

QT-Brightek PLCC Series

PLCC4 RGB LED

Part No.: QBLP1515B-RGBA

Product: QBLP1515B-RGBA	Date: December 11, 2020	Page 1 of 10
	Version# 1.3	



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Introduction

Feature:

- Diffused lens
- Package in tape and reel
- Ultra bright PLCC4 RGB LED
- Common Anode
- InGaN technology for IB/IG
- AlInGaP technology for R
- 120 degree viewing angle
- Black Housing

Description:

This PLCC4 RGB LEDs have a height profile of 1.00mm. Combination of high brightness output and robust package, this LED is ideal for architecture lighting, status indication, and color mixing applications.

Application:

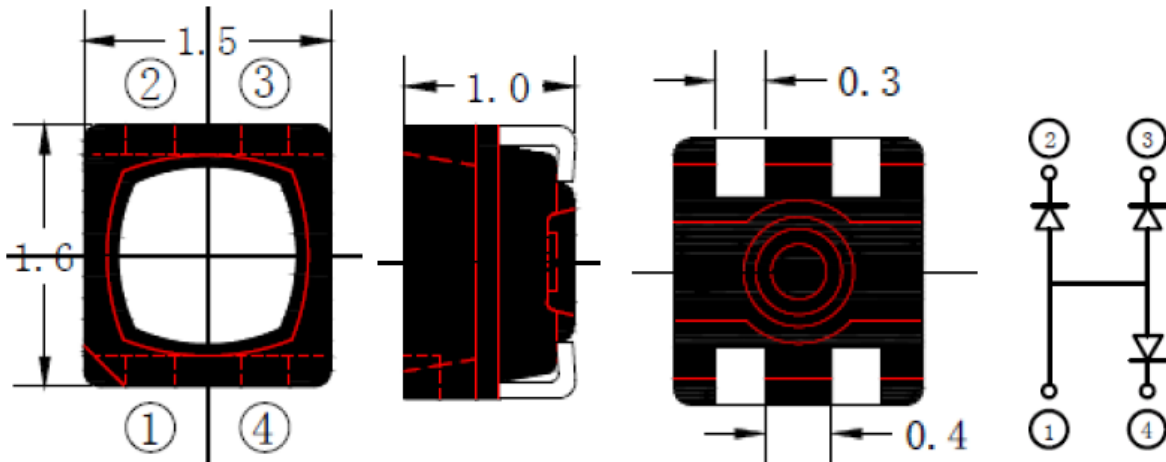
- Status indication
- Back lighting application
- Architecture lighting

Certification & Compliance:

- TS16949
- ISO9001
- RoHS Compliant



Dimension:



①	Common Anode
②	Cathode (Blue)
③	Cathode (Green)
④	Cathode (Red)

Units: mm / tolerance = +/-0.2mm

Electrical / Optical Characteristic (T_A=25 °C)

Product	Color	I _F (mA)	V _F (V)		λ _D (nm)			I _V (mcd)	
			Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.
QBLP1515B-RGBA	Red	10	2.0	2.45	612	622	627	92	150
	True Green	10	2.9	3.3	516	523	531	215	410
	Blue	10	3.0	3.3	460	467	475	50	77

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 (IB/IG)	55	15	60	5	-30 to +85	-40 to +85	260
AllnGaP (R)	32	15	60	5	-30 to +85	-40 to +85	260

*Duty 1/10 @ 10KHz

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

Luminous Intensity I_V for Red @ I_F=10mA

Bin	Min.	Max.	Unit
19	92	120	mcd
20	120	156	
21	156	200	
22	200	260	

Luminous Intensity I_V for True Green @ I_F=10mA

Bin	Min.	Max.	Unit
22	215	280	mcd
23	280	365	
24	365	470	
25	470	610	

Luminous Intensity I_V for Blue @ I_F=10mA

Bin	Min.	Max.	Unit
17	50	65	mcd
18	65	85	
19	85	110	
20	110	143	

Dominant Wavelength λ_D for Red @ $I_F=10\text{mA}$

Bin	Min.	Max.	Unit
A5	612	617	nm
R1	617	622	
R2	622	627	

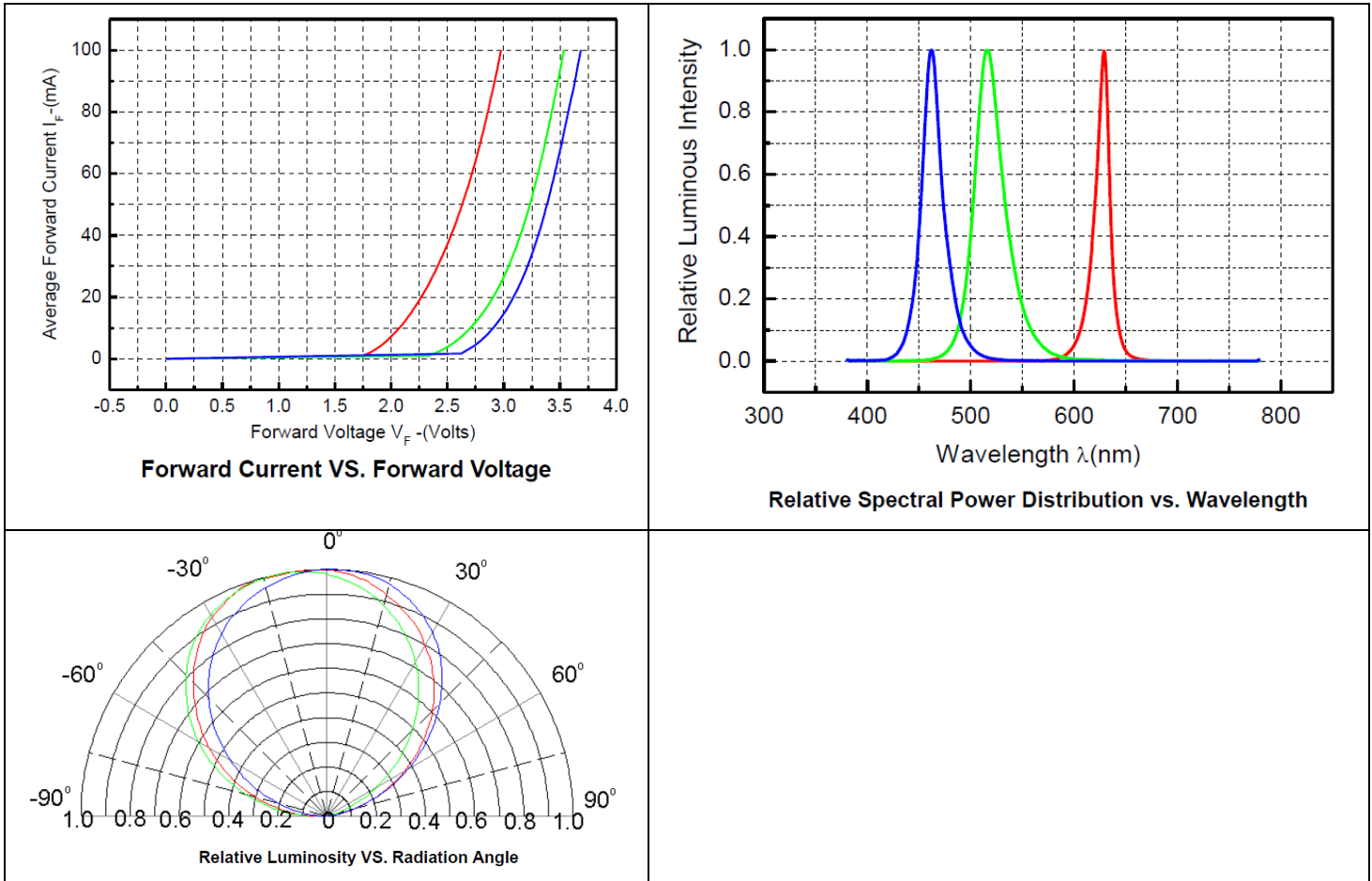
Dominant Wavelength λ_D for True Green @ $I_F=10\text{mA}$

Bin	Min.	Max.	Unit
TG1	516	521	nm
TG2	521	526	
TG3	526	531	

Dominant Wavelength λ_D for Blue @ $I_F=10\text{mA}$

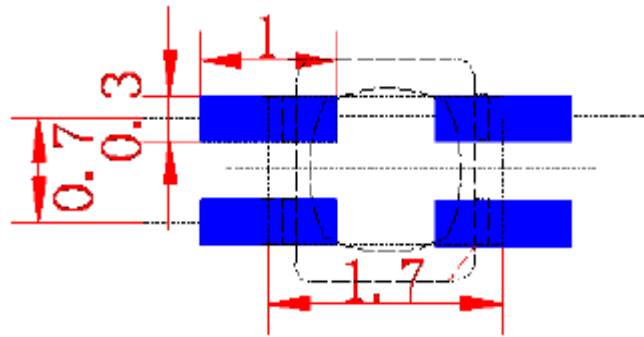
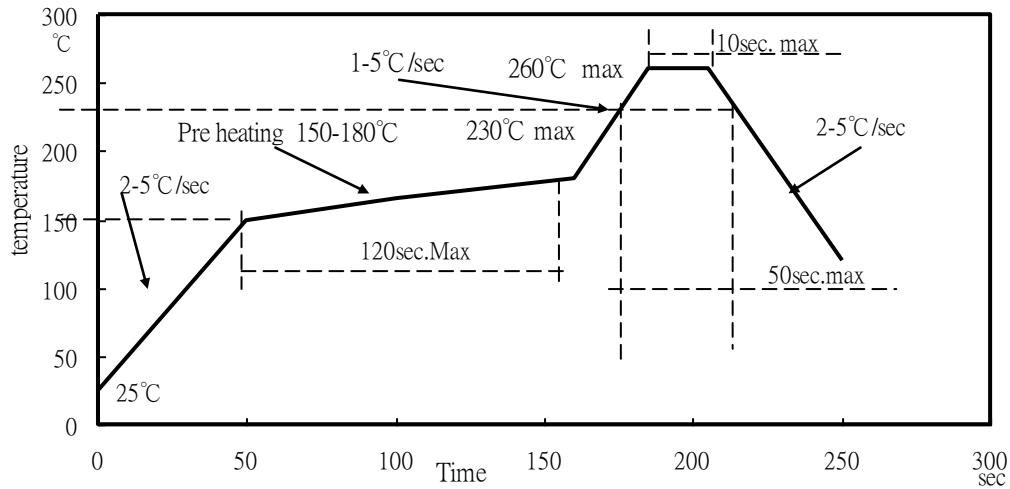
Bin	Min.	Max.	Unit
B5	460	465	nm
B6	465	470	
B7	470	475	

Characteristic Curves



Solder Profile & Footprint

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



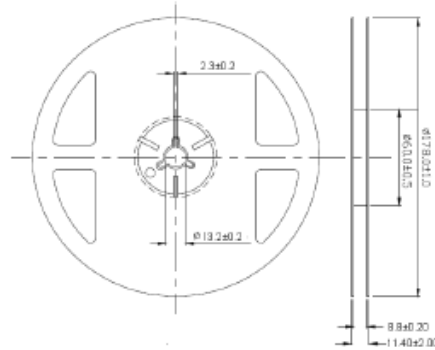
(Proposed Solder footprint)

Units: mm

tolerance: +/- 0.2mm

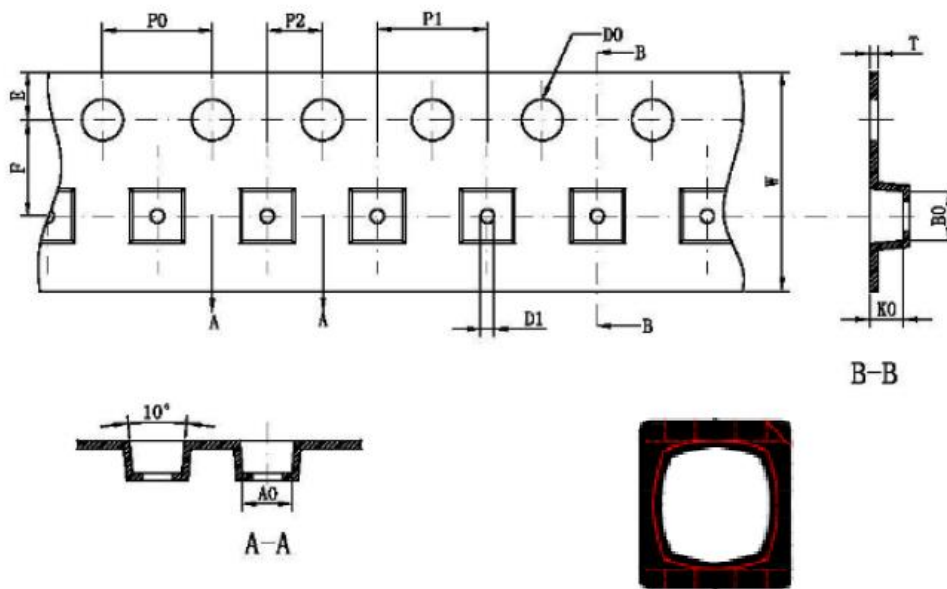
Packing

Reel Dimension:



Unit: mm

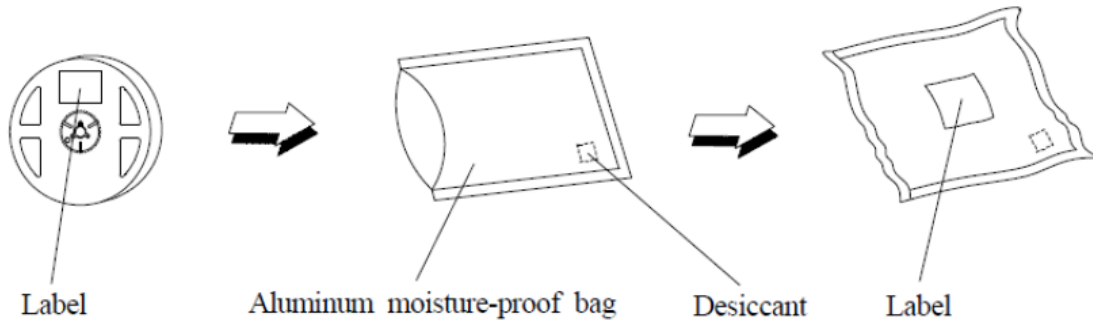
Tape Dimension:



Symbol	A0	B0	K0	P0	P1	P2
Spec	1.8±0.1	1.85±0.1	1.20±0.1	4±0.1	4±0.1	2±0.1
Symbol	W	T	E	F	D0	D1
Spec	8±0.3	0.25±0.05	1.75±0.1	3.5±0.1	φ1.5 ^{+0.1} ₀	φ0.5 ^{+0.1} ₀

Unit: mm

Packaging Specification:



Labeling



Part No: _____
Customer P/N: _____
Item: _____
Q'ty: _____
Vf: _____
Iv: _____
VI: _____
Date: _____

Made in China

Ordering Information

Part #	Orderable Part #	Spec Range	Quantity per reel
QBLP1515B-RGBA	QBLP1515B-RGBA	Red: 150mcd Typ. @ I _F =10mA / Color: 612nm to 627nm	3,500 units
		True Green: 410mcd Typ. @ I _F =10mA / Color: 516nm to 531nm	
		Blue: 77mcd Typ. @ I _F =10mA / Color: 460nm to 475nm	

Revision History

Description:	Revision #	Revision Date
New Release of QBLP1515B-RGBA	V1.0	11/19/2015
Amend the brightness of RGB	V1.1	03/15/2016
Update packing spec to 3500pcs per reel	V1.2	12/11/2017
Update brightness binning	V1.3	12/11/2020



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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.