

# QT-Brightek High Power Series

## 10W High Power UV LED

**Part No.: QBHP6868E-UVXXXK**

**XXX: UV Wavelength  
K: Single Chip**

Product: QBHP6868E-UVXXXK	Date: August 25, 2017	Page 1 of 9
	Version# 2.0	

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## Introduction

**Feature:**

- 10W High Power UV LED
- Glass lens
- Packed in tape and reel
- ESD rating: 8KV (HBM)
- Viewing Angle: 60° typ.

**Description:**

This 10W high power UV LED has compact size of 6.8 x 6.8mm. It is ideal for curing or any type of sterilization application.

**Application:**

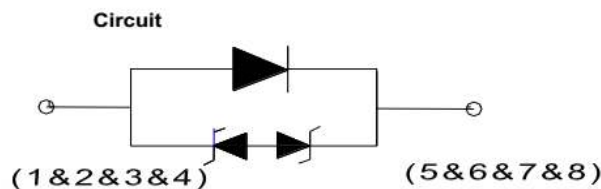
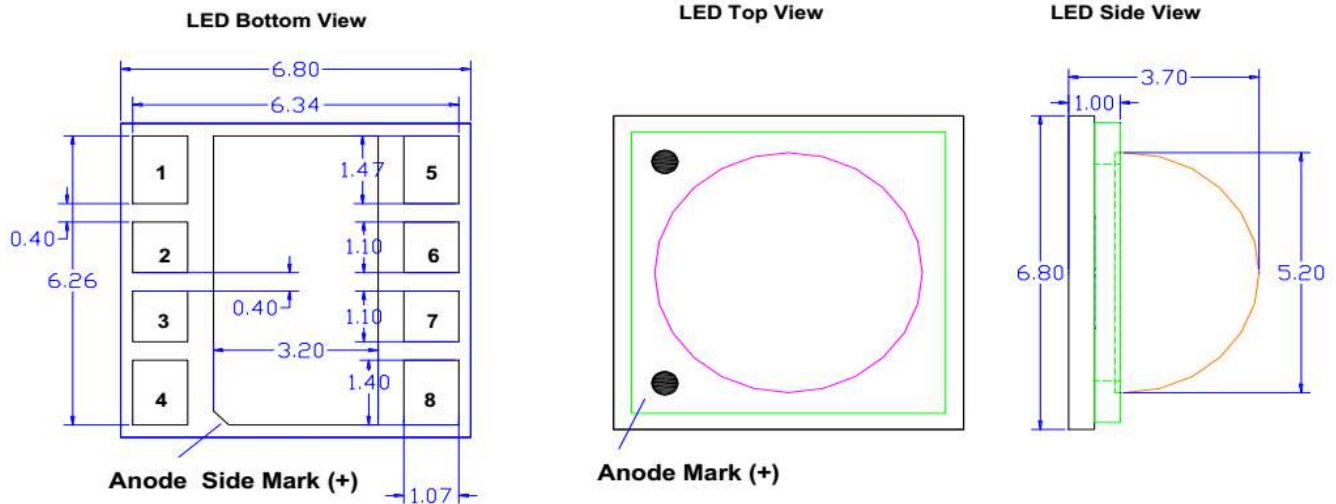
- UV curing
- UV marking
- Purification
- Inspection
- Sterilization and Disinfection

**Certification & Compliance:**

- TS16949
- ISO9001
- RoHS Compliant



## Dimensions:



Units: mm / tolerance = +/-0.15mm

**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.
QBHP6868E-UV365K	UV	2000	3.2	3.8	4.4	365	367	370	2700	2900	3500
QBHP6868E-UV385K	UV	2000	3.2	3.8	4.4	380	385	390	3000	4000	5000
QBHP6868E-UV395K	UV	2000	3.2	3.8	4.4	390	395	400	3000	4000	5000

**Absolute Maximum Rating**

Material	P <sub>d</sub> (W)	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	8.4	2000	2500	5	-40 to +80	-40 to +100	260

\*Duty 1/10 @ 10ms Pulse Width

**Forward Voltage V<sub>F</sub> @ I<sub>F</sub>=2000mA**

Bin	Min.	Max.	Unit
A0	3.2	3.6	V
A1	3.6	4.0	
A2	4.0	4.4	

**Radiometric Power P<sub>O</sub> for UV365K @ I<sub>F</sub>=2000mA**

Bin	Min.	Max.	Unit
P27	2700	2800	mW
P28	2800	2900	
P29	2900	3000	
P35	3000	3500	

**Radiometric Power P<sub>O</sub> for UV385K & UV395K @ I<sub>F</sub>=2000mA**

Bin	Min.	Max.	Unit
P35	3000	3500	mW
P40	3500	4000	
P45	4000	4500	
P50	4500	5000	

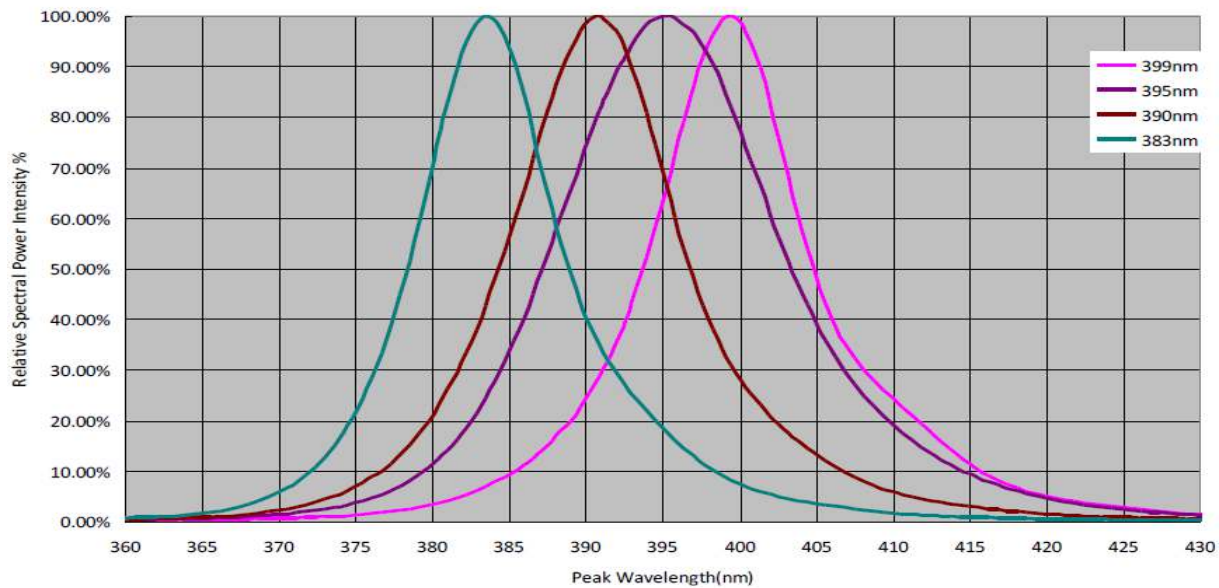
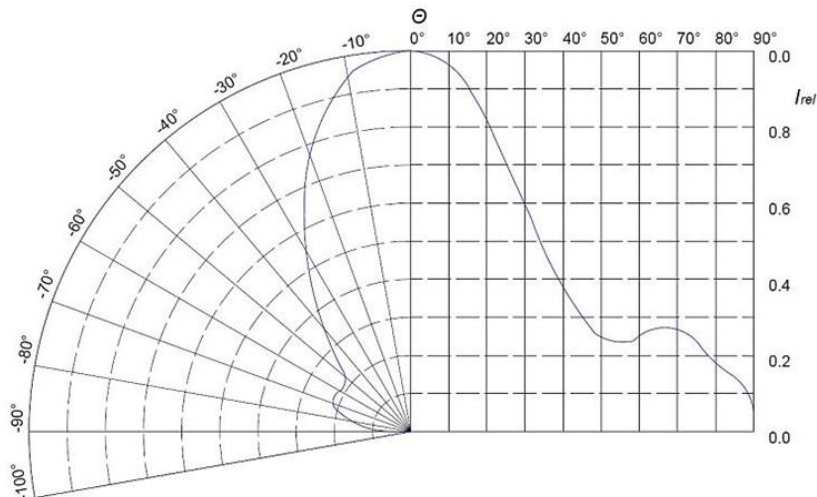
Tolerance of measurement of forward voltage: ±0.2V

Tolerance of measurement of Radiometric Power: ±15%

Tolerance of measurement of Peak wavelength: ±2nm

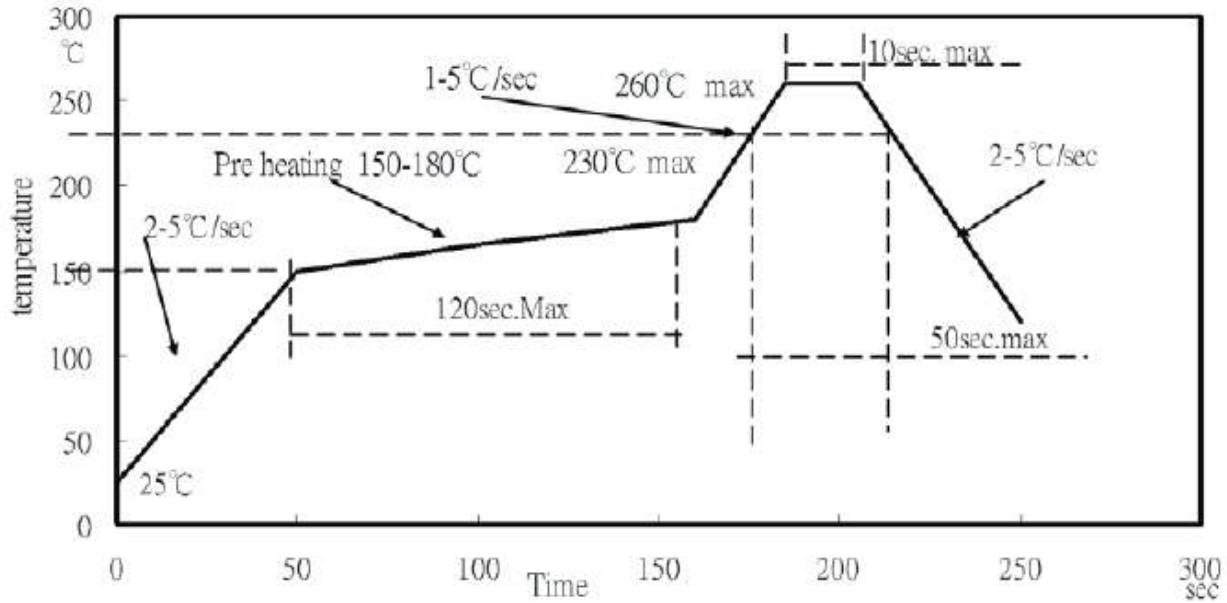
**Characteristic Curves**

Typical Spatial Distribution



**IR Reflow Soldering Profile**

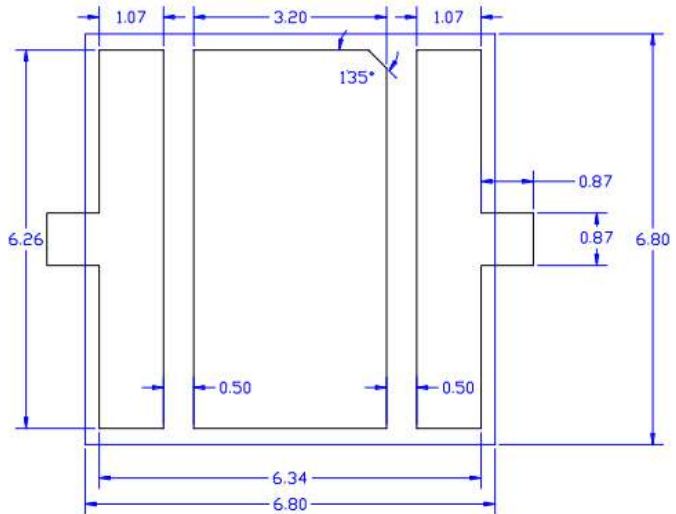
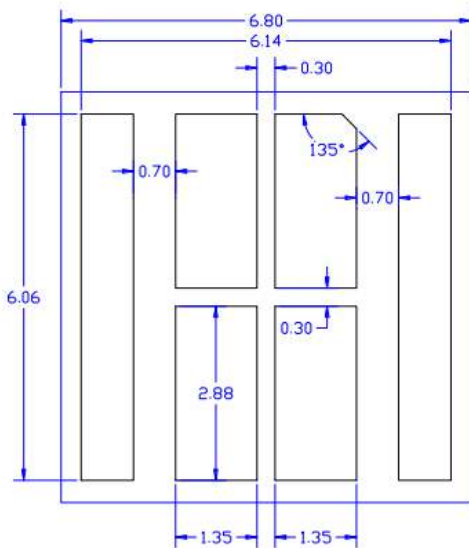
**Lead Free solder**



**Recommended Soldering Pad:**

**RECOMMENDED STENCIL PATTERN (HATCHED AREA IS OPENING)**

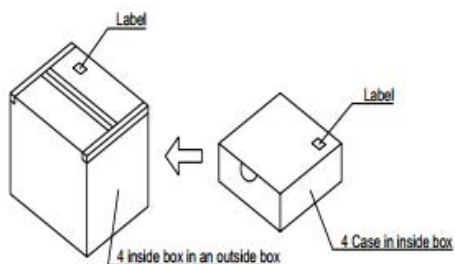
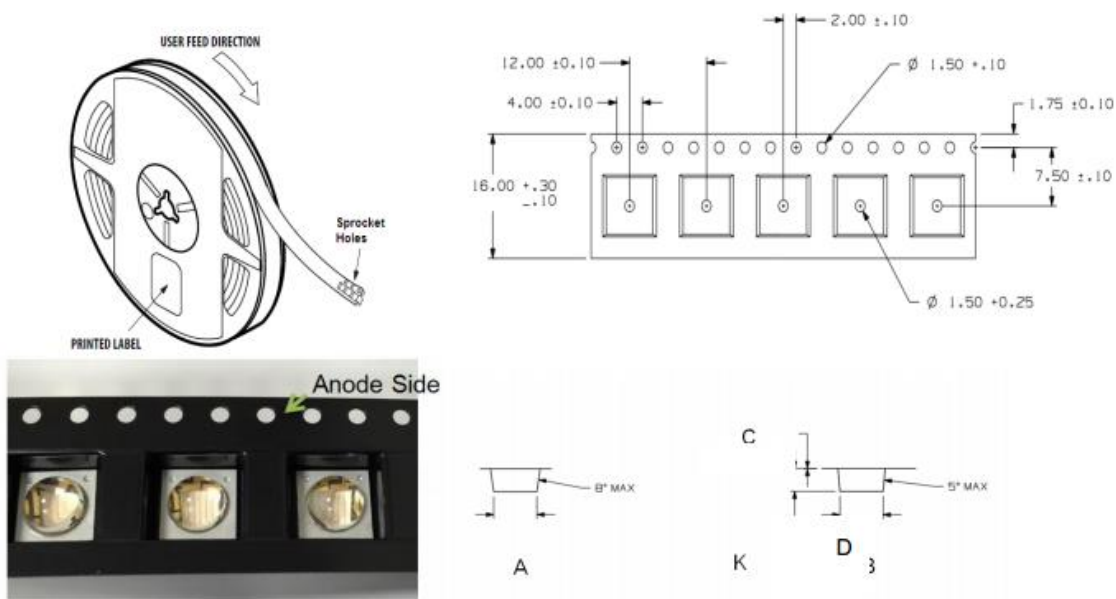
**RECOMMENDED PCB SOLDER PAD**



Unit: mm

## Packing

### Tape and Reel:



Item	Dimension	Tolerance	Unit
A	7.35	±0.10	mm
B	7.25	±0.10	mm
C	0.33	±0.02	mm
D	4.35	±0.10	mm

Unit: mm

## Labeling



Part No: \_\_\_\_\_

Customer P/N: \_\_\_\_\_

Item: \_\_\_\_\_

Q'ty: \_\_\_\_\_

Vf: \_\_\_\_\_

Iv: \_\_\_\_\_



WI: \_\_\_\_\_

Date: \_\_\_\_\_

**Made in Taiwan**



**Caution**

	 <h1 style="margin: 0;">CAUTION</h1>
	<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 style="text-align: center;"><b>Avoid direct eye exposure to UV light</b> <b>Keep out of reach of children</b></p>

**Ordering Information**

Part #	Orderable Part #	Spec Range	Quantity per reel
QBHP6868E-UV365K	QBHP6868E-UV365K	P <sub>o</sub> =2900mW typ. @ I <sub>F</sub> =2000mA, λ <sub>p</sub> =365nm to 370nm	350 units
QBHP6868E-UV385K	QBHP6868E-UV385K	P <sub>o</sub> =4000mW typ. @ I <sub>F</sub> =2000mA, λ <sub>p</sub> =380nm to 390nm	350 units
QBHP6868E-UV395K	QBHP6868E-UV395K	P <sub>o</sub> =4000mW typ. @ I <sub>F</sub> =2000mA, λ <sub>p</sub> =390nm to 400nm	350 units



## Revision History

Description:	Revision #	Revision Date
New Release of QBHP6868E-UVXXXK	V1.0	01/29/2016
Add measurement tolerance info	V1.1	03/25/2016
Update Radiometric Power and Dimension Drawing	V2.0	08/25/2017

## Disclaimer

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## 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.