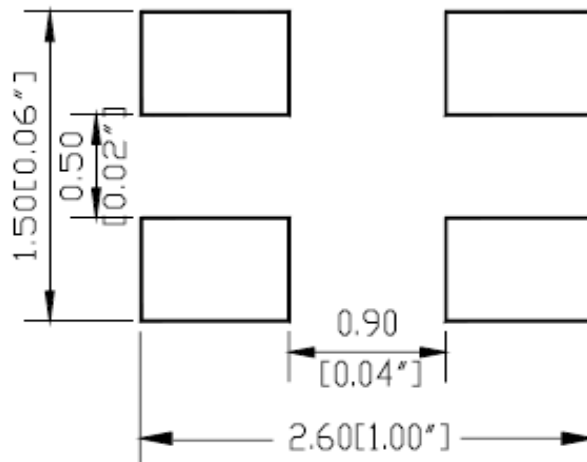


Solder Profile & Footprint

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



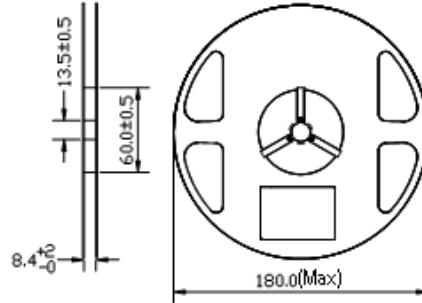
Recommended Pad Layout



Units: mm

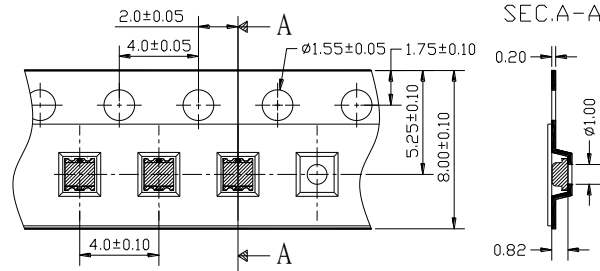
Packing

Reel Dimension:



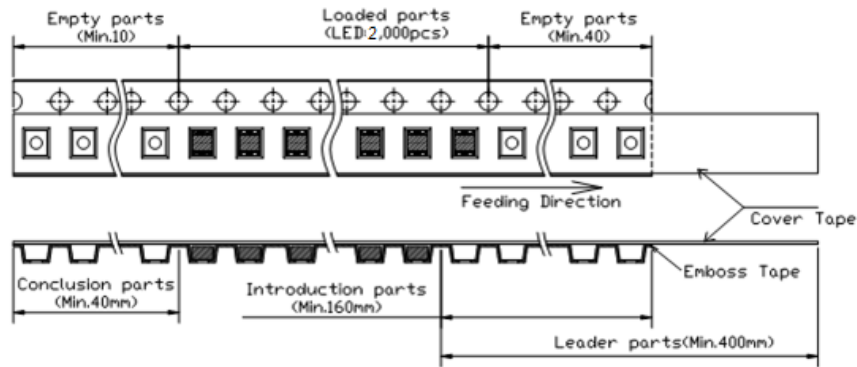
Unit: mm

Tape Dimension:

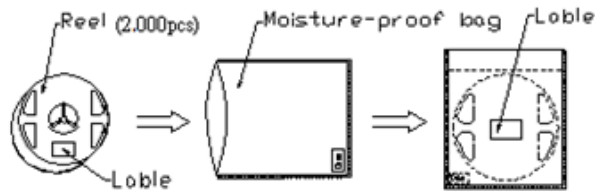


Unit: mm

Arrangement of Tape:



Packaging Specification:



LabelingPart No: _____Customer P/N: _____Item: _____Q'ty: _____Vf: _____Iv: _____WI: _____Date: _____**Made in China****Ordering Information**

Part #	Orderable Part #	Spec Range	Quantity per reel
QBLP600L-RGB-3189	QBLP600L-RGB-3189	Red: $I_v=160\text{mcd typ. @ } I_F=20\text{mA}$, $\lambda_D=615\text{nm to } 630\text{nm}$	2,000 units
		Green: $I_v=440\text{mcd typ. @ } I_F=20\text{mA}$, $\lambda_D=520\text{nm to } 530\text{nm}$	
		Blue: $I_v=90\text{mcd typ. @ } I_F=20\text{mA}$, $\lambda_D=465\text{nm to } 475\text{nm}$	



Revision History

Description:	Revision #	Revision Date
New Release of QBLP600L-RGB-3189	V1.0	02/21/2023

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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.