

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

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## Introduction

**Feature:**

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

**Description:**

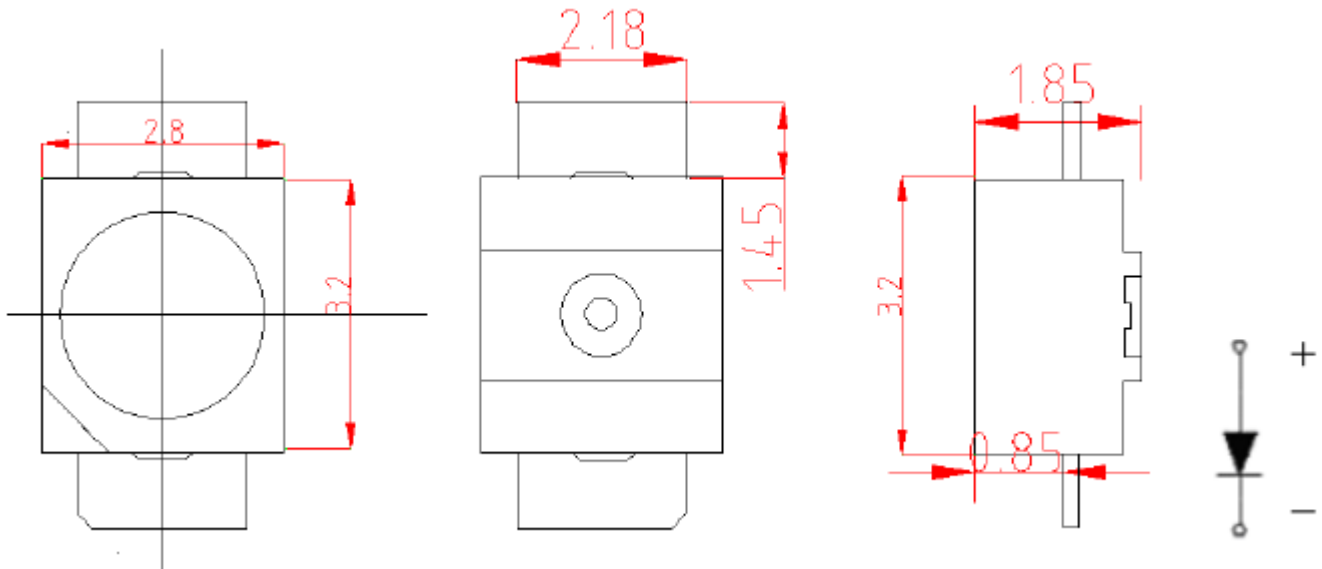
These ultra bright reflector type PLCC2 LEDs have a height profile of 1.85mm. With a combination of high brightness output and robust package, these LEDs are ideal for architecture lighting, status indication, and industrial equipment lighting applications.

**Application:**

- Status indication
- Industrial equipment backlighting
- Architecture lighting

**Certification & Compliance:**

- TS16949
- ISO9001
- RoHS Compliant

**Dimension:**

Units: mm / tolerance = +/-0.2mm

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

Product	Color	I <sub>F</sub> (mA)	V <sub>F</sub> (V)		CCT (K)			Φ <sub>v</sub> (lm)	
			Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.
QBLP670R-IW-CW	White	20	3.1	3.6	5300	6020	7050	6.5	8.5

### 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)**
InGaN	100	35	100	5	-40 to +85	-40 to +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
V2C	2.7	3.0	V
V3A	3.0	3.3	
V3B	3.3	3.6	

### Luminous Flux Φ<sub>v</sub> @ I<sub>F</sub>=20mA

Bin	Min.	Max.	Unit
P65	6.5	7.0	lm
P70	7.0	7.5	
P75	7.5	8.0	
P80	8.0	8.5	
P85	8.5	9.0	
P90	9.0	9.5	
P95	9.5	10	

### Correlated Color Temperature (CCT) @ I<sub>F</sub>=20mA

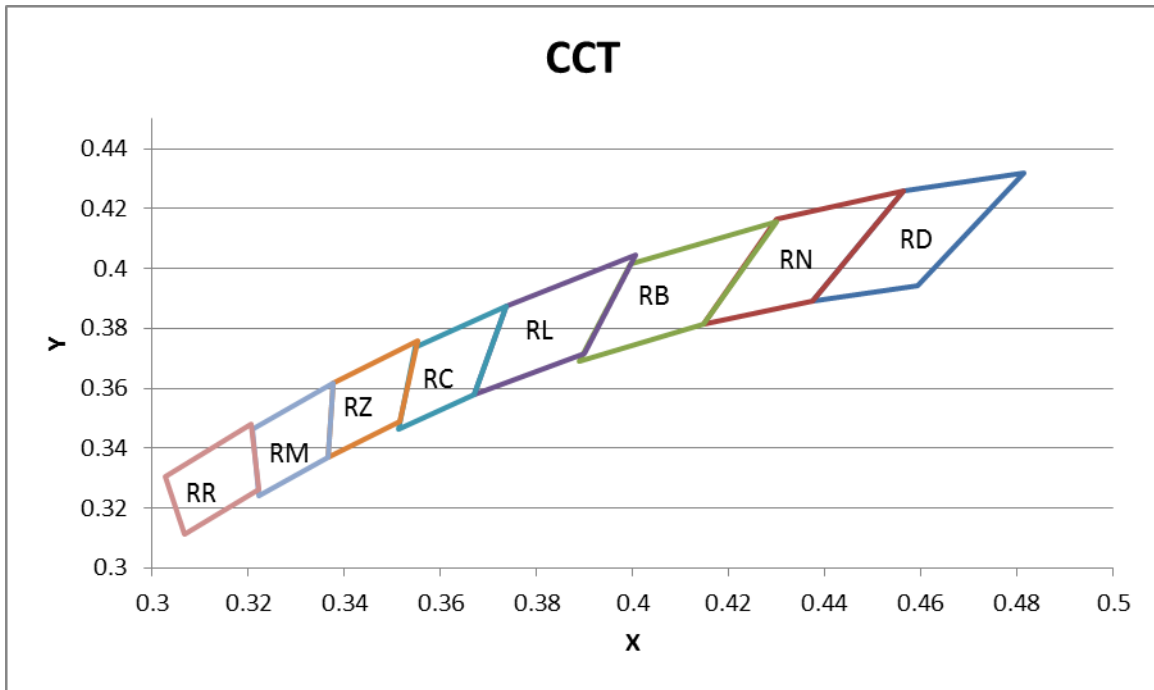
Bin	Min.	Max.	Unit
RM	5300	6020	K
RR	6020	7050	

Note:

Tolerance of measurement of forward voltage: ±0.1V

Tolerance of measurement of luminous flux: ±15%

## Correlated Color Temperature Chart



Color Ranks @ I <sub>F</sub> =20mA			
RM		RR	
0.3376	0.3616	0.3205	0.3481
0.3207	0.3462	0.3028	0.3304
0.3222	0.3243	0.3068	0.3113
0.3366	0.3369	0.3221	0.3261
0.3376	0.3616	0.3205	0.3481

Note:  
Tolerance of measurement of color coordinates: ±0.01

**Characteristic Curves (Ta=25°C)**

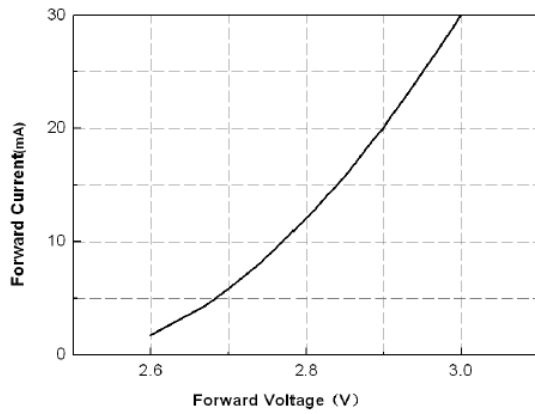


Figure1. Forward Current VS. Forward Voltage

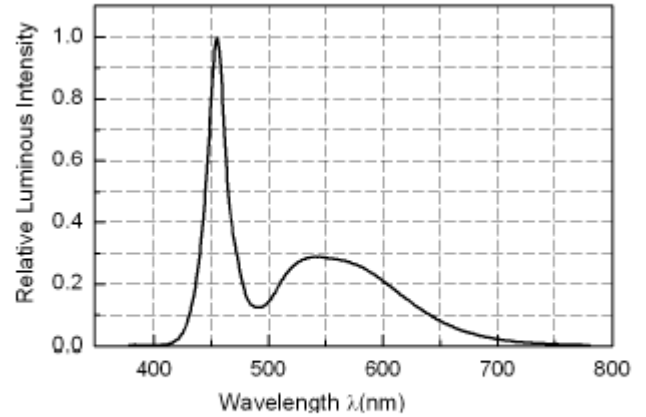


Figure2. Spectral Power Distribution vs. Wavelength

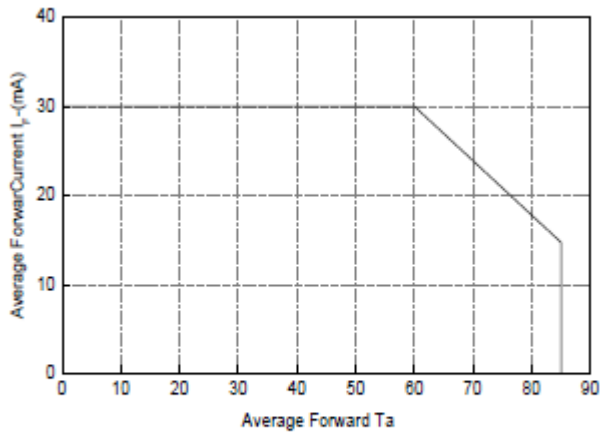


Figure3. Forward Current vs. Ambient Temperature

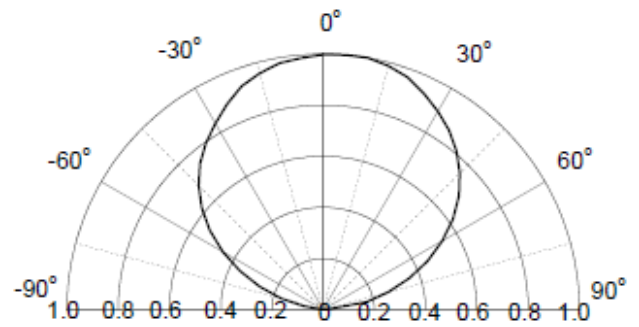
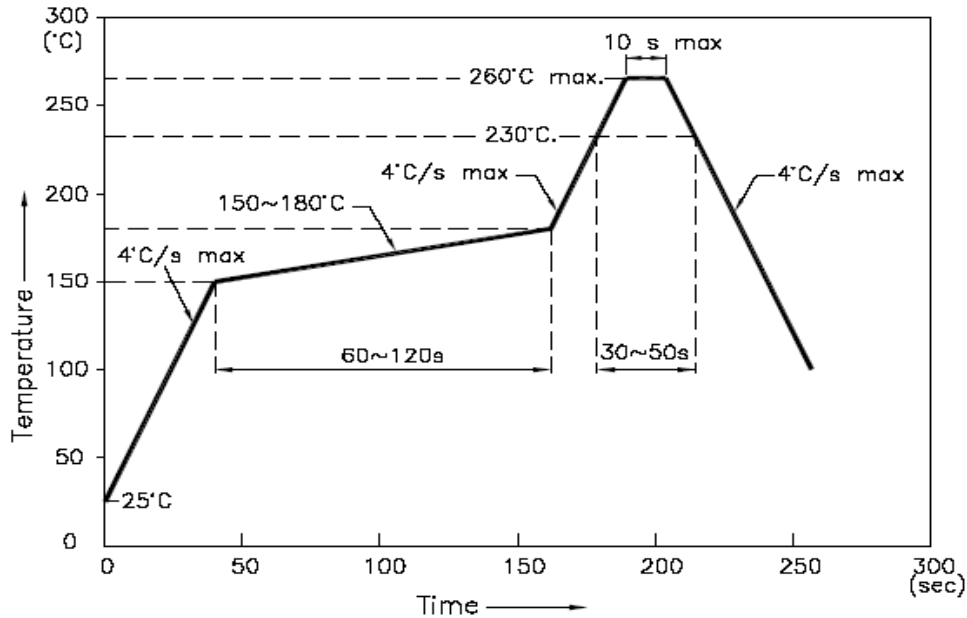


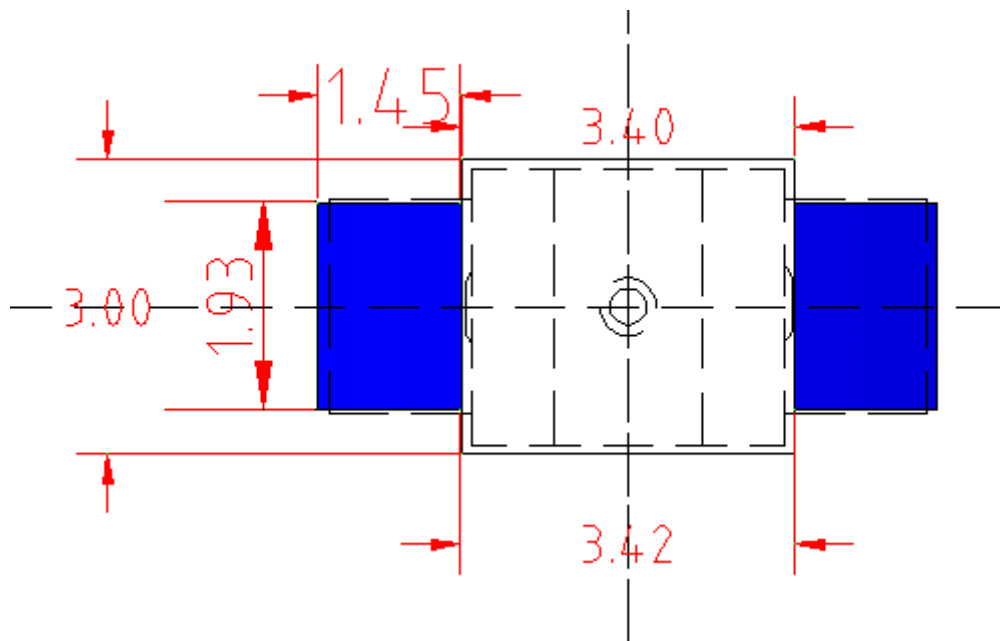
Figure4. Relative Luminosity VS. Radiation Angle

## 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

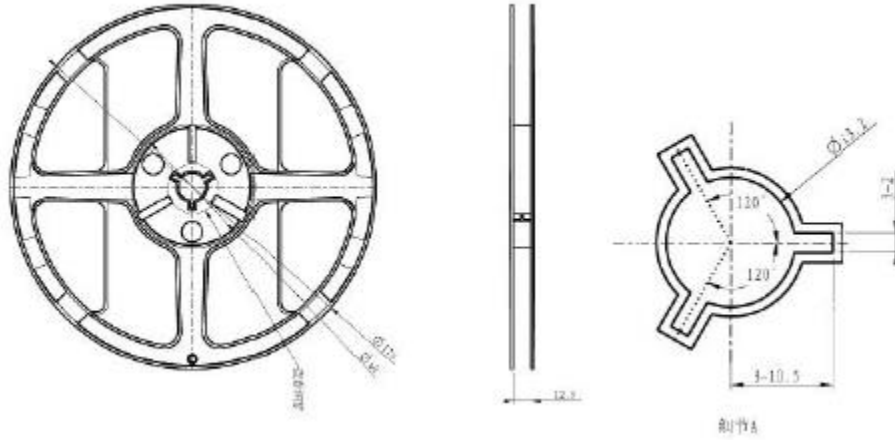


Units: mm

Tolerance: ± 0.2mm

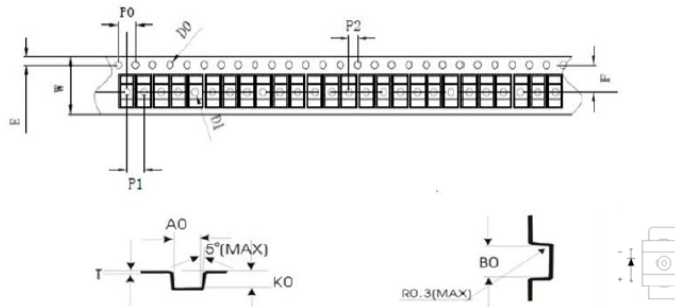
## Packing

Reel Dimension:



Unit: mm

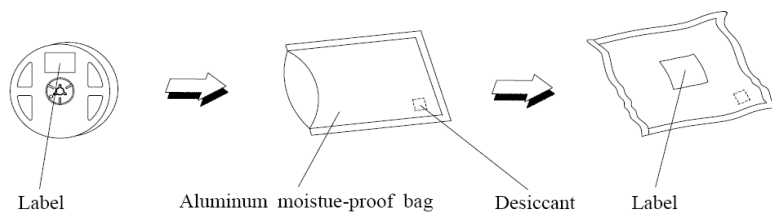
Tape Dimension:



Symbol	A0	B0	K0	P0	P1	P2	T
Spec	3.10±0.1	6.45±0.05	2.15±0.05	4.0±0.1	4.0±0.1	2.00±0.05	0.23±0.03
Symbol	E	F	D0	D1	W	10P0	
Spec	1.75±0.10	5.5±0.05	1.5±0.1	1.5±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-IW-CW	QBLP670R-IW-CW	$\Phi_v=8.5\text{lm typ. @ }20\text{mA}$ , CCT: 6020K typ.	2,000 units

## Revision History

Description:	Revision #	Revision Date
New Release of QBLP670R-IW-CW	V1.0	08/11/2017
Update Luminous Flux $\Phi_V$ Bins due to chip brightness improvement	V1.1	04/24/2021

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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.