

**QT-Brightek Chip LED Series**

**SMD 1204 White LED**

**Part No.: QBLP613-IW-XX**

**XX=NW/CW**

---

**Table of Contents:**

Introduction .....	3
Electrical / Optical Characteristic (Ta=25 °C) .....	4
Absolute Maximum Rating .....	4
Correlated Color Temperature Chart .....	5
Characteristic Curves.....	7
Solder Profile & Footprint.....	8
Packing .....	9
Labeling .....	10
Ordering Information .....	10
Revision History .....	11
Disclaimer .....	11

Product: QBLP613-IW-XX	Date: March 27, 2014	Page 2 of 11
	Version# 1.0	

## Introduction

**Feature:**

- Water clear lens
- Package in tape and reel
- Side View Ultra bright 1204 LED package
- InGaN technology for IW
- Viewing Angle = 150 deg

**Description:**

These ultra bright 1204 LEDs have a height profile of 1.0mm. With higher packing density and smaller footprint, these LEDs are ideal for smaller equipment and miniature application.

**Application:**

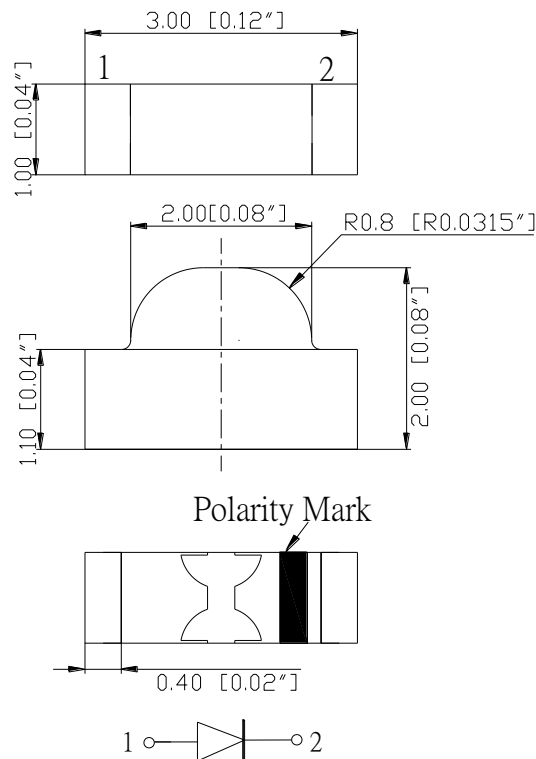
- Status indication
- Back lighting application
- General Use

**Certification & Compliance:**

- TS16949
- ISO9001
- RoHS Compliant



**Dimension:**



Units: mm / tolerance = +/-0.1mm

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

Product	Color	I <sub>F</sub> (mA)	V <sub>F</sub> (V)		Chromaticity			I <sub>V</sub> (mcd)	
			Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.
QBLP613-IW-NW	Natural White	20	3.2	3.7	-	X:0.40 Y: 0.41	-	125	240
QBLP613-IW-CW	Cool White	20	3.2	3.7	-	X:0.28 Y: 0.29	-	125	240

### 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 (IW)	111	30	125	5	-40 ~ +80	-40 ~ +85	260

\*Duty 1/8 @ 1KHz

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

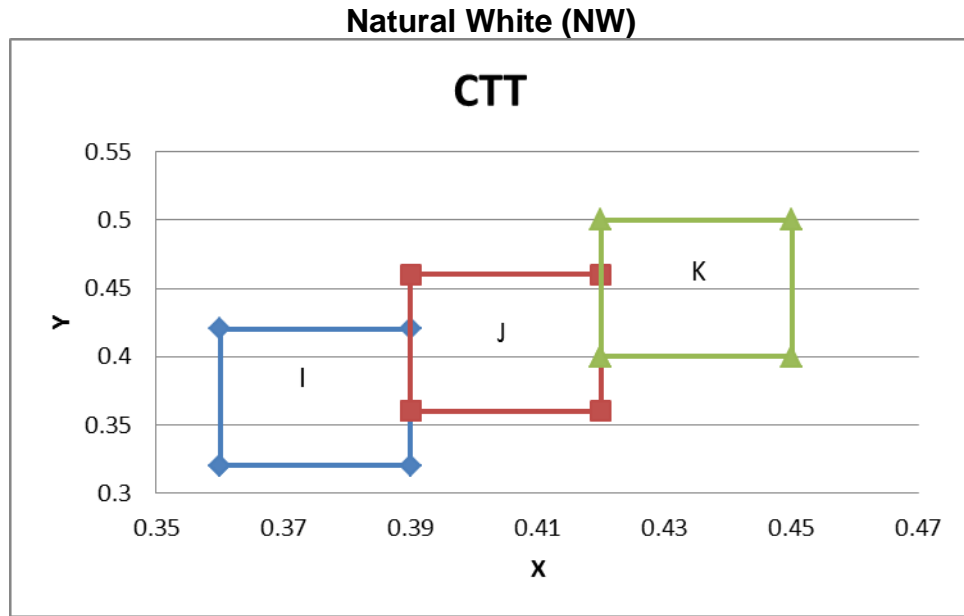
### Forward Voltage V<sub>F</sub> @ I<sub>F</sub>=20mA

Bin	Min.	Max.	Unit
f	2.8	3.1	V
g	3.1	3.4	
h	3.4	3.7	

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

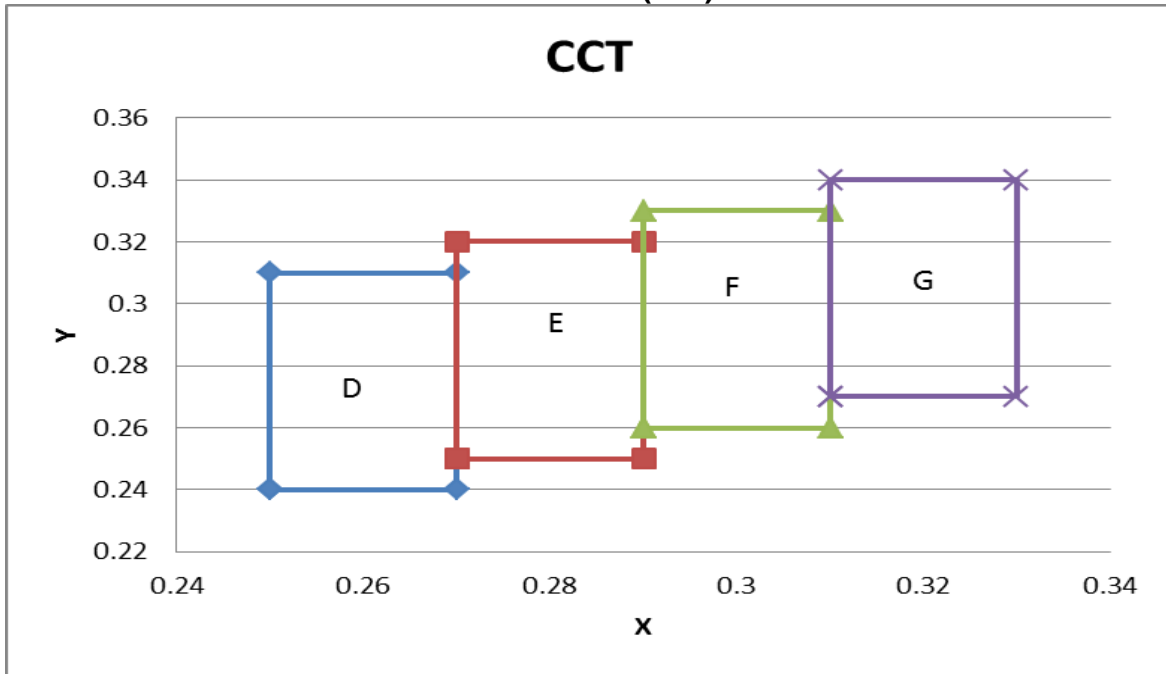
Bin	Min.	Max.	Unit
K	125	160	mcd
L	160	200	
M	200	250	
N	250	320	
O	320	400	

## Correlated Color Temperature Chart



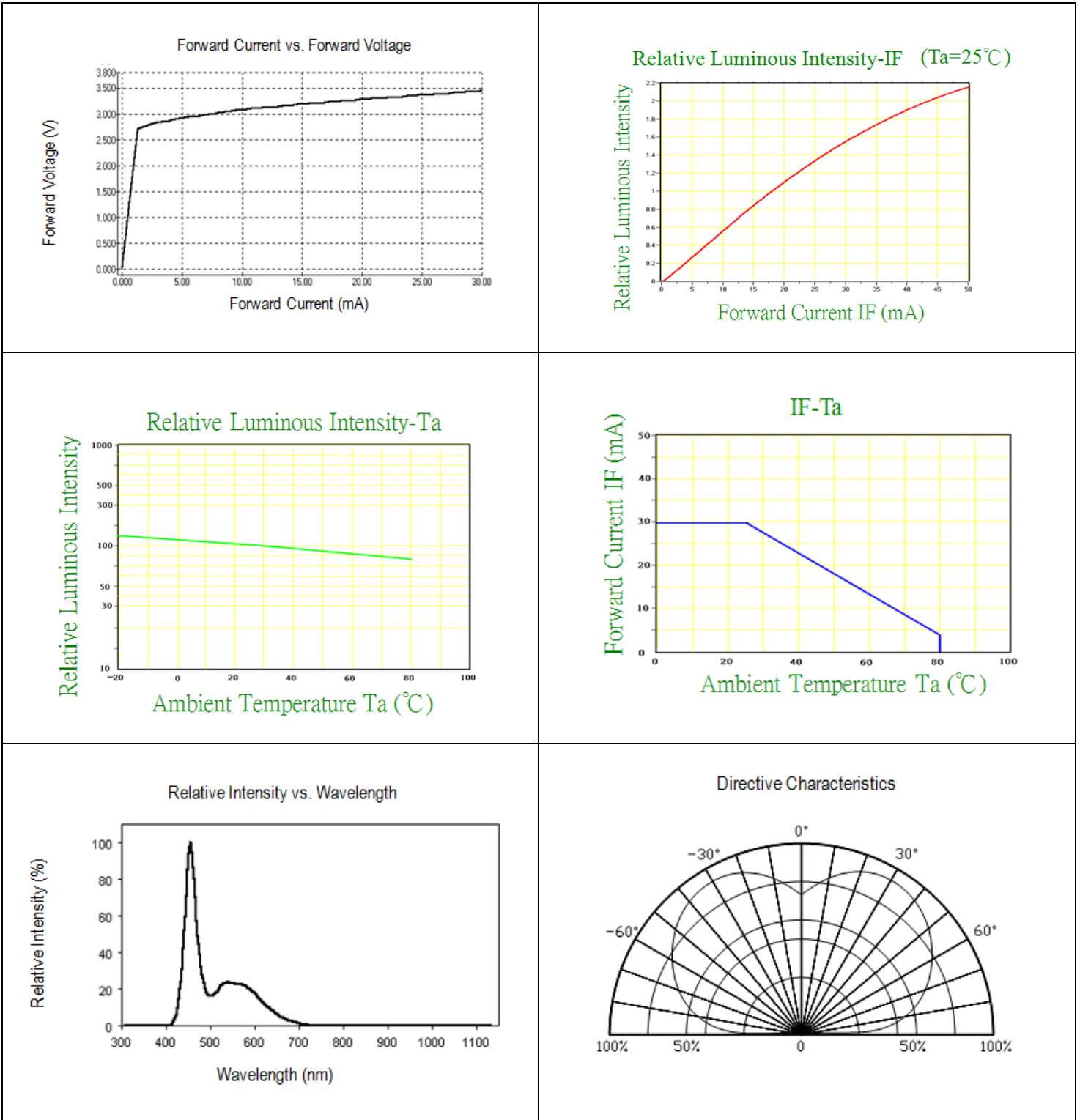
I		J		K	
X	Y	X	Y	X	Y
0.36	0.32	0.39	0.36	0.42	0.40
0.36	0.42	0.39	0.46	0.42	0.50
0.39	0.42	0.42	0.46	0.45	0.50
0.39	0.32	0.42	0.36	0.45	0.40
0.36	0.32	0.39	0.36	0.42	0.40

**Cool White (CW)**



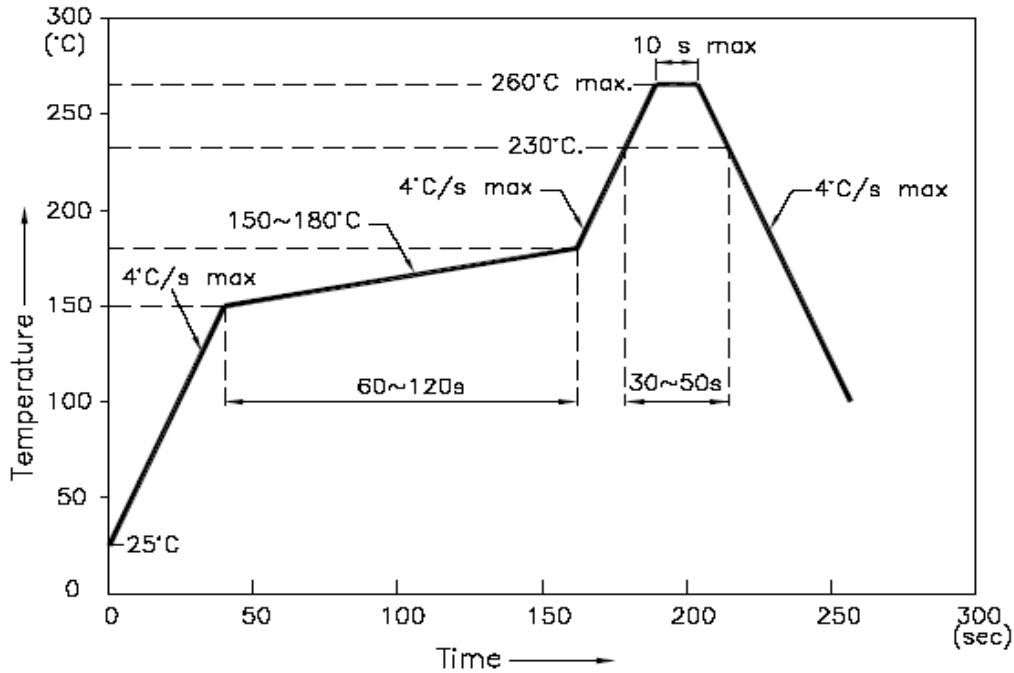
D		E		F		G	
X	Y	X	Y	X	Y	X	Y
0.25	0.24	0.27	0.25	0.29	0.26	0.31	0.27
0.25	0.31	0.27	0.32	0.29	0.33	0.31	0.34
0.27	0.31	0.29	0.32	0.31	0.33	0.33	0.34
0.27	0.24	0.29	0.25	0.31	0.26	0.33	0.27
0.25	0.24	0.27	0.25	0.29	0.26	0.31	0.27

**Characteristic Curves**

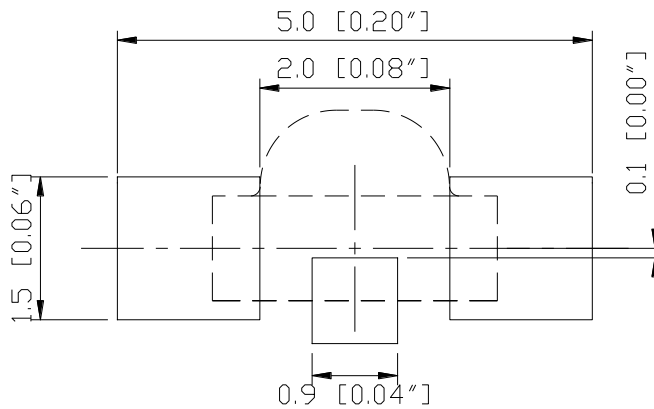


## Solder Profile & Footprint

- 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

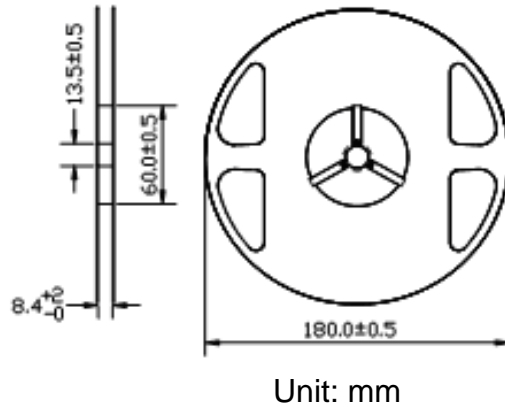
Tolerance: ± 0.1mm

Product: QBLP613-IW-XX	Date: March 27, 2014	Page 8 of 11
	Version# 1.0	

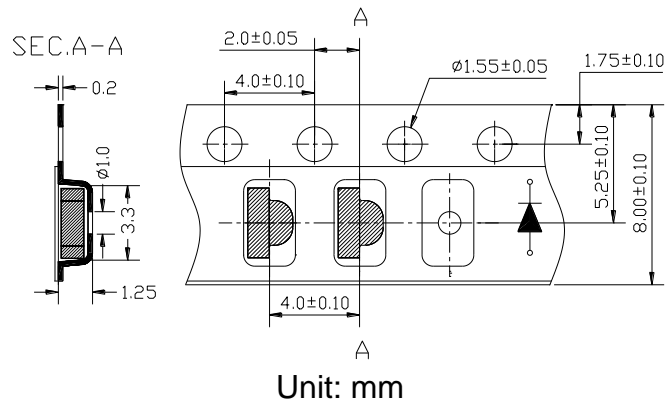


## Packing

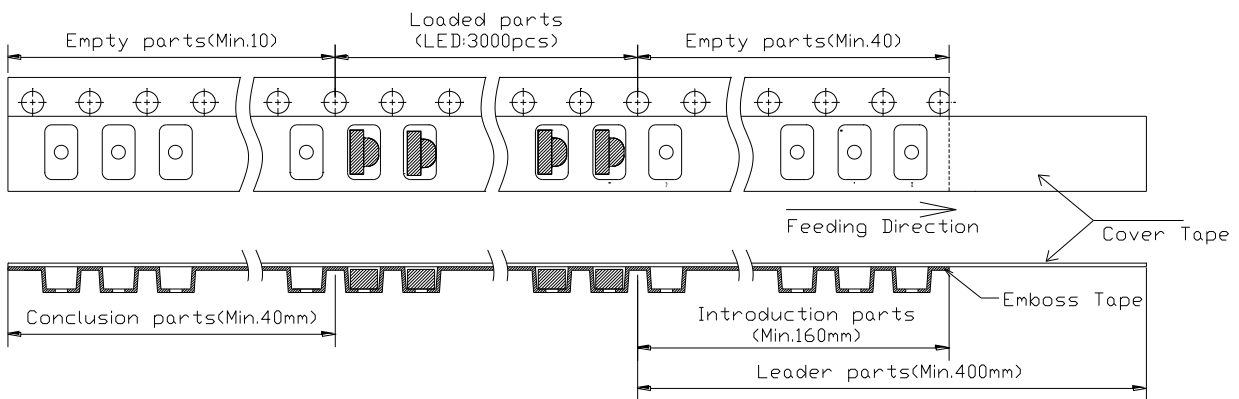
Reel Dimension:



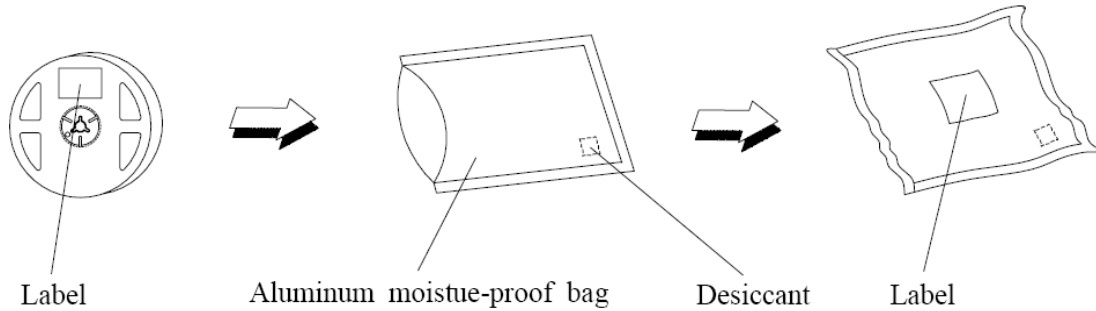
Tape Dimension:



Arrangement of Tape:



## Packaging Specification:



## 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
QBLP613-IW-NW	QBLP613-IW-NW	Iv=240mcd typ. @ 20mA / Chromaticity: (X,Y)=(0.40, 0.41) typ.	3,000 units
QBLP613-IW-CW	QBLP613-IW-CW	Iv=240mcd typ. @ 20mA / Chromaticity: (X, Y)=(0.28, 0.29) typ.	3,000 units

Product: QBLP613-IW-XX	Date: March 27, 2014	Page 10 of 11
	Version# 1.0	

## Revision History

Description:	Revision #	Revision Date
New Release of QBLP613-IW-XX	V1.0	03/27/2014

## 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.

Product: QBLP613-IW-XX	Date: March 27, 2014	Page 11 of 11
	Version# 1.0	