

# **QT-Brightek Chip LED Series**

## **SMD 1204 White LED**

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

**XX=NW/CW**

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## 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:**

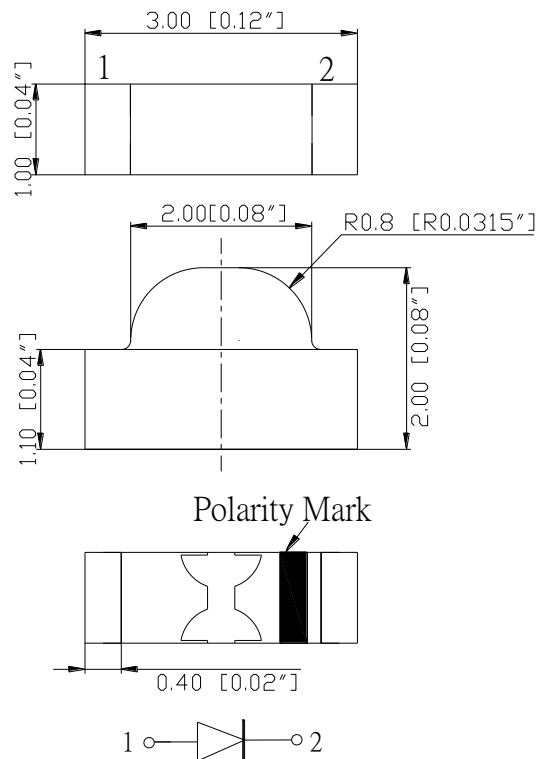
- Status indication
- Back lighting application
- General Use

**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

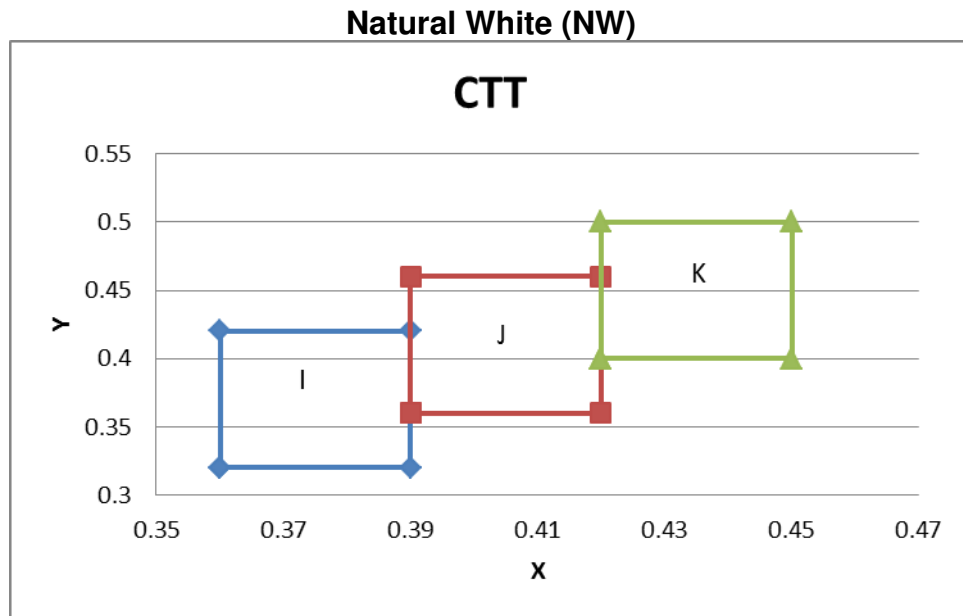
### Forward Voltage V<sub>F</sub> @ I<sub>F</sub>=20mA

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

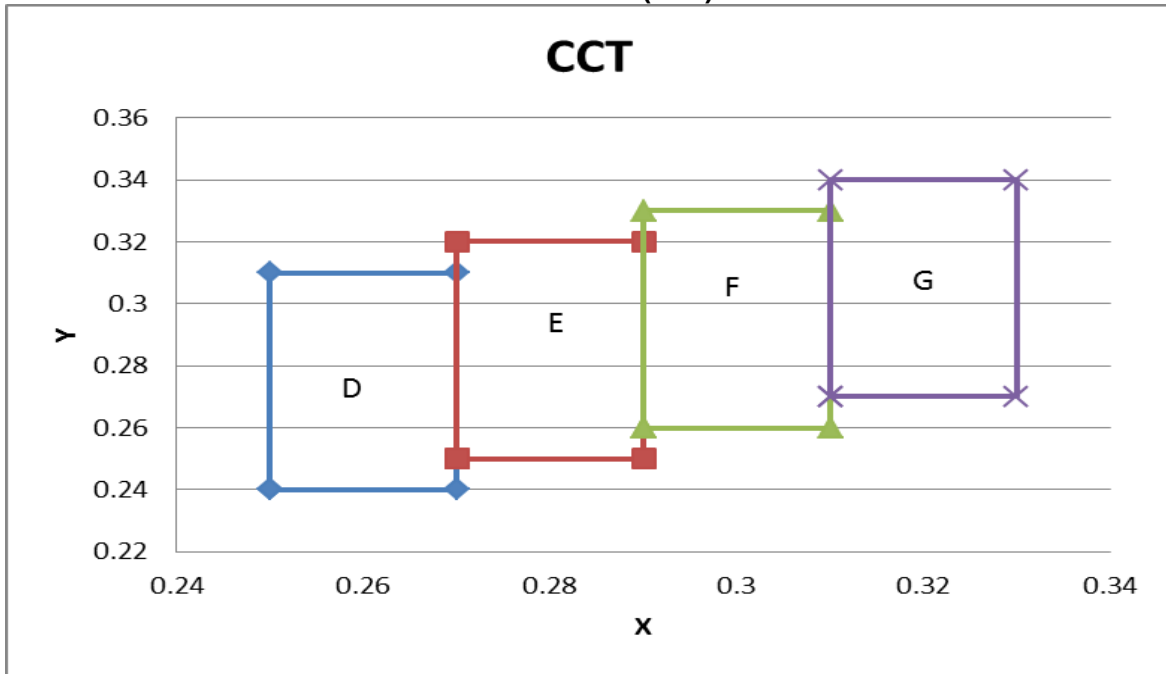
Bin	Min.	Max.	Unit
K	125	160	mcd
L	160	200	
M	200	250	
N	250	320	
O	320	400	

## Correlated Color Temperature Chart



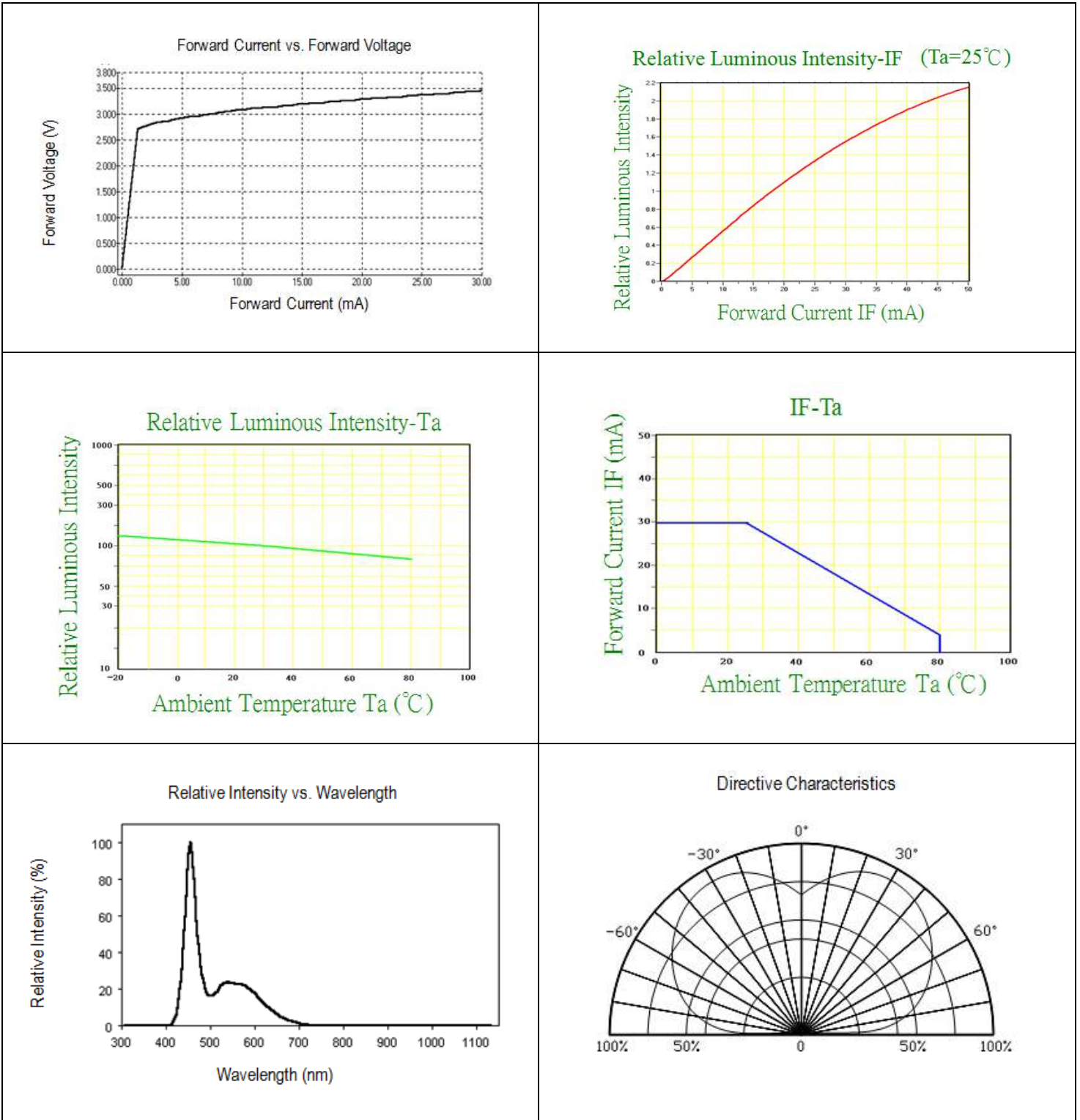
I		J		K	
X	Y	X	Y	X	Y
0.36	0.32	0.39	0.36	0.42	0.40
0.36	0.42	0.39	0.46	0.42	0.50
0.39	0.42	0.42	0.46	0.45	0.50
0.39	0.32	0.42	0.36	0.45	0.40
0.36	0.32	0.39	0.36	0.42	0.40

**Cool White (CW)**



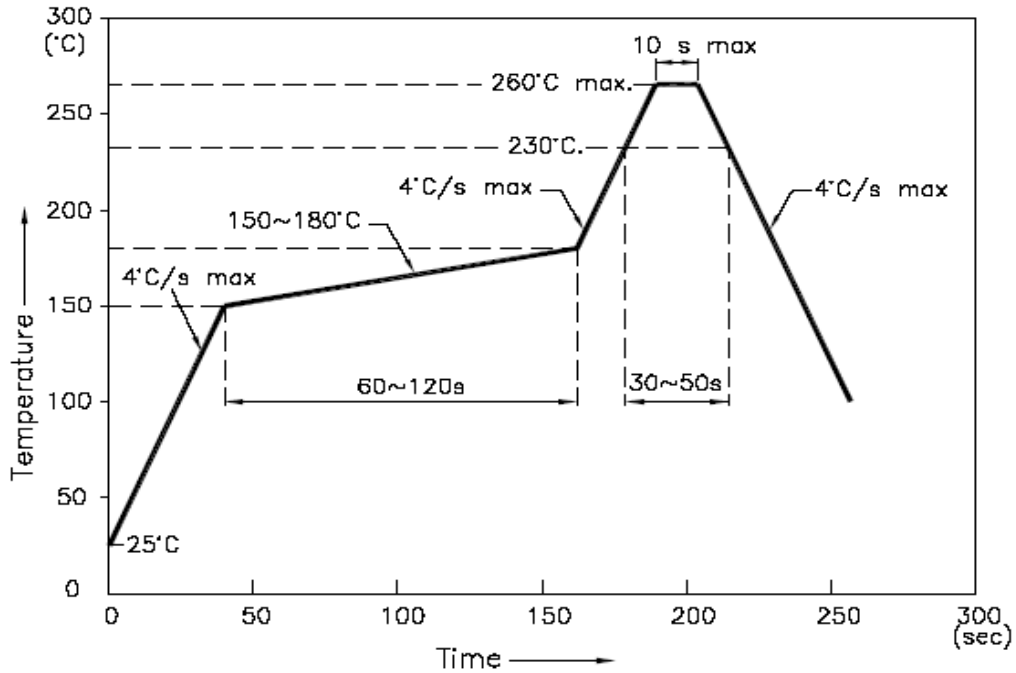
D		E		F		G	
X	Y	X	Y	X	Y	X	Y
0.25	0.24	0.27	0.25	0.29	0.26	0.31	0.27
0.25	0.31	0.27	0.32	0.29	0.33	0.31	0.34
0.27	0.31	0.29	0.32	0.31	0.33	0.33	0.34
0.27	0.24	0.29	0.25	0.31	0.26	0.33	0.27
0.25	0.24	0.27	0.25	0.29	0.26	0.31	0.27

**Characteristic Curves**

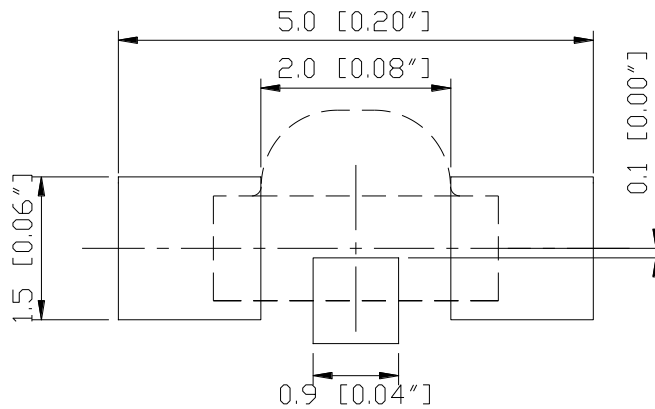


## Solder Profile & Footprint

- 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

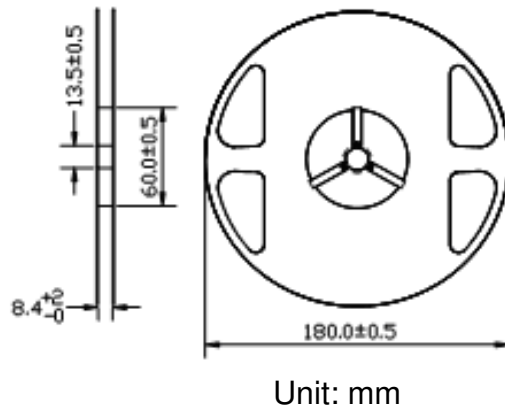
Tolerance: ± 0.1mm

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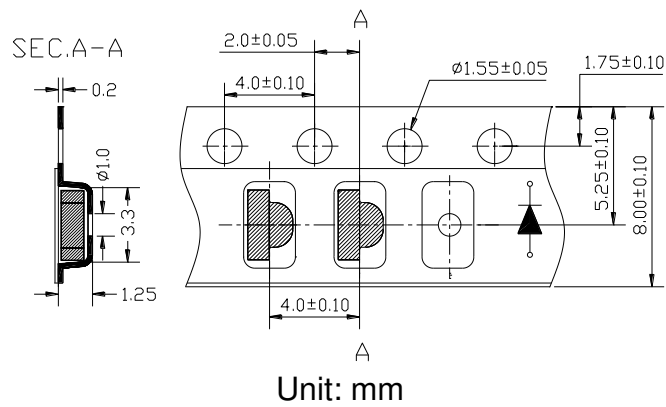


## Packing

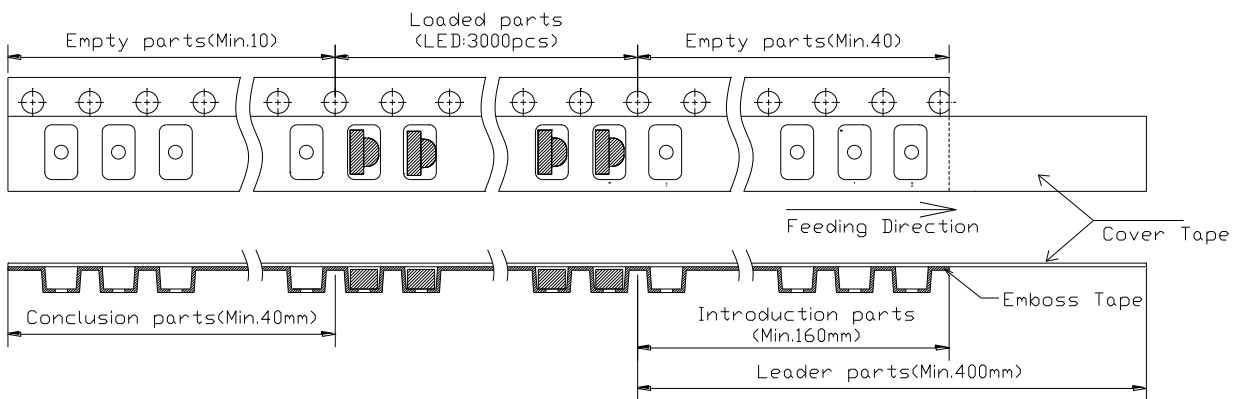
Reel Dimension:



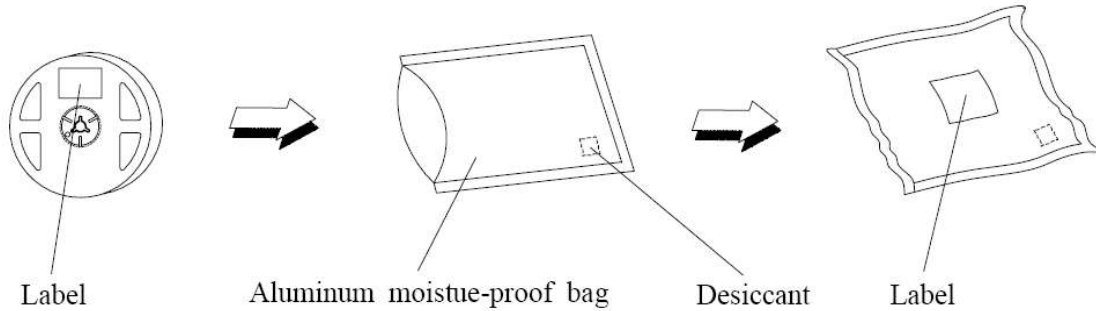
Tape Dimension:



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

**Revision History**

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

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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.

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