

QT-Brightek PLCC Series

PLCC4 RGB LED

Part No.: QBLP677-RGB (High Bright)

Product: QBLP677-RGB (High Bright)	Date: November 29, 2024	Page 1 of 10
	Version# 1.2	



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Introduction

Feature:

- White diffused lens
- Package in tape and reel
- Ultra bright PLCC4 RGB LED
- White face
- Common Anode
- InGaN technology for IB/IG
- AlInGaP technology for R
- 120 degree viewing angle
- Height profile 1.85mm

Application:

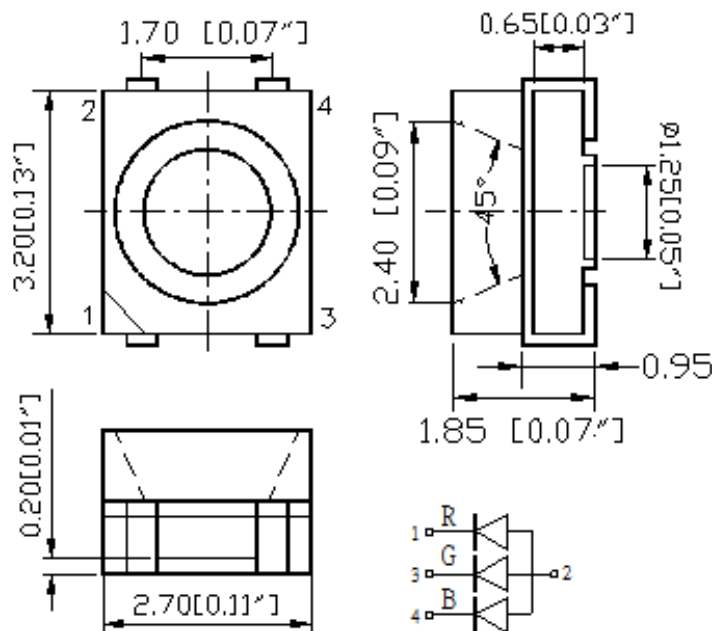
- Status indication
- Back lighting application
- Architecture lighting
- Signal

Certification & Compliance:

- ISO9001
- RoHS Compliant



Dimension:



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.
QBLP677-RGB (High Bright)	Red	20	2.0	2.5	615	620	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 to +80	-40 to +85	260
InGaN (IB/IG)	111	30	125	5	-40 to +80	-40 to +85	260

*Recommended pulse condition: duty cycle ≤ 1/8 (12.5%), pulse width ≤ 0.125ms @ 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 @ $I_F=20\text{mA}$

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

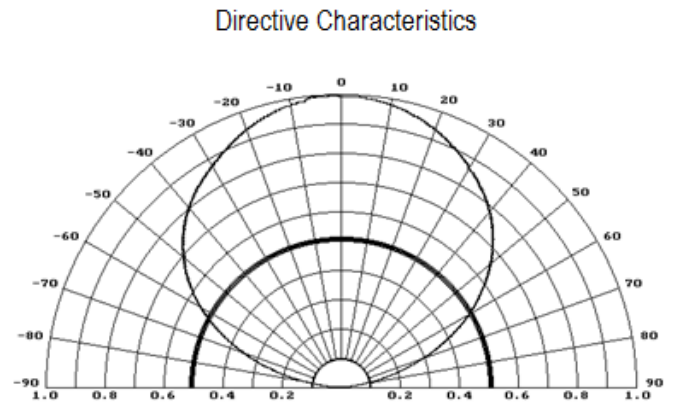
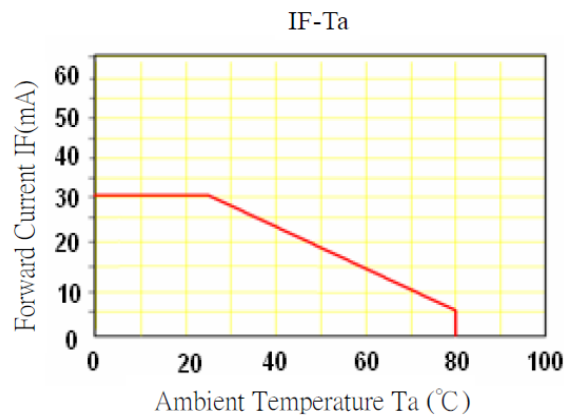
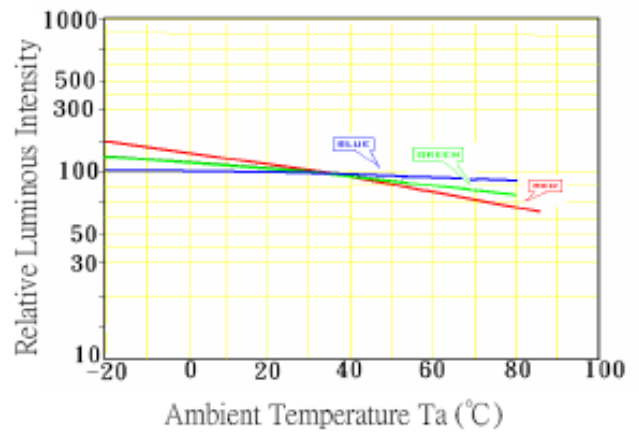
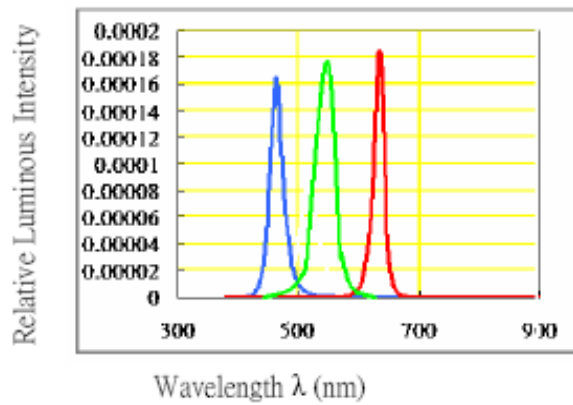
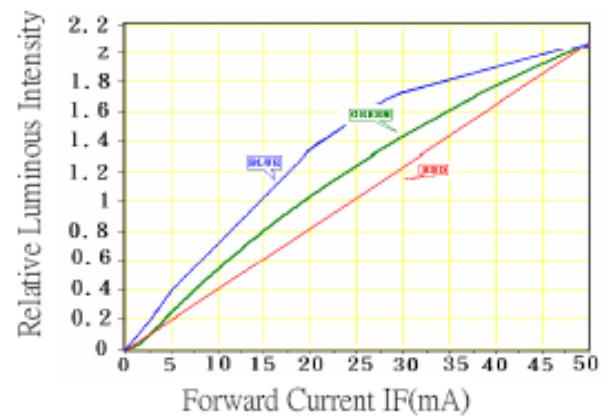
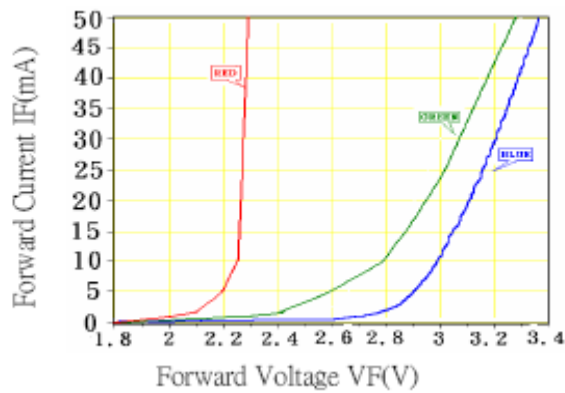
Dominant Wavelength λ_D for True Green @ $I_F=20\text{mA}$

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

Dominant Wavelength λ_D for Blue @ $I_F=20\text{mA}$

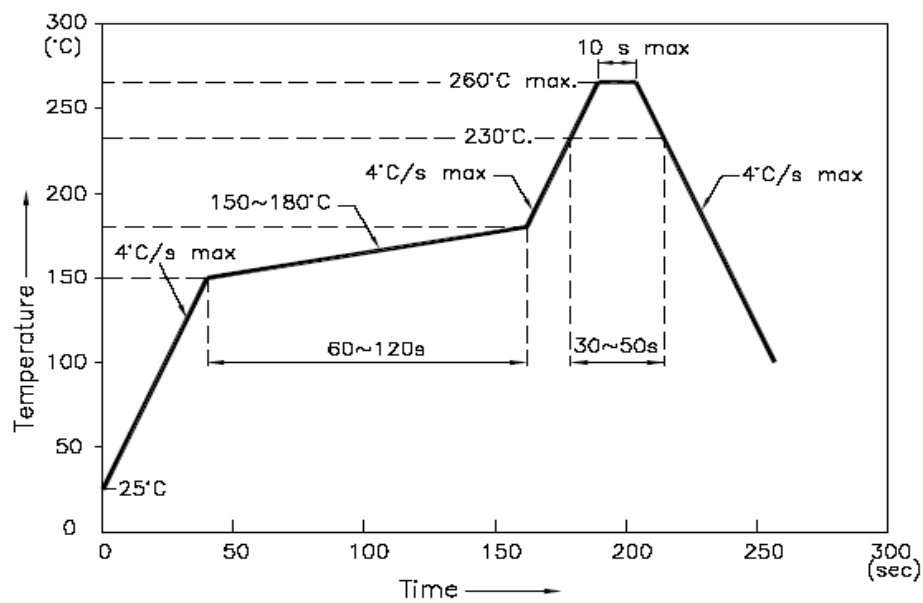
Bin	Min.	Max.	Unit
2	461	466	nm
3	466	471	
4	471	476	

Characteristic Curves

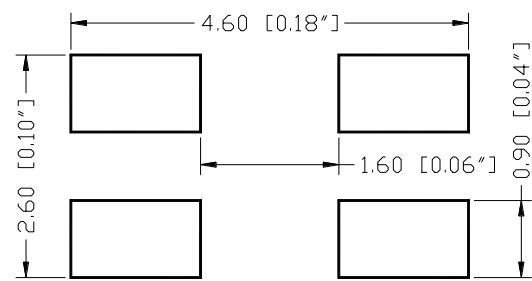


Solder Profile & Footprint

- 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

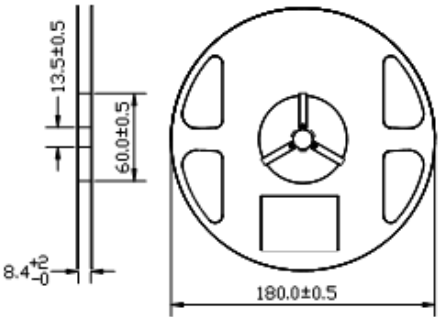


Units: mm

Tolerance: ± 0.2mm

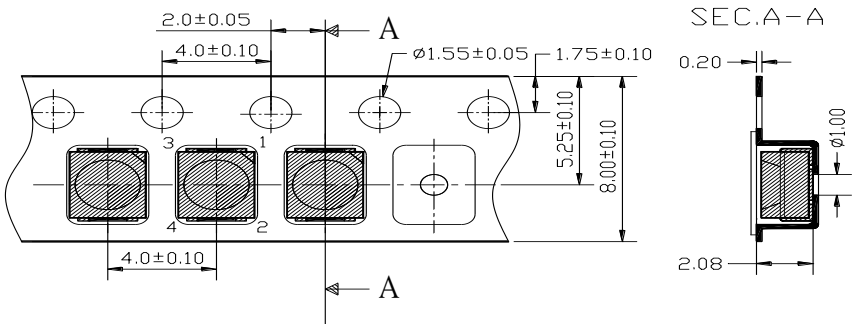
Packing

Reel Dimension:



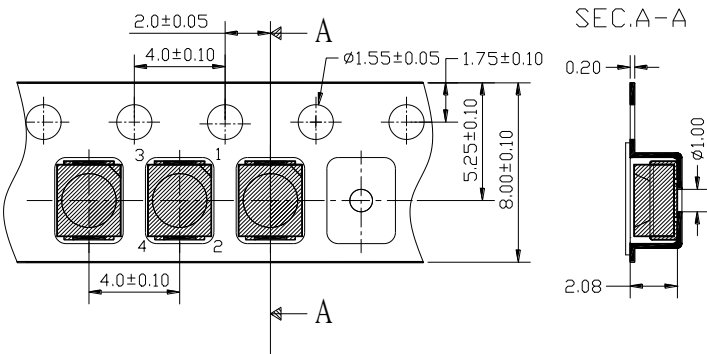
Unit: mm

Tape Dimension:

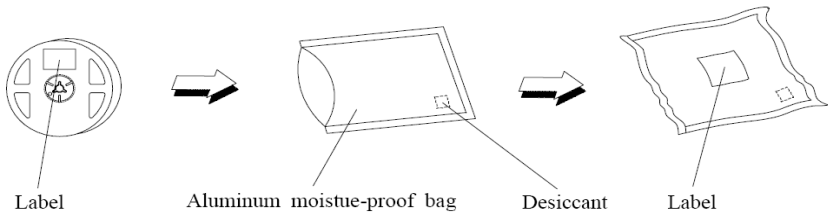


Unit: mm

Arrangement of Tape:



Packaging Specifications:





Part No:

Customer P/N:

Item:

Q'ty:

Vf:

iv:

WI:

Date: _____

Made in China

Ordering Information

Orderable Part #	Spec Range	Quantity per reel
QBLP677-RGB (High Bright)	Per bin selection on page 4 and 5.	1,000 units



Revision History

Description:	Revision #	Revision Date
New Release of QBLP677-RGB (High Bright)	V1.0	10/02/2013
Fix typo in the description (should be white diffused lens)	V1.1	08/29/2016
Add description to pulse current condition	V1.2	11/29/2024

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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.