

**QT-Brightek PLCC Series**

**PLCC4 RGB LED with Lens**

**Part No.: QBLP677AD-RGB2**

**RGB2: Black Face, White Diffused Lens**



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## Introduction

### Feature:

- White diffused lens
- Black face
- Package in tape and reel
- Ultra bright PLCC4 RGB LED
- Common Anode
- InGaN technology for IB/IG
- AlInGaP technology for R
- Viewing angle: 30 deg typ.

### Description:

This PLCC4 RGB LEDs have a built in lens that provides narrow viewing angle. It is suitable for signage application.

### Application:

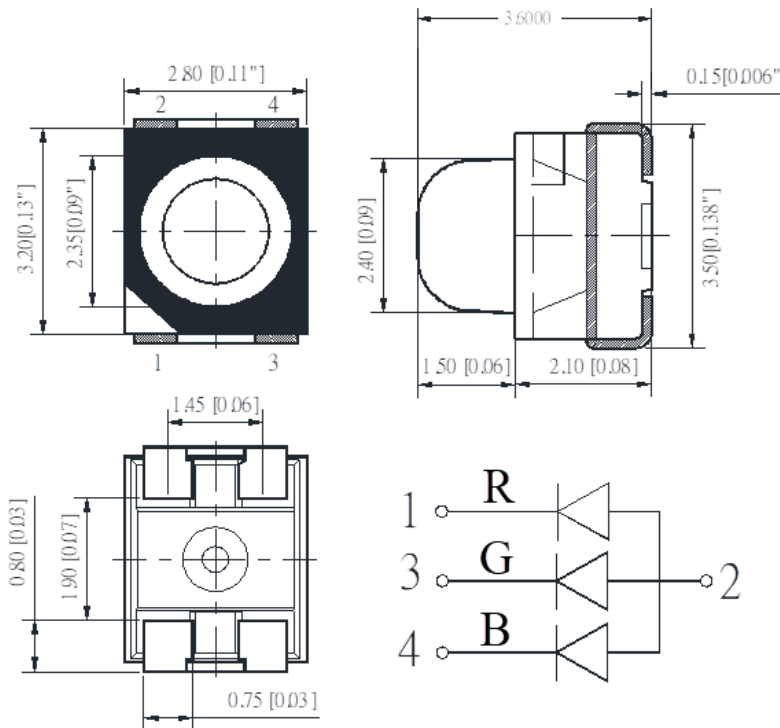
- Status indication
- Signage
- Signaling

### Certification & Compliance:

- TS16949
- ISO9001
- RoHS Compliant



### Dimension:



Units: mm / tolerance = +/-0.2mm

### Electrical / Optical Characteristic (T<sub>A</sub>=25 °C)

Product	Color	I <sub>F</sub> (mA)	V <sub>F</sub> (V)			λ <sub>D</sub> (nm)			I <sub>V</sub> (mcd)	
			Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.
QBLP677AD- RGB2	Red	20	1.7	2.0	2.5	615	620	630	400	760
	True Green	20	2.5	2.8	3.4	520	525	530	1250	2340
	Blue	20	2.8	3.1	3.7	460	465	470	160	300

### Absolute Maximum Rating

Material	P <sub>d</sub> (mW)	I <sub>F</sub> (mA)	I <sub>FP</sub> (mA)*	V <sub>R</sub> (V)	T <sub>OP</sub> (°C)	T <sub>ST</sub> (°C)	T <sub>SO L</sub> (°C)**
AllInGaP (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

\*Duty 1/8 @ 1kHz

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

### Luminous Intensity I<sub>V</sub> for Red @ I<sub>F</sub>=20mA

Bin	Min.	Max.	Unit
P	400	500	mcd
Q	500	630	
R	630	800	
S	800	1000	
T	1000	1250	

### Luminous Intensity I<sub>V</sub> for True Green @ I<sub>F</sub>=20mA

Bin	Min.	Max.	Unit
U	1250	1600	mcd
V	1600	2000	
W	2000	2500	
X	2500	3200	
Y	3200	4000	

### Luminous Intensity I<sub>V</sub> for Blue @ I<sub>F</sub>=20mA

Bin	Min.	Max.	Unit
L	160	200	mcd
M	200	250	
N	250	320	
O	320	400	
P	400	500	

**Dominant Wavelength  $\lambda_D$  for Red @  $I_F=20\text{mA}$** 

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

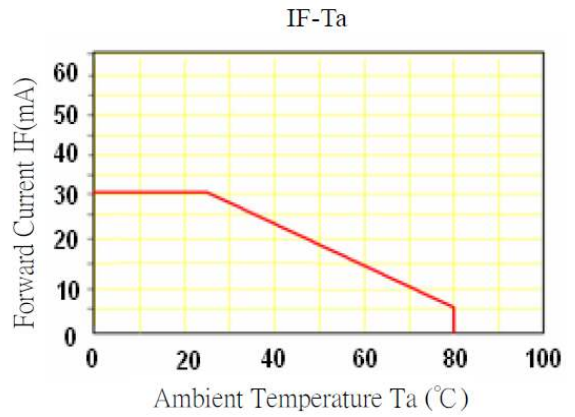
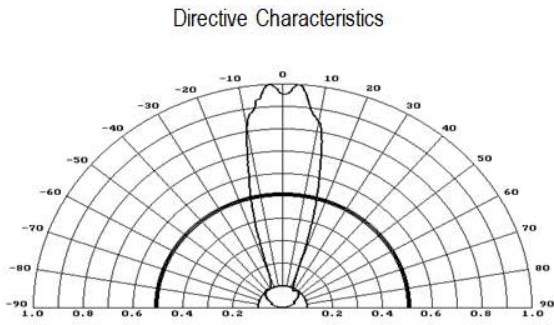
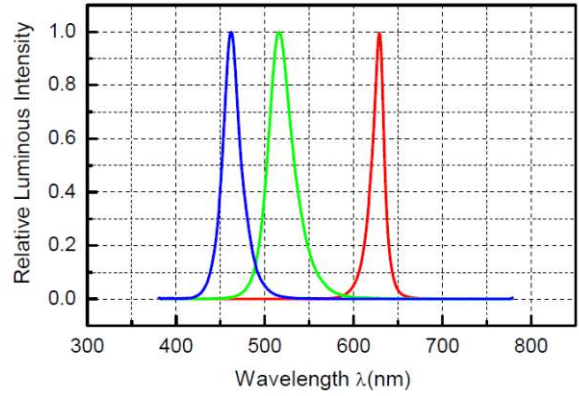
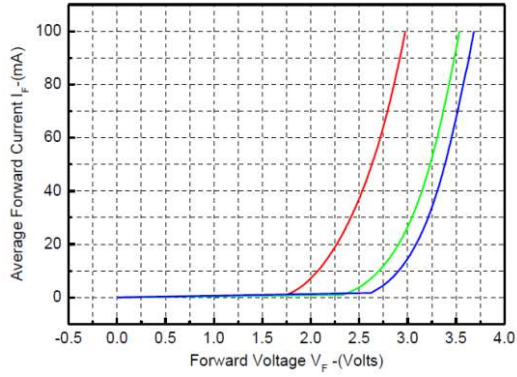
**Dominant Wavelength  $\lambda_D$  for True Green @  $I_F=20\text{mA}$** 

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

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

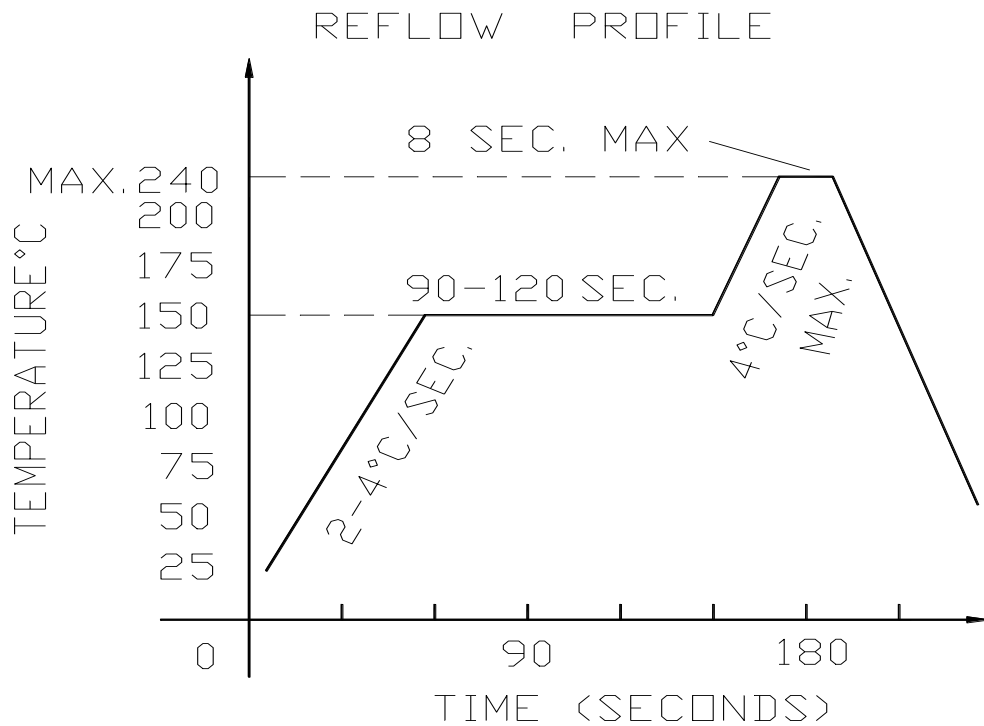
Bin	Min.	Max.	Unit
E	460	462.5	nm
F	462.5	465	
G	465	467.5	
H	467.5	470	

## Characteristic Curves

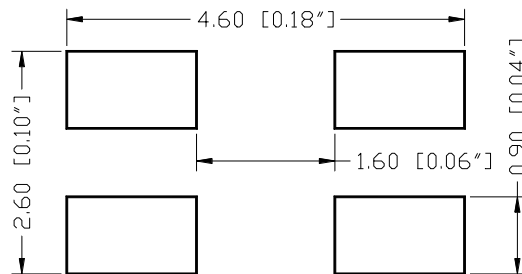


## Solder Profile & Footprint

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



### Recommended Pad Layout

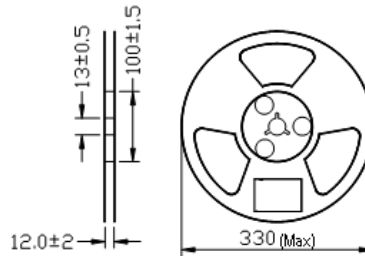


Units: mm

Tolerance:  $\pm 0.2$ mm

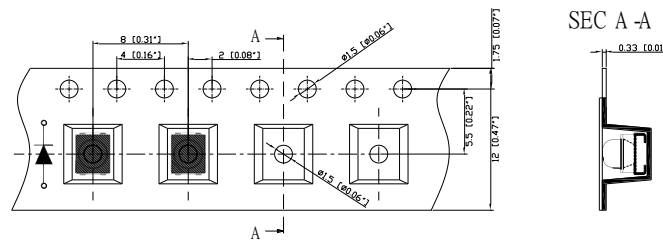
## Packing

Reel Dimension:



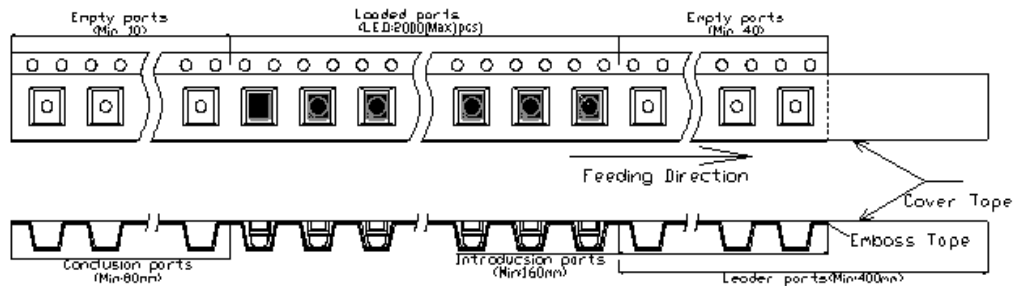
Unit: mm

Tape Dimension:

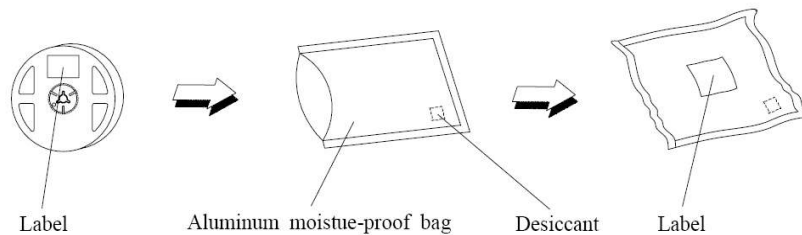


Unit: mm

Arrangement of Tape:



Packaging Specifications:



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QBLP677AD-RGB2

PLCC4 RGB LED  
with lens

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### Ordering Information

Part #	Orderable Part #	Spec Range	Quantity per reel
QBLP677AD-RGB2	QBLP677AD-RGB2	Based on page 4 and 5	2,000 units



## Revision History

Description:	Revision #	Revision Date
New Release of QBLP677AD-RGB2	V1.0	06/18/2018
Error correction on the drawing dimension	V1.1	11/23/2020

## Disclaimer

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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.