

QT-Brightek PLCC4 Series

PLCC4 RGB LED

Part No.: QBLP677-RGB2 (High Bright)

Table of Contents:

Introduction	3
Electrical / Optical Characteristic: (T=25 °C)	4
Absolute Maximum Rating	4
Characteristic Curves.....	6
Solder Profile & Footprint.....	7
Packing & Labeling	8
Labeling	9
Ordering Information	9
Revision History	10
Disclaimer	10

Introduction

Feature:

- Black Face
- High Bright
- White diffused lens
- Ultra bright PLCC4 RGB LED
- Common Anode
- Triangle die placement
- InGaN technology for IB/IG
- AlInGaP technology for R
- 120 degree viewing angle

Description:

This PLCC4 RGB LEDs have a height profile of 1.85mm. Combination of high brightness output and robust package, this LED is ideal for architecture lighting, status indication, and color mixing applications.

Application:

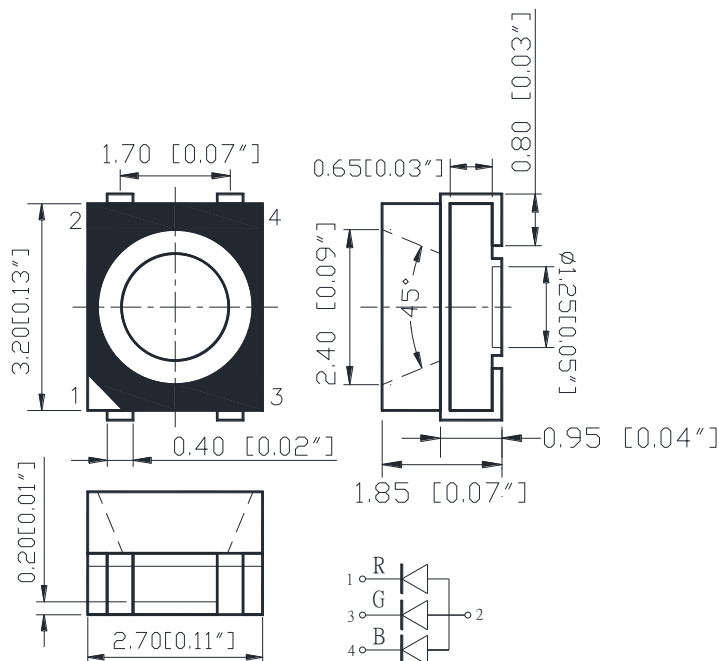
- Status indication
- Back lighting application
- Full Color LED panel

Certification & Compliance:

- TS16949
- ISO9001
- RoHS Compliant



Dimension:



Units: mm / tolerance = +/-0.2mm

Electrical / Optical Characteristic: (T=25 °C)

Product	Color	I _F (mA)	V _F (V)		λ _D (nm)			I _V (mcd)	
			Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.
QBLP677-RGB2 (High Bright)	Red	20	2.0	2.5	615	624	630	510	700
	True Green	20	3.1	3.7	519	525	534	1080	1450
	Blue	20	3.1	3.7	461	470	476	200	280

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)	75	30	125	5	-40 ~ +80	-40 ~ +85	260
InGaN (IB/IG)	111	30	125	5	-40 ~ +80	-40 ~ +85	260

*Duty 1/8 @ 1kHz

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

Luminous Intensity I_V for Red @ I_F=20mA

Bin	Min.	Max.	Unit
12	510	645	mcd
13	645	800	
14	800	1000	

Luminous Intensity I_V for True Green @ I_F=20mA

Bin	Min.	Max.	Unit
12	1080	1350	mcd
13	1350	1700	
14	1700	2125	

Luminous Intensity I_V for Blue @ I_F=20mA

Bin	Min.	Max.	Unit
10	200	250	mcd
11	250	315	
12	315	395	

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

Bin	Min.	Max.	Unit
2	615	620	nm
3	620	625	
4	625	630	

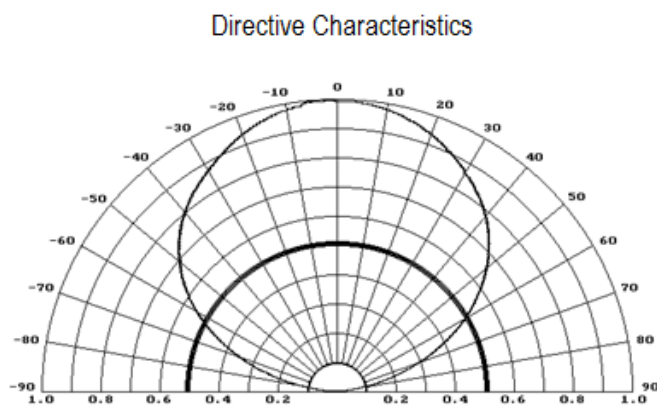
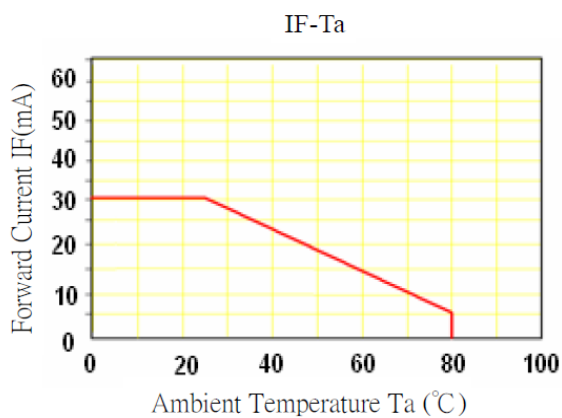
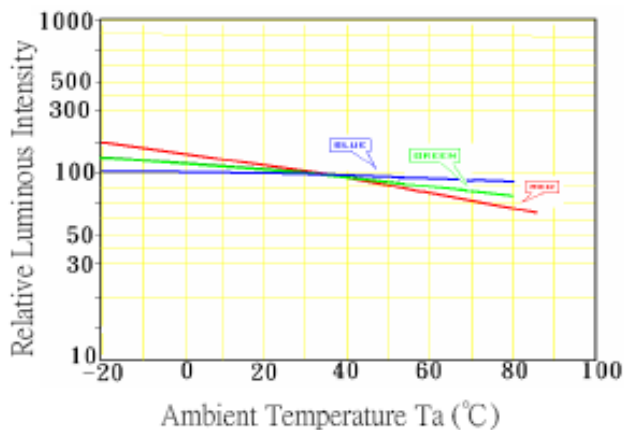
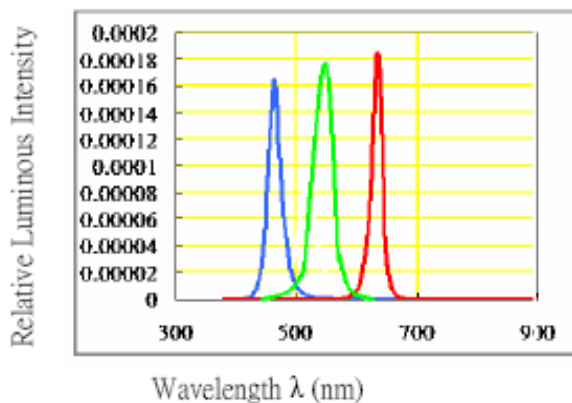
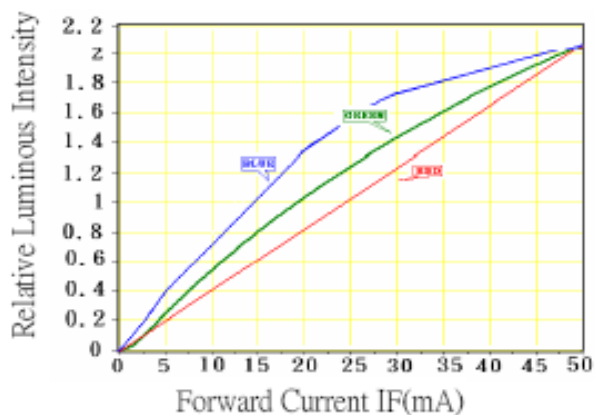
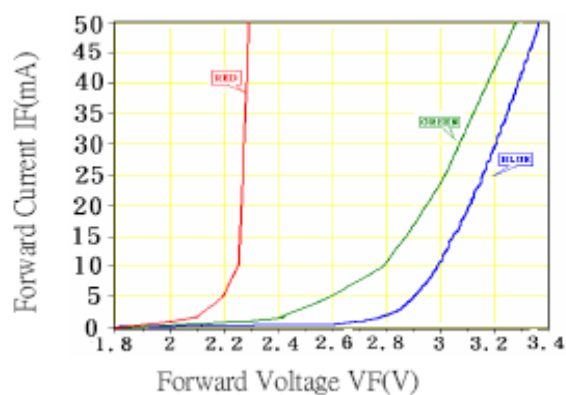
Dominant Wavelength λ_D for True Green @ $I_F=20mA$

Bin	Min.	Max.	Unit
2	519	524	nm
3	524	529	
4	529	534	

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

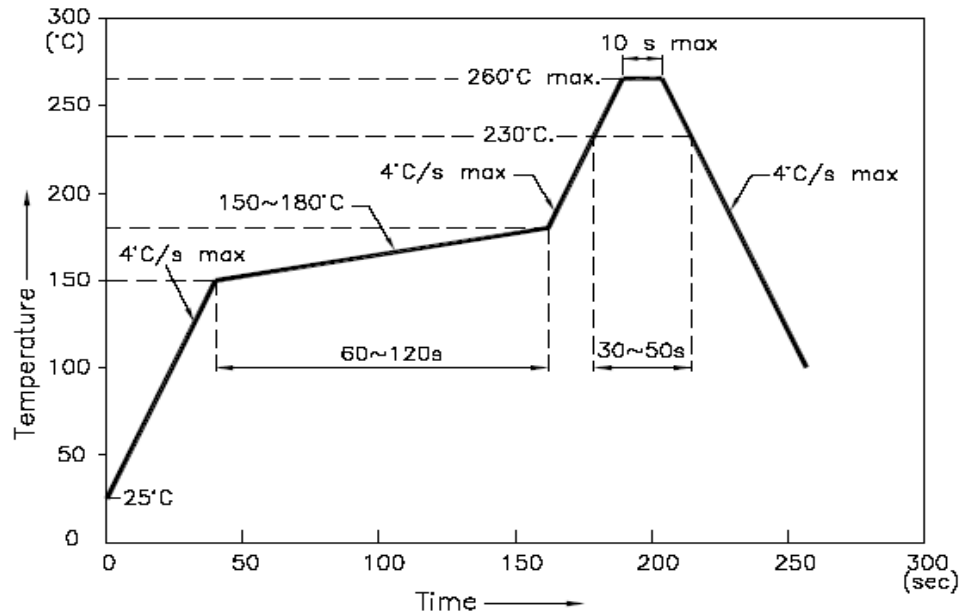
Bin	Min.	Max.	Unit
2	461	466	nm
3	466	471	
4	471	476	

Characteristic Curves

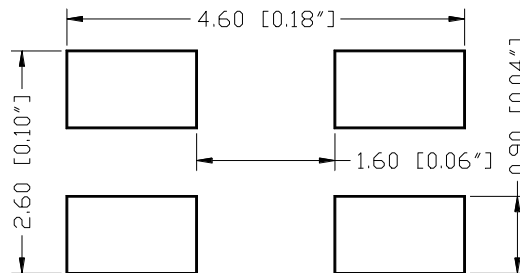


Solder Profile & Footprint

- Recommended tin solder specifications: melting temperature in the range of 178~192 °C
- The recommended reflow soldering profile is as follows (temperatures indicated are as measured on the surface of the LED resin):



Recommended Pad Layout

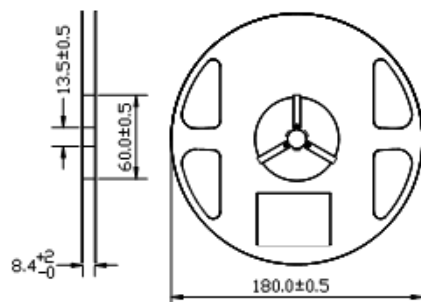


Units: mm

Tolerance: $\pm 0.2\text{mm}$

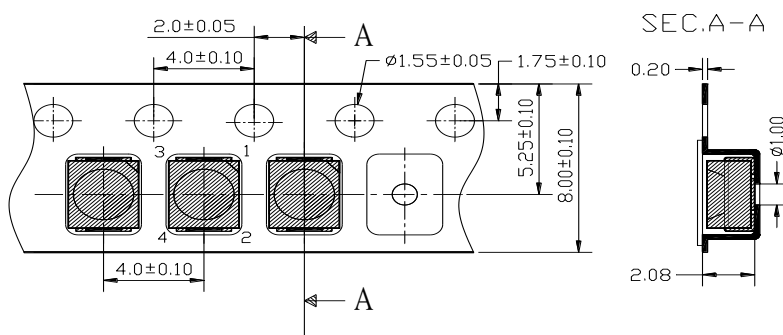
Packing & Labeling

Reel Dimension:



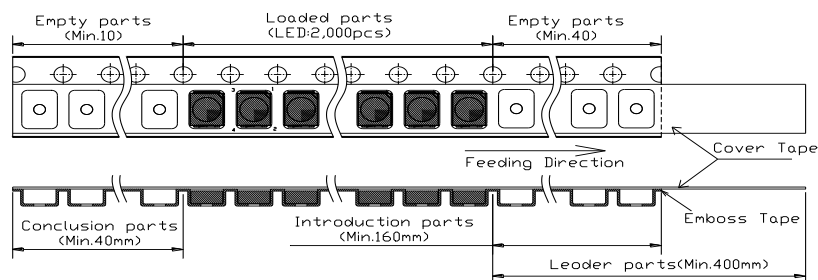
Unit: mm

Tape Dimension:

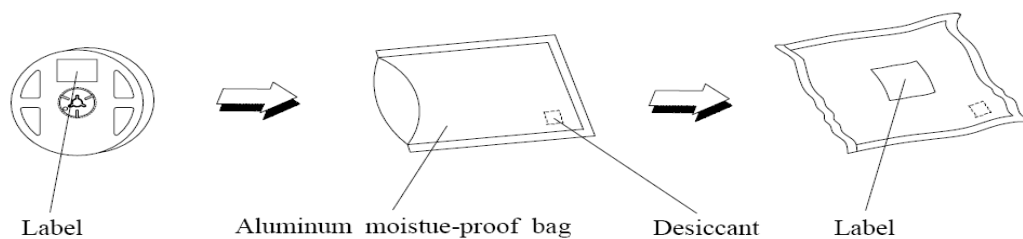


Unit: mm

Arrangement of Tape:



Packaging Specifications:



Product: QBLP677-RGB2 (High Bright)	Date: June 28, 2016	Page 8 of 10
	Version# 2.1	

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
QBLP677-RGB2 (High Bright)	QBLP677-RGB2 (High Bright)	Per bin selection on page 4 and 5.	1,000 units

Revision History

Description:	Revision #	Revision Date
New Release of QBLP677-RGB2	V1.0	02/28/2011
Update Brightness	V1.1	10/13/2011
Bin code added/ Indicate the High bright version	V1.2	12/28/2011
Amend the bin code	V1.3	12/29/2011
Amend the brightness/ Wavelength	V1.4	04/03/2012
Update drawing and packing spec	V2.0	10/12/2013
Update dimension	V2.1	06/28/2016

Disclaimer

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QT-BRIGHTTEK's products are not authorized for use as critical components in life support devices or systems without the express written approval of QT-BRIGHTTEK. 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.

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