

## QT-Brightek High Power Series

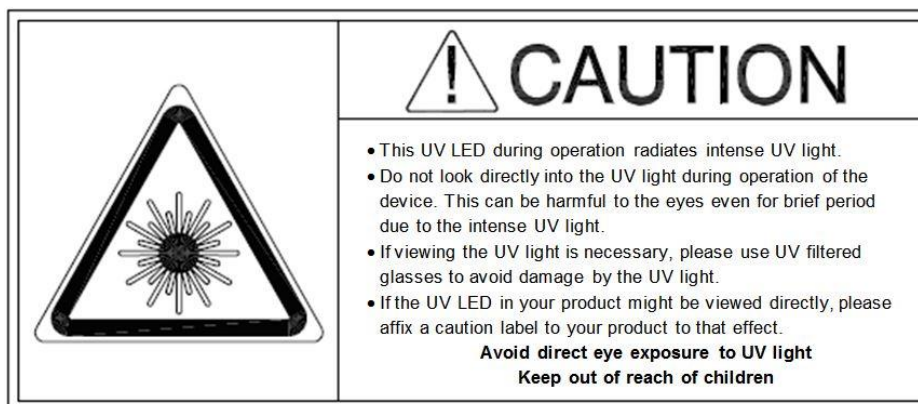
### 1W High Power 3939 UVC LED

**Part No.: QBHP3939E-UV275YN**

**Y: Code for Viewing Angle Option**

**UV275: 270 to 280nm**

**N: 100mA**



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## Introduction

### Feature:

- 1W High Power UVC LED
- 3.9 x 3.9mm
- Packed in tape and reel
- ESD rating: Class 3A (HBM)
- MSL 4
- Thermal resistance junction to solder point (Rth): 15°C/W typ.
- Viewing Angle Option:  
A=60° typ. (Quartz Glass Lens)  
B=120° typ. (Quartz Glass Lens)  
C=30° typ. (Quartz Glass Lens)

### Application:

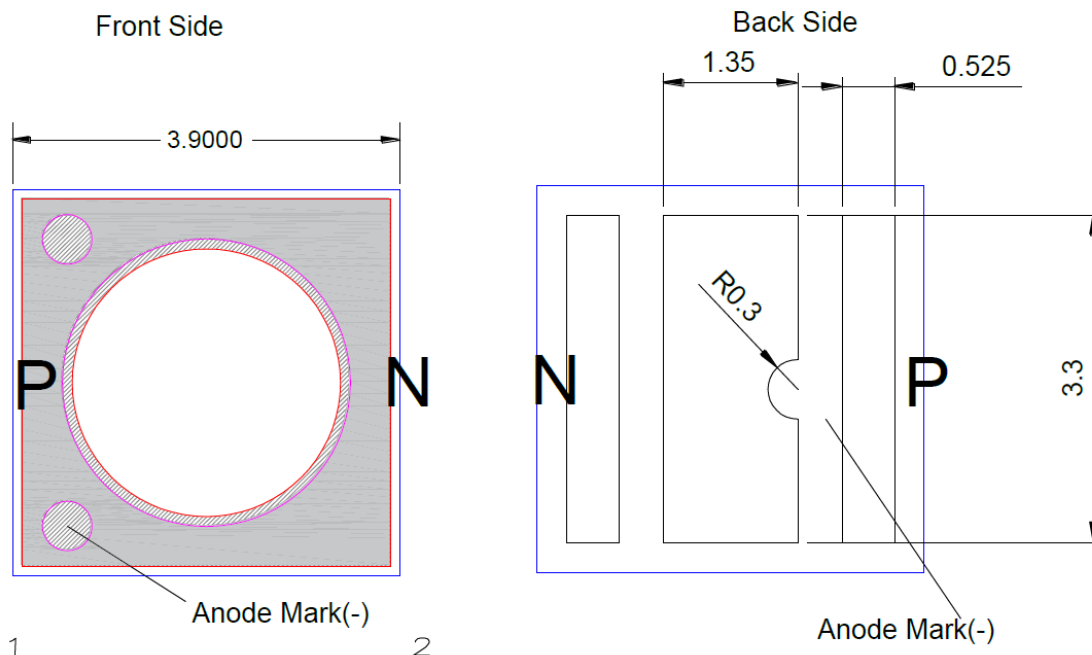
- Purification
- Sterilization and Disinfection

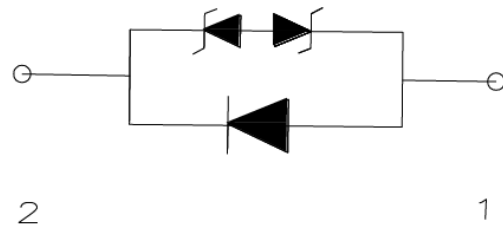
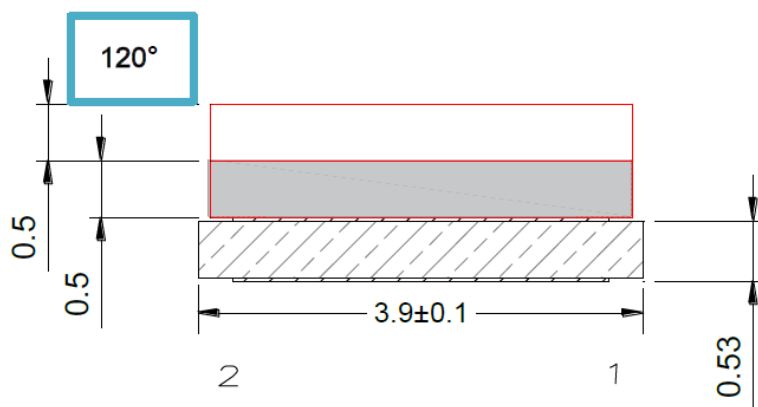
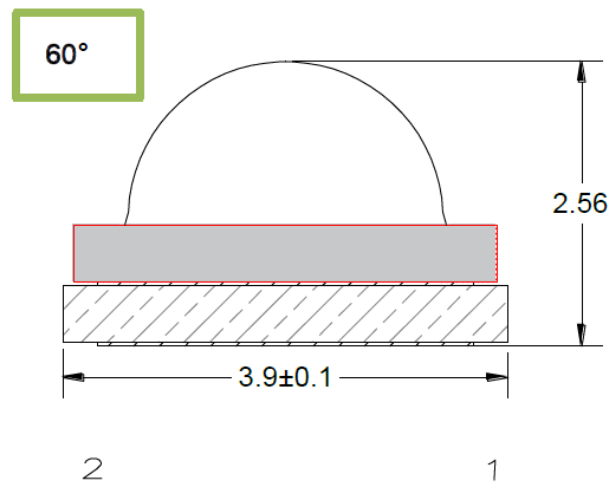
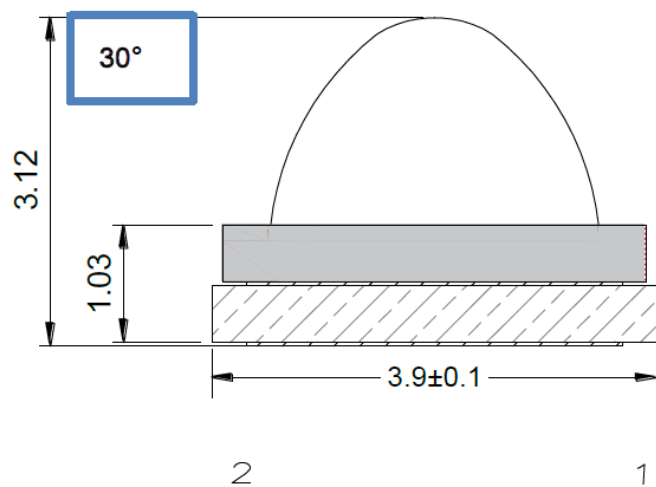
### Certification & Compliance:

- ISO9001
- RoHS Compliant



## Outline Dimensions:





Units: mm / tolerance = +/-0.2mm

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

Part Number	Color	I <sub>F</sub> (mA)	V <sub>F</sub> (V)			λ <sub>p</sub> (nm)			P <sub>o</sub> (mW)		
			Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.
QBHP3939E-UV275AN	UVC	100	5.0	7.0	9.0	270	275	280	8	23	35
QBHP3939E-UV275BN											
QBHP3939E-UV275CN											

## Absolute Maximum Rating

Material	P <sub>d</sub> (W)	I <sub>F</sub> (mA)	R <sub>th</sub> (°C/W) Typ.	T <sub>OP</sub> (°C)	T <sub>ST</sub> (°C)	T <sub>SOL</sub> (°C)
InGaN	1.2	130	15	-30 to +60	-40 to +80	245

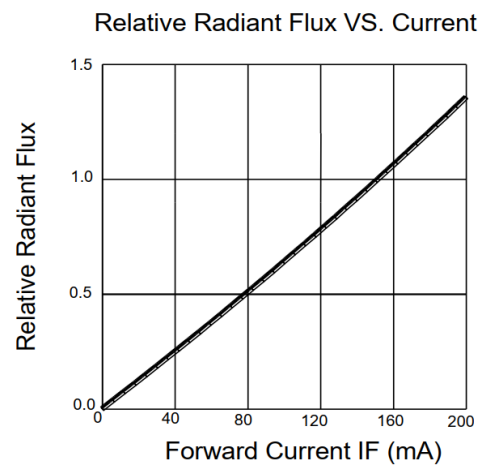
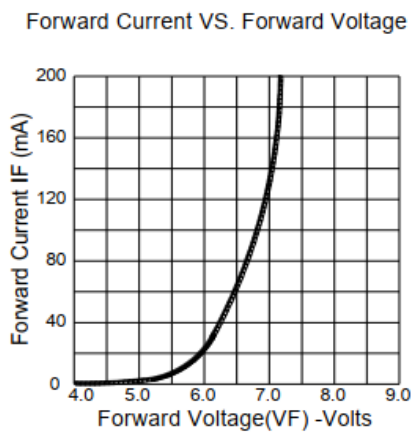
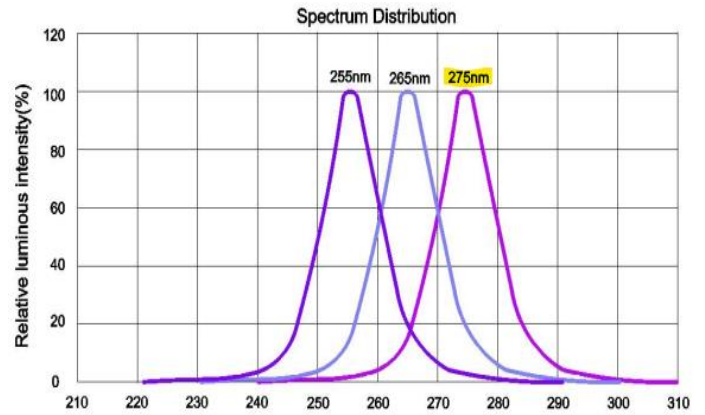
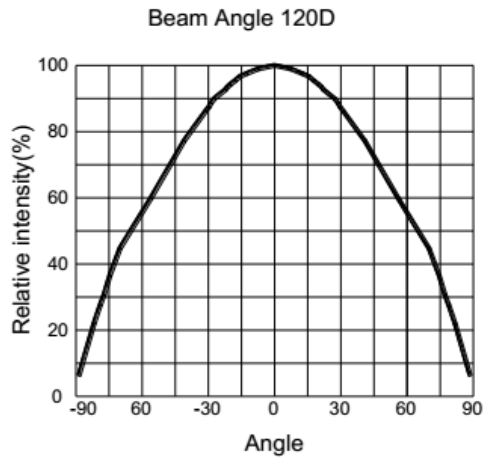
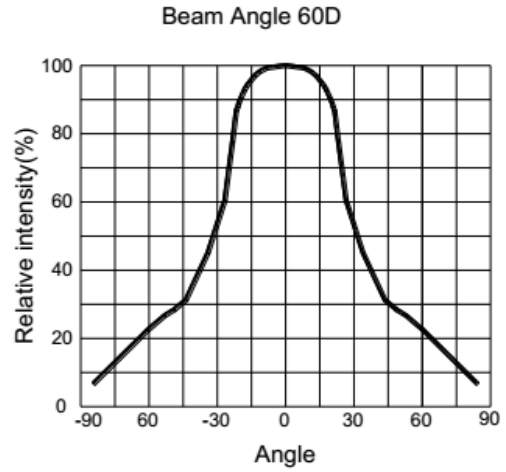
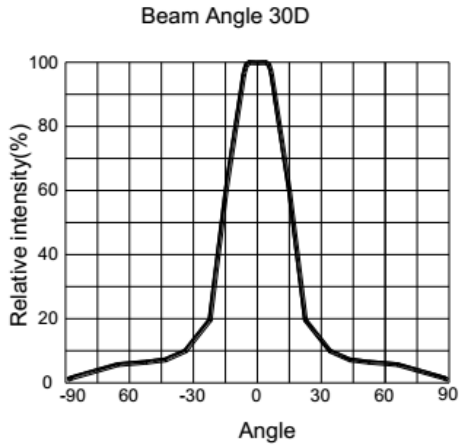
## Forward Voltage V<sub>F</sub> @ I<sub>F</sub>=100mA

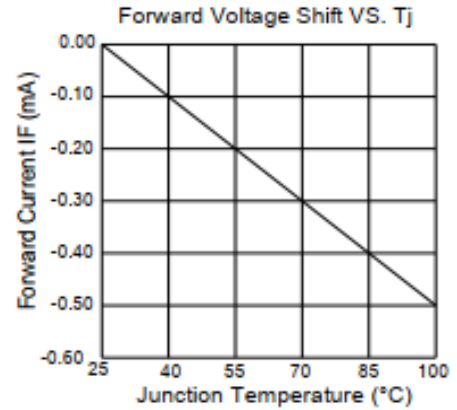
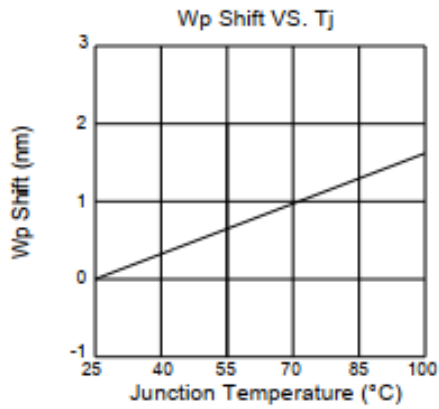
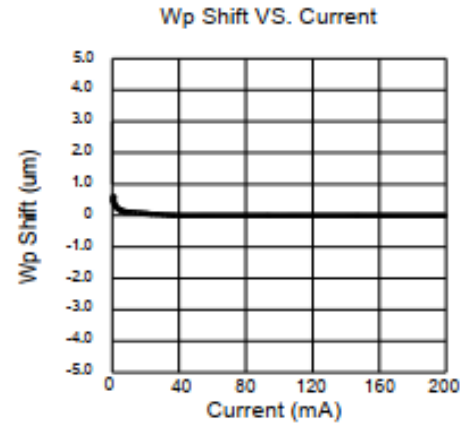
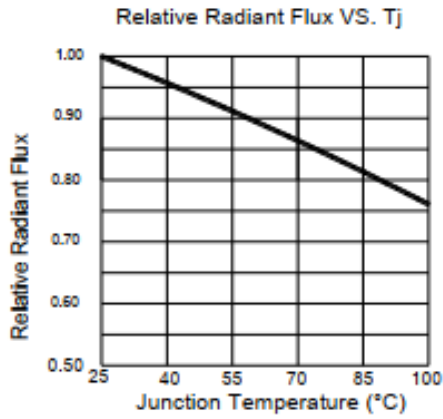
Bin	Min.	Max.	Unit
V1	5.0	7.0	V
V2	7.0	9.0	

## Radiometric Power P<sub>O</sub> @ I<sub>F</sub>=100mA

Bin	Min.	Max.	Unit
H1	8	16	mW
H2	16	25	
H3	25	35	

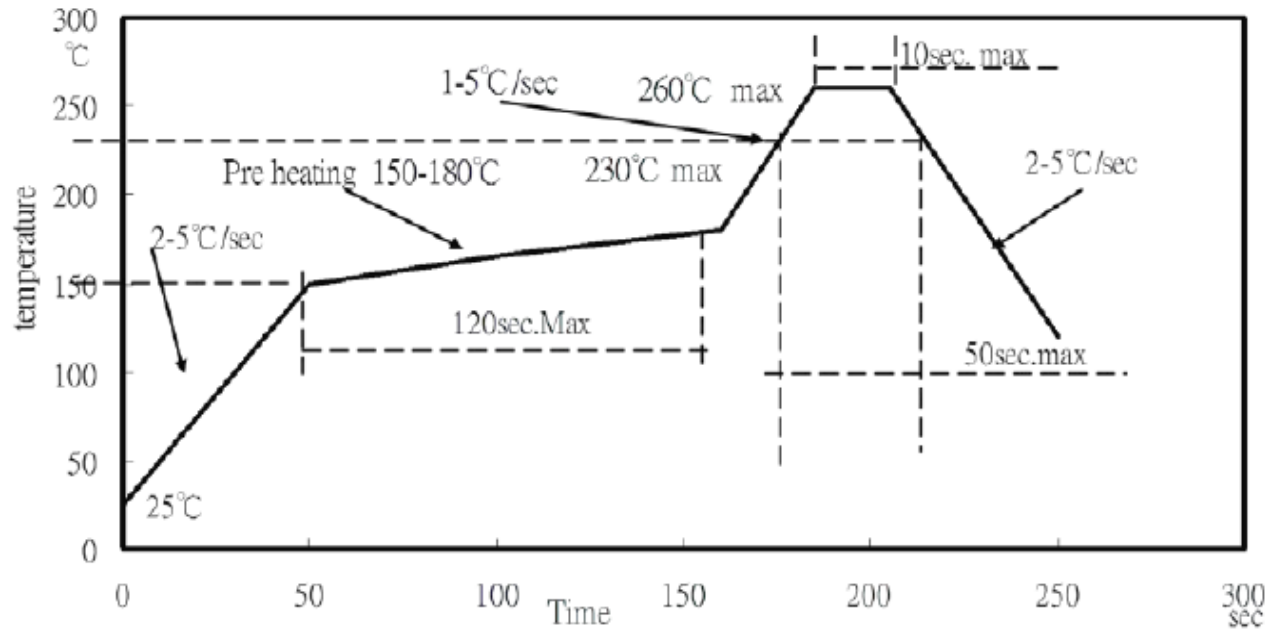
## Characteristic Curves



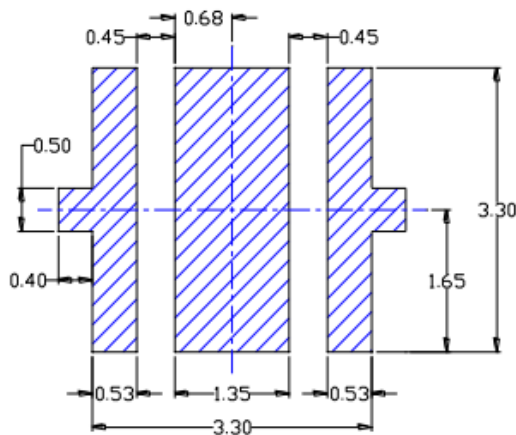


## IR Reflow Soldering Profile

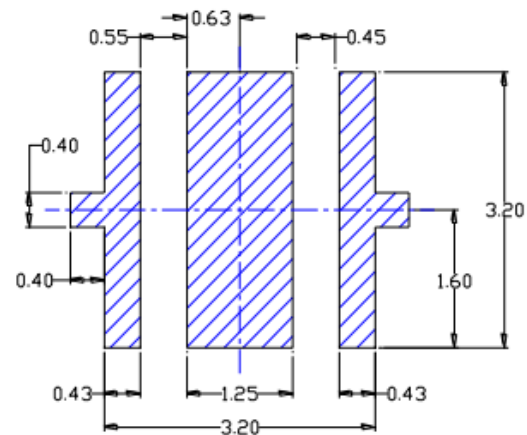
### Lead Free solder



### Recommended Soldering Pad:



RECOMMENDED PCB SOLDER PAD



RECOMMENDED STENCIL PATTERN  
(HATCHED AREA IS OPENING)

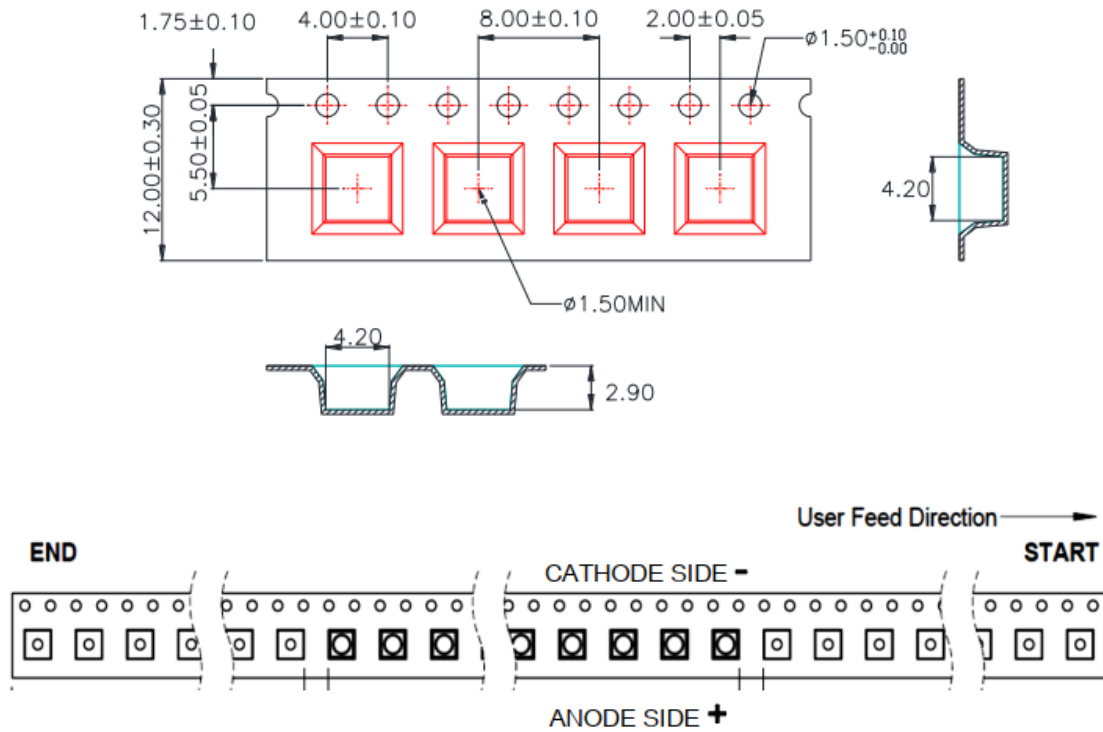
§ Suggest stencil  $t = 0.12$  mm

Unit: mm



## Packing



### Tape and Reel:



## Labeling

<div style="display: flex; justify-content: space-between; align-items: center;"> <div> </div> <div> <b>QT-Brightek</b> </div> <div> </div> </div>	
Part No: _____	
Customer P/N: _____	
Item: _____	
Q'ty: _____	
Vf: _____	
Iv: _____	
Wl: _____	
Date: _____	
<b>Made in Taiwan</b>	

## Caution

	 <b>CAUTION</b>
	<ul style="list-style-type: none"><li>• This UV LED during operation radiates intense UV light.</li><li>• Do not look directly into the UV light during operation of the device. This can be harmful to the eyes even for brief period due to the intense UV light.</li><li>• If viewing the UV light is necessary, please use UV filtered glasses to avoid damage by the UV light.</li><li>• If the UV LED in your product might be viewed directly, please affix a caution label to your product to that effect.</li></ul> <p><b>Avoid direct eye exposure to UV light</b> <b>Keep out of reach of children</b></p>

## Ordering Information

Orderable Part #	Spec Range	Max Quantity per reel
QBHP3939E-UV275AN	Po=23mW typ. @ I <sub>F</sub> =100mA, λ <sub>p</sub> =270nm to 285nm	500 units
QBHP3939E-UV275BN		
QBHP3939E-UV275CN		

## Revision History

Description:	Revision #	Revision Date
New Release of QBHP3939E-UV280YH	V1.0	02/13/2020
Update WLP information	V1.1	06/01/2020
Update P/N due to sorting current update TO QBHP3939E-UV275YN	V1.2	05/17/2022
Update Radiometric Power Binning	V1.3	06/14/2022

## 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.

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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.