

**QT-Brightek PLCC2 Series**  
**PLCC2 Reverse Mount LED**  
**Part No.: QBLP670R-R**

---

**Table of Contents:**

Introduction .....	3
Electrical / Optical Characteristic (T=25 °C) .....	4
Absolute Maximum Rating .....	4
Characteristic Curves (Ta=25°C) .....	5
Solder Profile & Footprint .....	6
Packing .....	7
Labeling .....	8
Ordering Information .....	8
Disclaimer .....	9

## Introduction

**Feature:**

- Package in tape and reel
- Ultra bright reflector type PLCC2 LED
- AlInGaP technology for Red
- 120 degree viewing angle
- Reverse Mountable

**Description:**

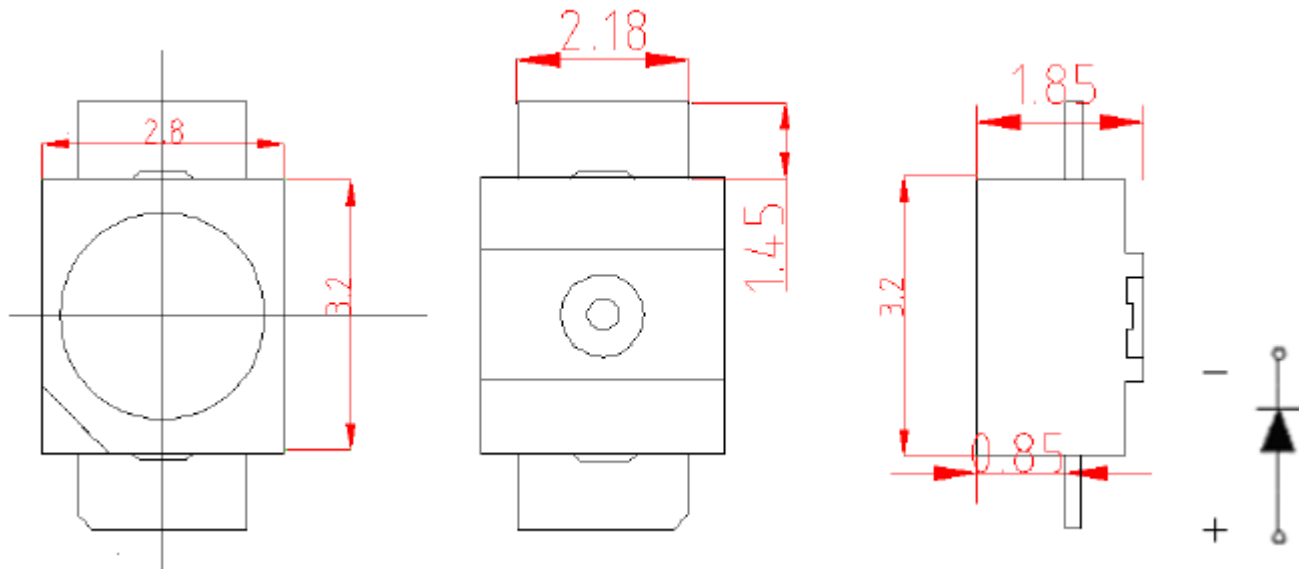
These ultra bright reflector type PLCC2 LEDs have a height profile of 1.85mm. With a combination of high brightness output and robust package, these LEDs are ideal for architecture lighting, status indication, and industrial equipment lighting applications.

**Application:**

- Status indication
- Industrial equipment backlighting
- Architecture lighting

**Certification & Compliance:**

- TS16949
- ISO9001
- RoHS Compliant

**Dimension:**

Units: mm / tolerance = +/-0.2mm

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

Product	Color	I <sub>F</sub> (mA)	V <sub>F</sub> (V)		λ <sub>D</sub> (nm)			I <sub>V</sub> (mcd)	
			Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.
QBLP670R-R	Red	20	2.0	2.4	615	623	630	490	760

### 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)**
AllnGaP	75	30	125	5	-40 ~ +85	-40 ~ +100	260

\*Duty 1/10 @ 1KHz

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

### Forward Voltage V<sub>F</sub> @ I<sub>F</sub>=20mA

Bin	Min.	Max.	Unit
V1B	1.5	1.8	V
V1C	1.8	2.1	
V2A	2.1	2.4	

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

Bin	Min.	Max.	Unit
25	490	640	mcd
26	640	830	
27	830	1080	

### Dominant Wavelength λ<sub>D</sub> for Red @ I<sub>F</sub>=20mA

Bin	Min.	Max.	Unit
A5	615	620	nm
R1	620	625	
R2	625	630	

Note:

Tolerance of measurement of forward voltage: ±0.1V

Tolerance of measurement of luminous intensity: ±15%

Tolerance of measurement of dominant wavelength: ±2nm

**Characteristic Curves (Ta=25°C)**

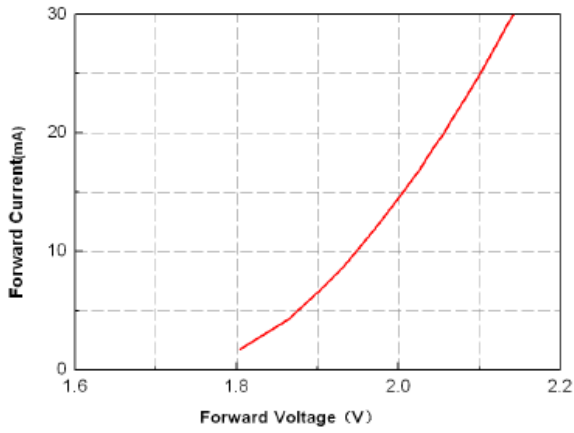


Figure1. Forward Current VS. Forward Voltage

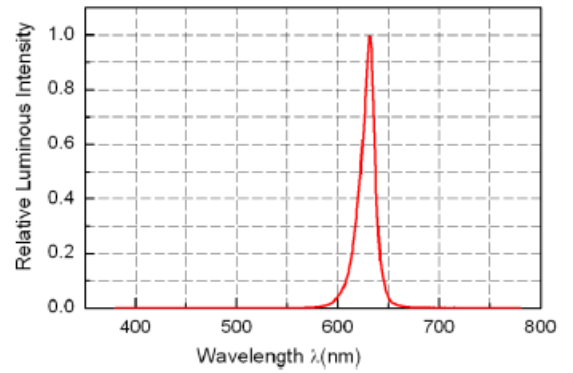


Figure2. Spectral Power Distribution vs. Wavelength

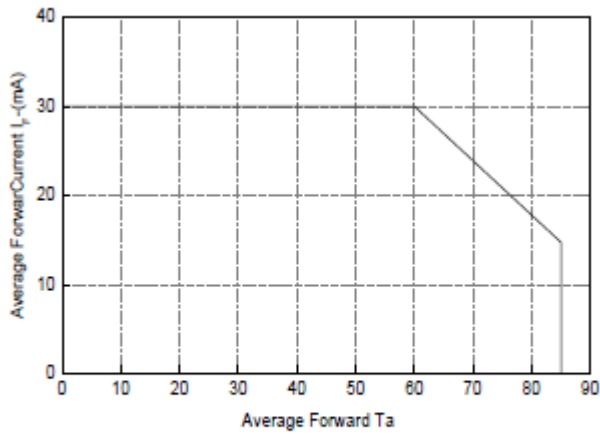


Figure3. Forward Current vs. Ambient Temperature

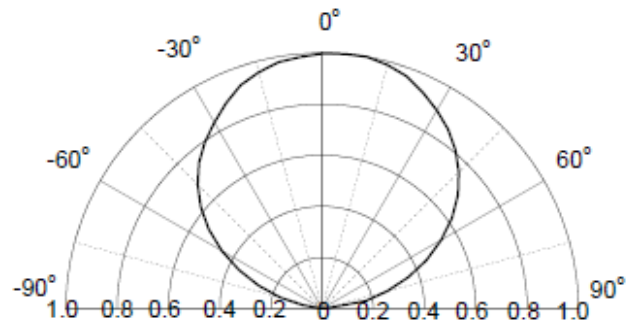
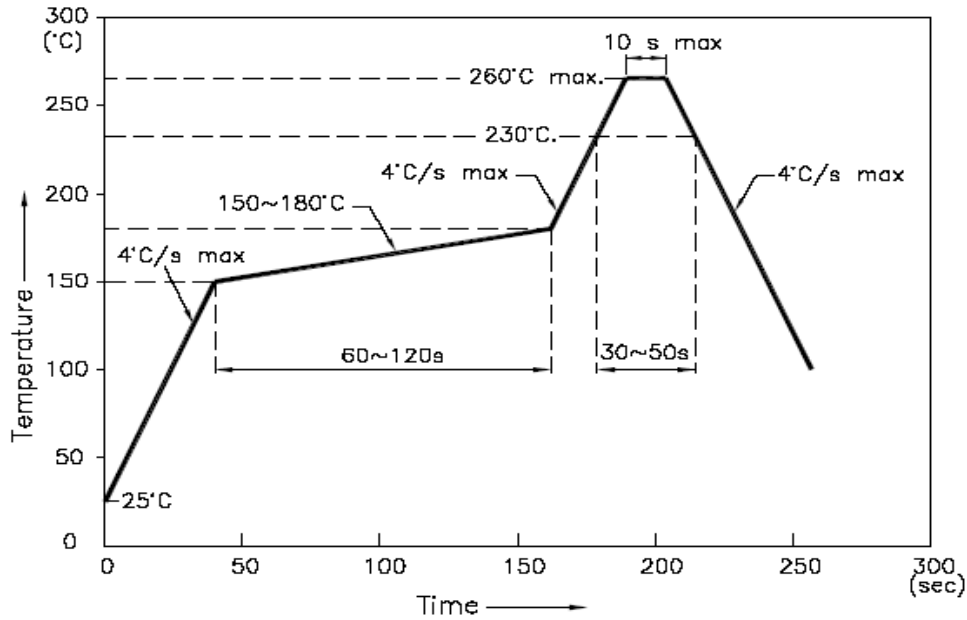


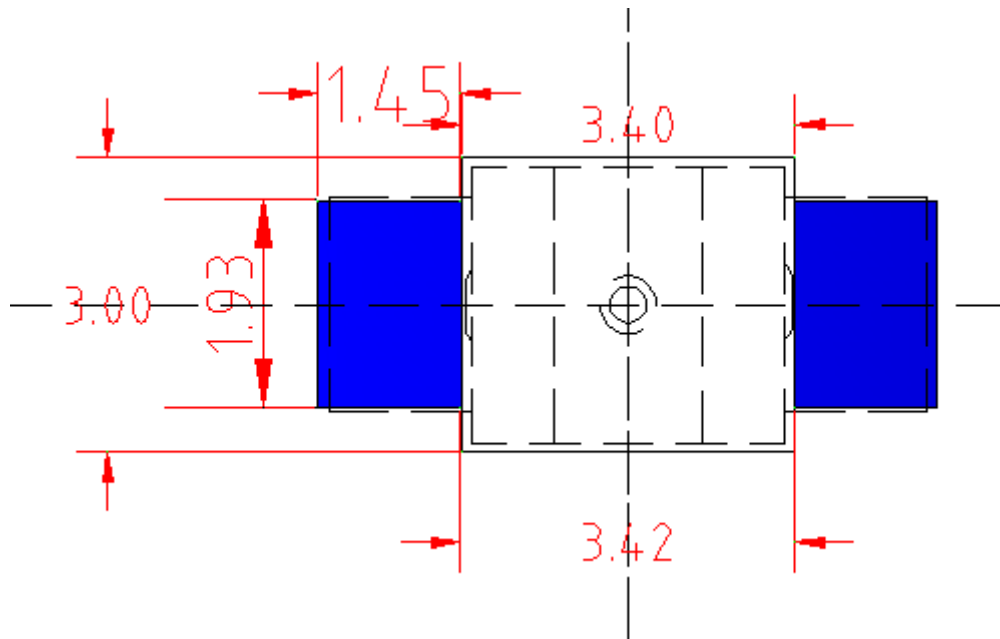
Figure4. Relative Luminosity VS. Radiation Angle

### 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

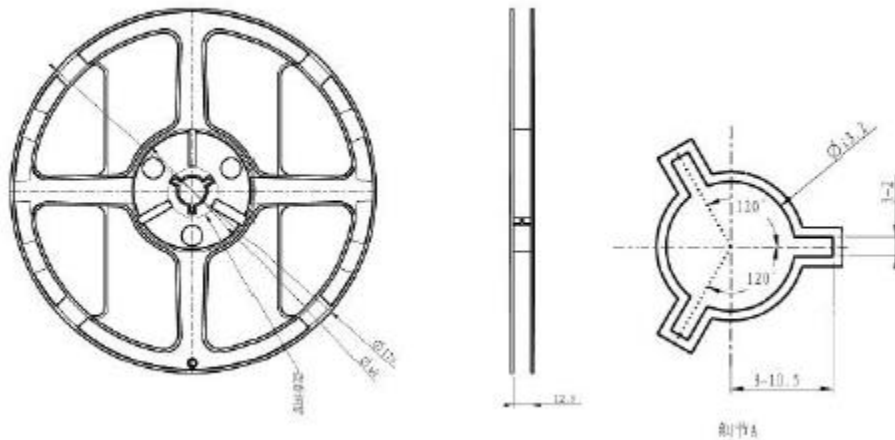


Units: mm

Tolerance: ± 0.2mm

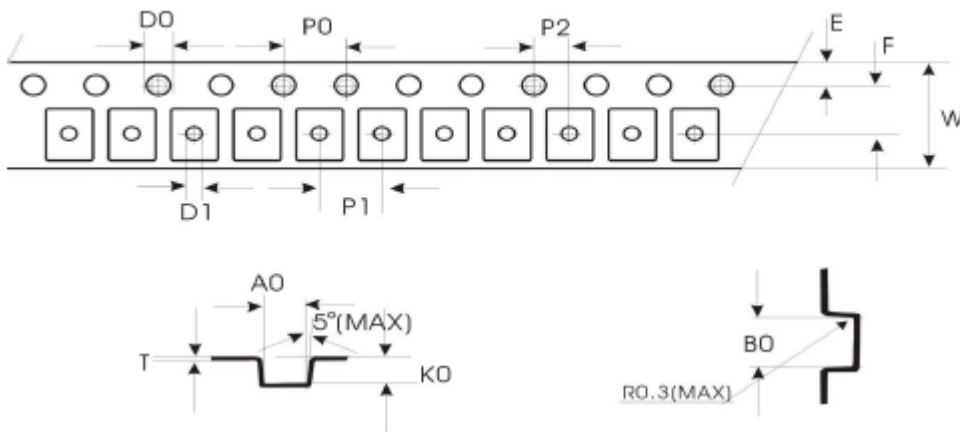
## Packing

Reel Dimension:



Unit: mm

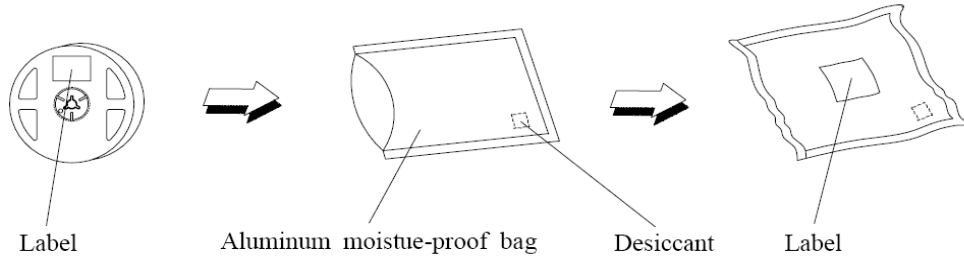
Tape Dimension:



Symbol	A0	B0	K0	P0	P1	P2	T
Spec	3.07±0.1	5.80±0.1	2.42±0.1	4.0±0.1	4.0±0.1	2.00±0.1	0.25±0.05
Symbol	E	F	D0	D1	W	10P0	
Spec	1.75±0.10	5.5±0.05	1.55±0.1	1.50±0.1	12±0.1	40.0±0.2	

Unit: mm

## Packaging Specifications:



## 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
QBLP670R-R	QBLP670R-R	--	2,000 units



## Revision History

Description:	Revision #	Revision Date
New Release of QBLP670R-R	V1.0	06/13/2017

## Disclaimer

QT-BRIGHTTEK reserves the right to make changes without further notice to any products herein to improve reliability, function or design. QT-BRIGHTTEK does not assume any liability arising out of the application or use of any product or circuit described herein; neither does it convey any license under its patent rights, nor the rights of others.

## Life Support Policy

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.