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# QT-Brightek PLCC Series

## PLCC4 White LED

Part No.: QBLP1515-IW5-XX

XX = WW/NW/CW

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## Introduction

**Feature:**

- Package in tape and reel
- Ultra bright reflector type PLCC4 LED
- InGaN technology for White
- 120 degree viewing angle

**Description:**

These ultra bright reflector type PLCC4 LEDs have a height profile of 1.00mm. 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:**

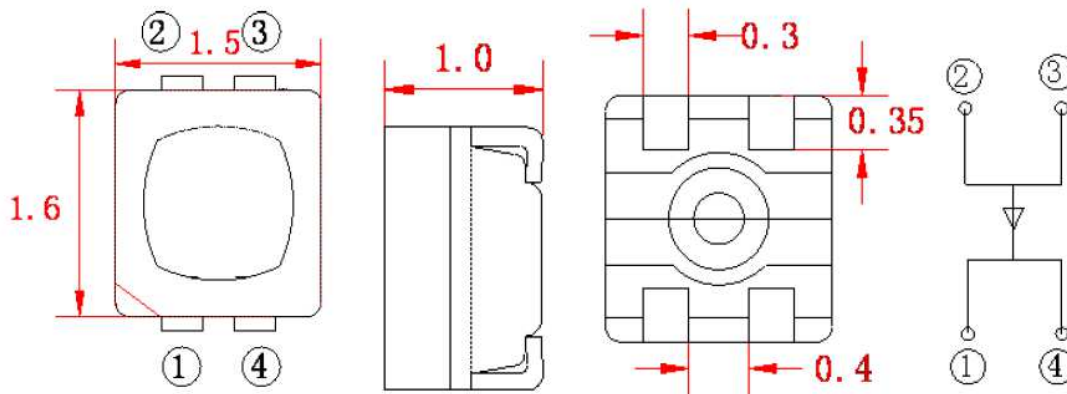
- Status indication
- Industrial equipment backlighting
- Architecture lighting

**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)		CCT(K)			I <sub>v</sub> (mcd)	
			Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.
QBLP1515-IW5-WW	Warm White	5	2.9	3.4	2760	3000	3260	290	450
QBLP1515-IW5-NW	Natural White	5	2.9	3.4	3640	4000	4240	290	490
QBLP1515-IW5-CW	Cool White	5	2.9	3.4	5300	6020	7050	290	530

### 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>SOL</sub> (°C)**
InGaN	55	15	60	5	-30 to +85	-40 to +85	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>=5mA

Bin	Min.	Max.	Unit
e	2.5	2.8	V
f	2.8	3.1	
g	3.1	3.4	

### Luminous Intensity I<sub>v</sub> for Warm White (WW) @ I<sub>F</sub>=5mA

Bin	Min.	Max.	Unit
23	290	380	mcd
24	380	490	
25	490	640	

### Luminous Intensity I<sub>v</sub> for Natural White (NW) @ I<sub>F</sub>=5mA

Bin	Min.	Max.	Unit
23	290	380	mcd
24	380	490	
25	490	640	

### Luminous Intensity I<sub>v</sub> for Cool White (CW) @ I<sub>F</sub>=5mA

Bin	Min.	Max.	Unit
23	290	380	mcd
24	380	490	
25	490	640	

Note:

Tolerance of measurement of forward voltage: ±0.1V

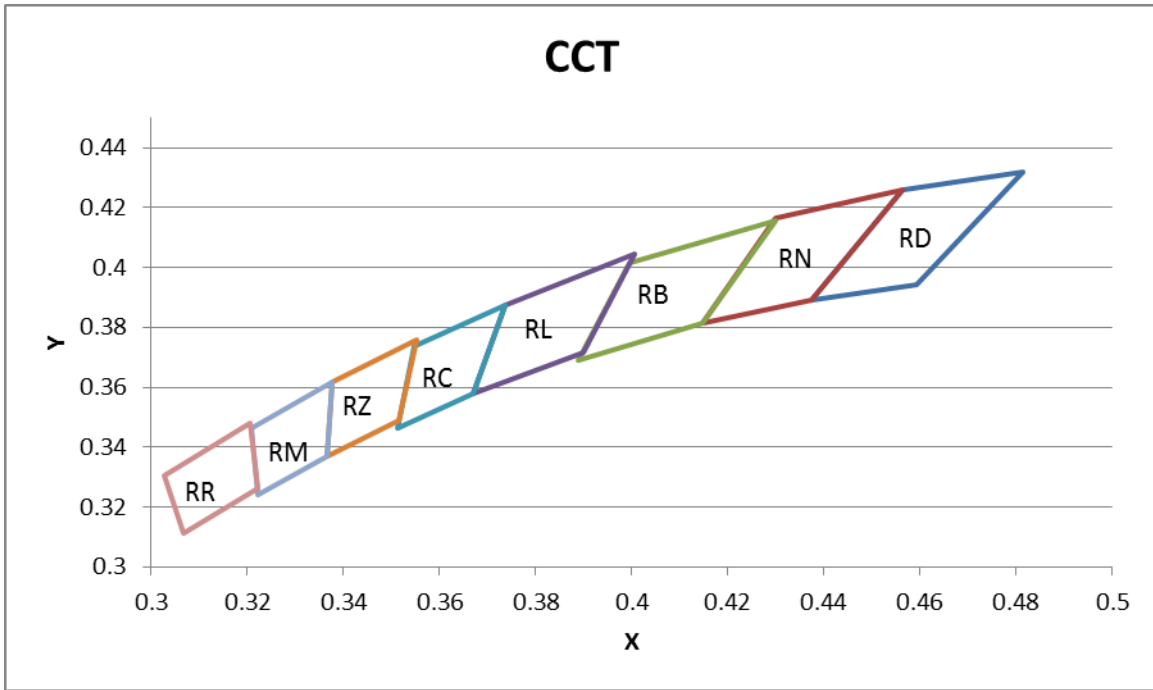
Tolerance of measurement of luminous intensity: ±15%

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**Correlated Color Temperature (CCT) @ I<sub>F</sub>=5mA**

Bin	Min.	Max.	Unit
RN	2760	3260	K
RL	3640	4240	
RM	5300	6020	
RR	6020	7050	

### Correlated Color Temperature Chart

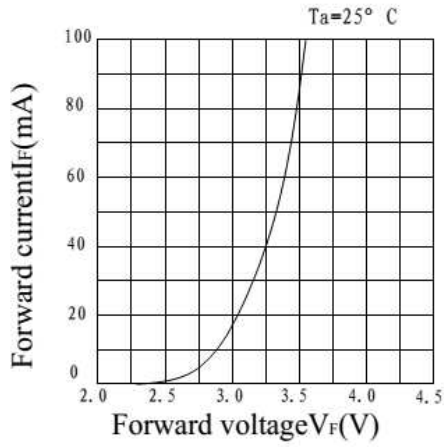


Color Ranks @ I <sub>F</sub> =5mA							
RD		RN		RB		RL	
0.4813	0.4319	0.4562	0.426	0.4299	0.4156	0.4006	0.4044
0.4562	0.426	0.4299	0.4165	0.3996	0.4015	0.3736	0.3874
0.4373	0.3893	0.4147	0.3814	0.3889	0.369	0.367	0.3578
0.4593	0.3944	0.4373	0.3893	0.4147	0.3814	0.3898	0.3716
0.4813	0.4319	0.4562	0.426	0.4299	0.4156	0.4006	0.4044
RC		RZ		RM		RR	
0.3736	0.3874	0.3551	0.376	0.3376	0.3616	0.3205	0.3481
0.3548	0.3736	0.3376	0.3616	0.3207	0.3462	0.3028	0.3304
0.3512	0.3465	0.3366	0.3369	0.3222	0.3243	0.3068	0.3113
0.367	0.3578	0.3515	0.3487	0.3366	0.3369	0.3221	0.3261
0.3736	0.3874	0.3551	0.376	0.3376	0.3616	0.3205	0.3481

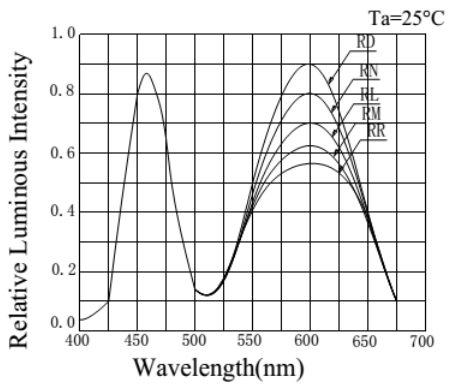
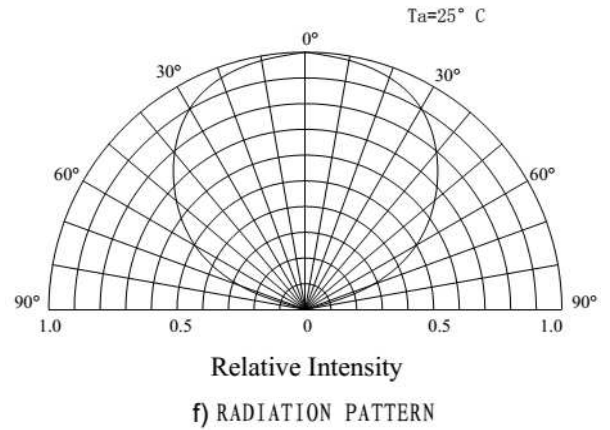
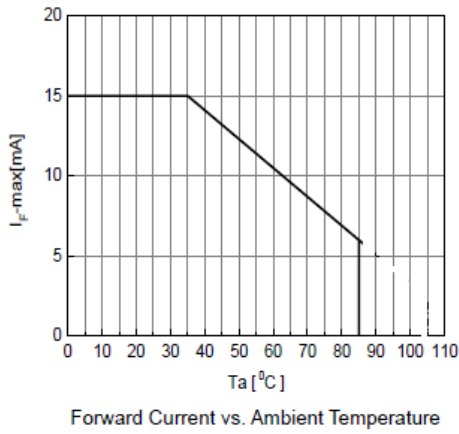
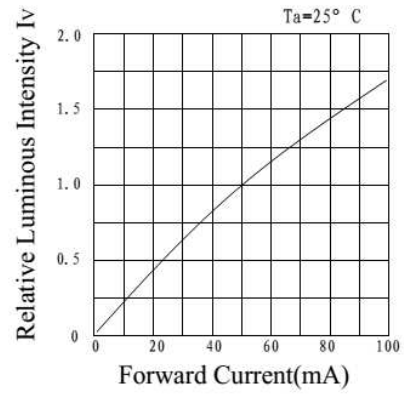
Note:  
Tolerance of measurement of color coordinates: ±0.01

## Characteristic Curves

FORWARD CURRENT VS. FORWARD VOLTAGE



RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

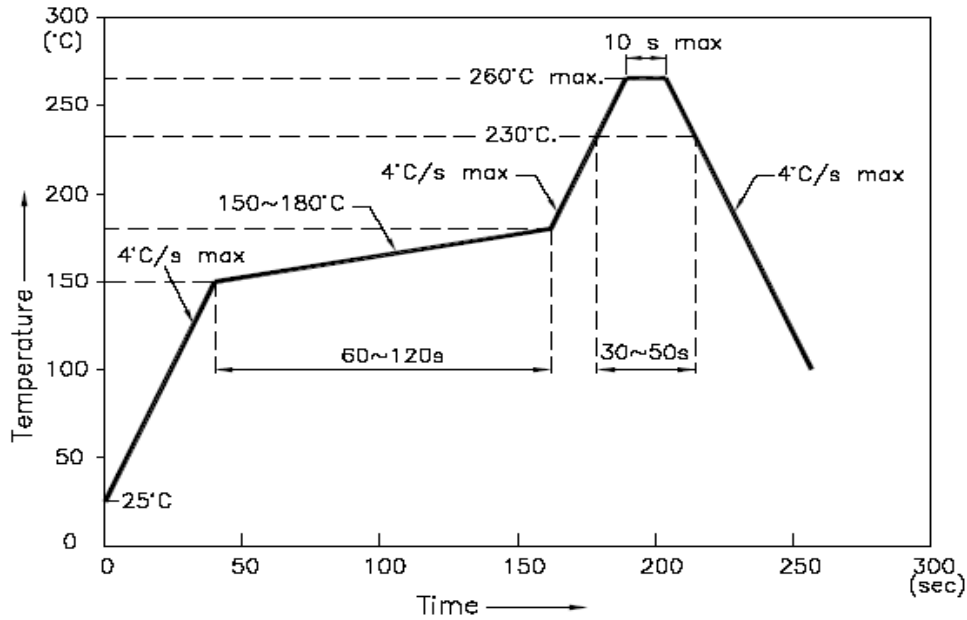


e) RELATIVE INTENSITY VS. WAVELENGTH

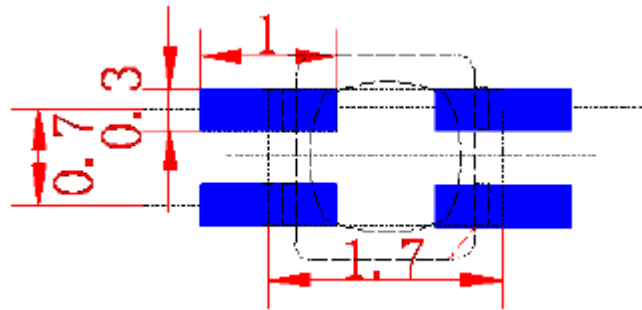


## Solder Profile & Footprint

- 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

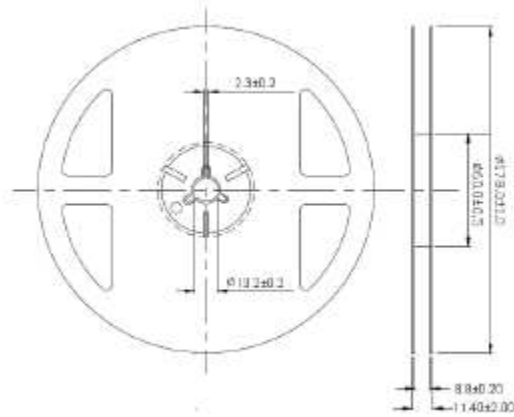


Units: mm

Tolerance: ± 0.2mm

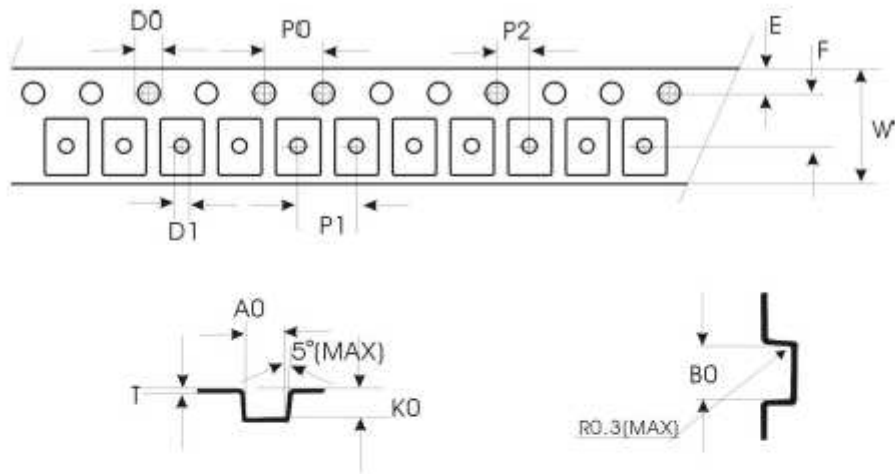
## Packing

Reel Dimension:



Unit: mm

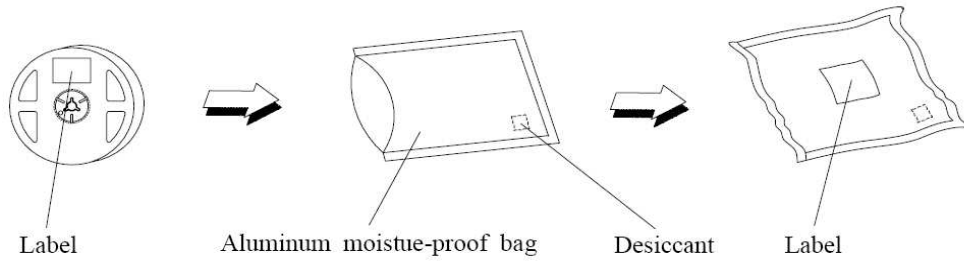
Tape Dimension:



Symbol	A0	B0	K0	P0	P1	P2	T
Spec	1.8±0.1	1.85±0.1	1.2±0.1	4.0±0.1	4.0±0.1	2.00±0.1	0.25±0.05
Symbol	E	F	D0	D1	W	P0	
Spec	1.75±0.10	3.50±0.05	1.5±0.1	1.0±0.1	8.0±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
QBLP1515-IW5-WW	QBLP1515-IW5-WW	Iv=450 mcd typ. @ 5mA / CCT=2760-3260K	4,000 units
QBLP1515-IW5-NW	QBLP1515-IW5-NW	Iv=490 mcd typ. @ 5mA / CCT=3640-4240K	4,000 units
QBLP1515-IW5-CW	QBLP1515-IW5-CW	Iv=530 mcd typ. @ 5mA / CCT=5300-7050K	4,000 units

**Revision History**

Description:	Revision #	Revision Date
New Release of QBLP1515-IW5-XX	V1.0	11/17/2015
Amend the brightness of CW	V1.1	03/15/2016

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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.