QT-Brightek High Power Series

15W High Power UV LED

Part No.: QBHP6868E-UVXXXK

XXX: UV Wavelength
K: 4 Chip (4V, 4A)

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Introduction

Feature:

- 15W ultra high power UV LED
- Glass lens
- 4-Chip in parallel (4V, 4A)
- Packed in tape and reel
- ESD rating: 8KV (HBM)
- Viewing Angle: 60° typ.

Description:

This 15W high power UV LED has compact size of 6.8 x 6.8mm. It is ideal for curing or any type of sterilization application.

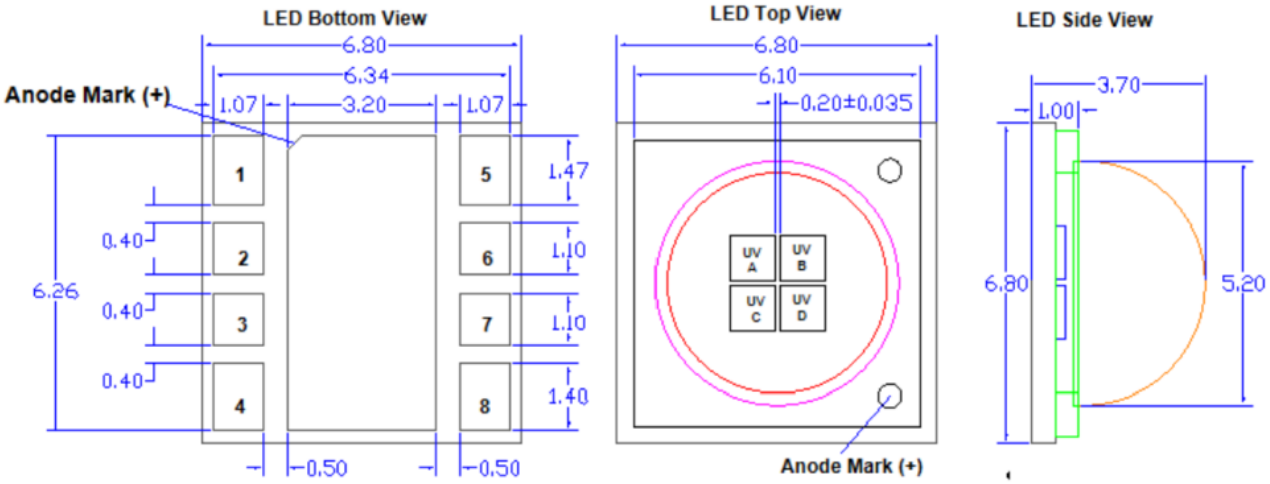
Application:

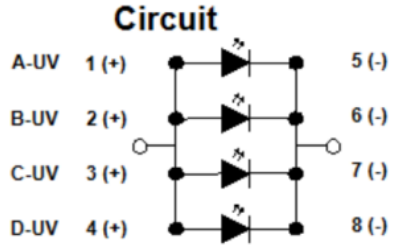
- UV curing
- UV marking
- Purification
- Inspection
- Sterilization and Disinfection

Certification & Compliance:

- ISO9001
- RoHS Compliant

Dimensions:





Units: mm / tolerance = +/-0.15mm

Electrical / Optical Characteristic (Ta=25 °C)

Part Number	Color	I_F (mA)	V_F (V)			λ_p (nm)			Po (mW)		
			Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.
QBHP6868E-UV365K	UV	4000	3.4	3.8	4.4	365	367	370	3000	4000	5000
QBHP6868E-UV385K	UV	4000	3.0	3.8	4.2	380	385	390	3500	4500	5500
QBHP6868E-UV395K	UV	4000	3.0	3.8	4.2	390	395	400	3500	4500	5500
QBHP6868E-UV405K	UV	4000	3.0	3.8	4.2	400	405	410	3500	4500	5500
QBHP6868E-UV415K	UV	4000	3.0	3.8	4.2	410	415	420	3500	4500	5500

Absolute Maximum Rating

Material	P_d (W)	I_F (mA)	I_{FP} (mA)*	V_R (V)	T_{OP} (°C)	T_{ST} (°C)	T_{SOL} (°C)
InGaN	17.6	4000	4400	5	-40 to +80	-40 to +100	260

*Duty 1/10 @ 10ms Pulse Width

Forward Voltage V_F for UV365K @ I_F=4000mA

	Min.	Max.	Unit
QBHP6868E-UV365K	3.4	3.8	V
	3.8	4.0	
	4.0	4.2	
	4.2	4.4	

Forward Voltage V_F for UV385K, UV395K, UV405K, UV415K @ I_F=4000mA

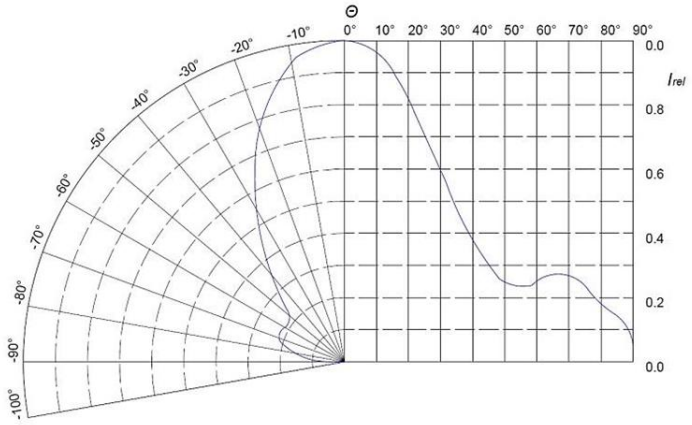
	Min.	Max.	Unit
QBHP6868E-UV385K QBHP6868E-UV395K QBHP6868E-UV405K QBHP6868E-UV415K	3.0	3.4	V
	3.4	3.8	
	3.8	4.0	
	4.0	4.2	

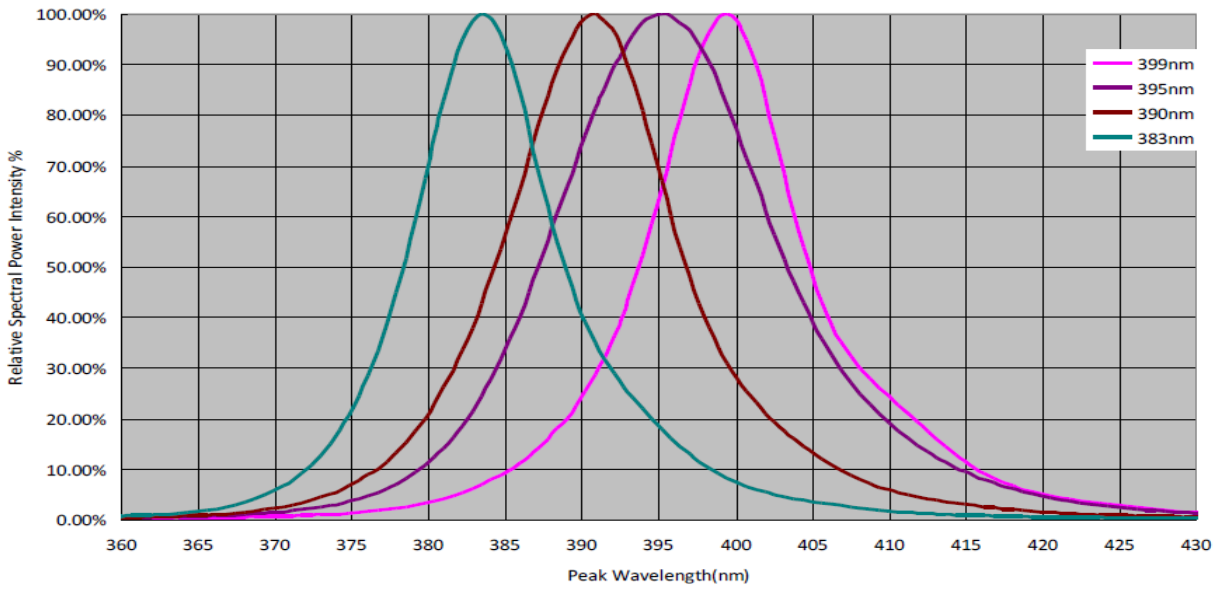
Radiometric Power P_O @ I_F=4000mA

Bin	Min.	Max.	Unit
P30	3000	3500	mW
P35	3500	3500	
P40	4000	4500	
P45	4500	5000	
P50	5000	5500	

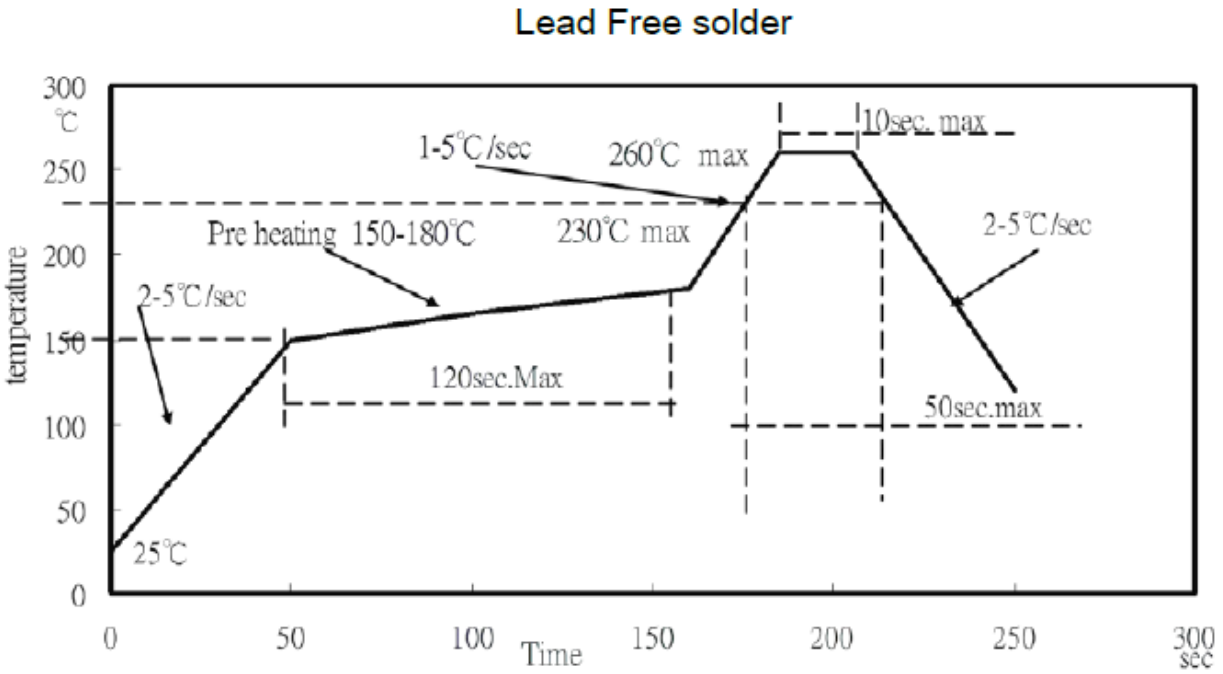
Characteristic Curves

Typical Spatial Distribution

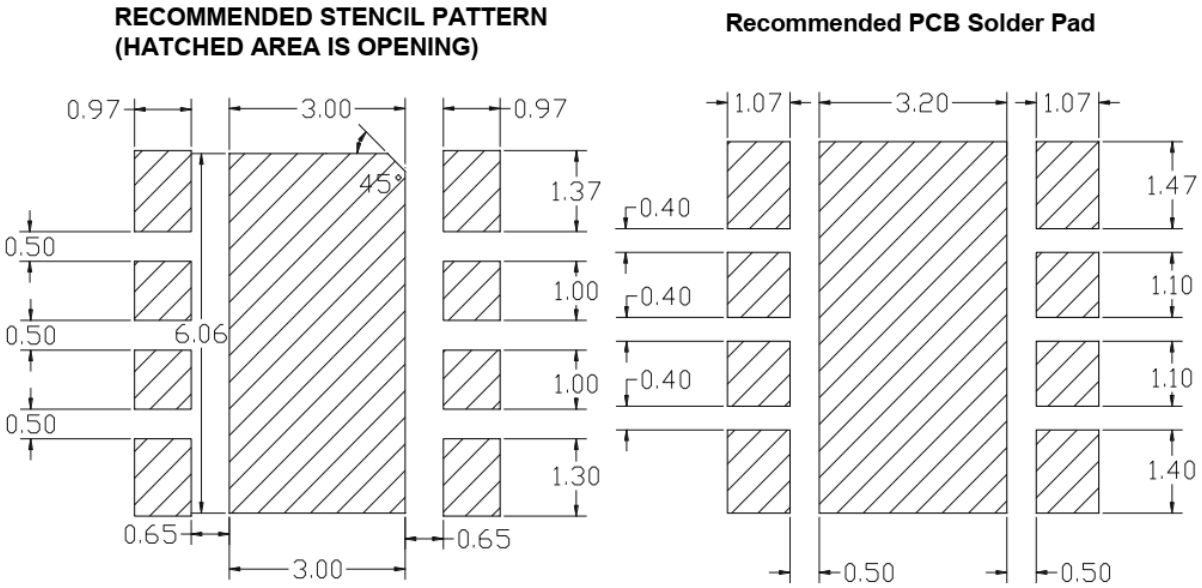




IR Reflow Soldering Profile



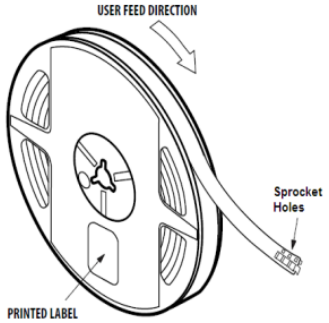
Recommended Soldering Pad:

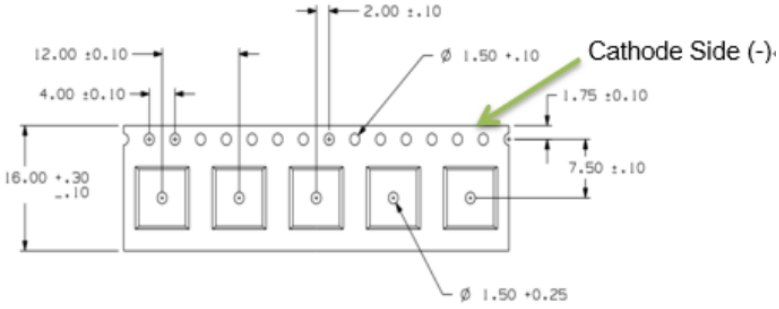


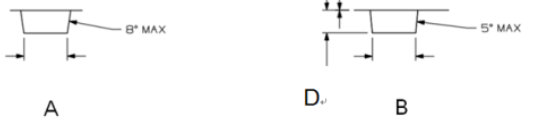
Unit: mm

Packing

Tape and Reel:



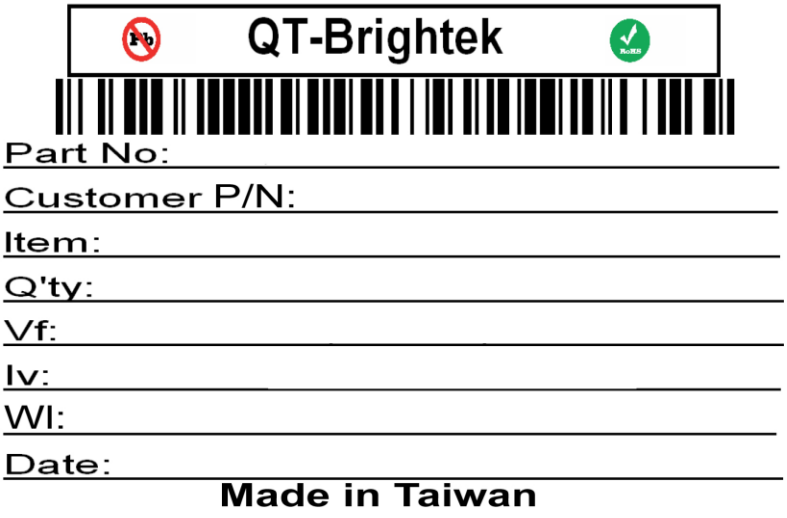




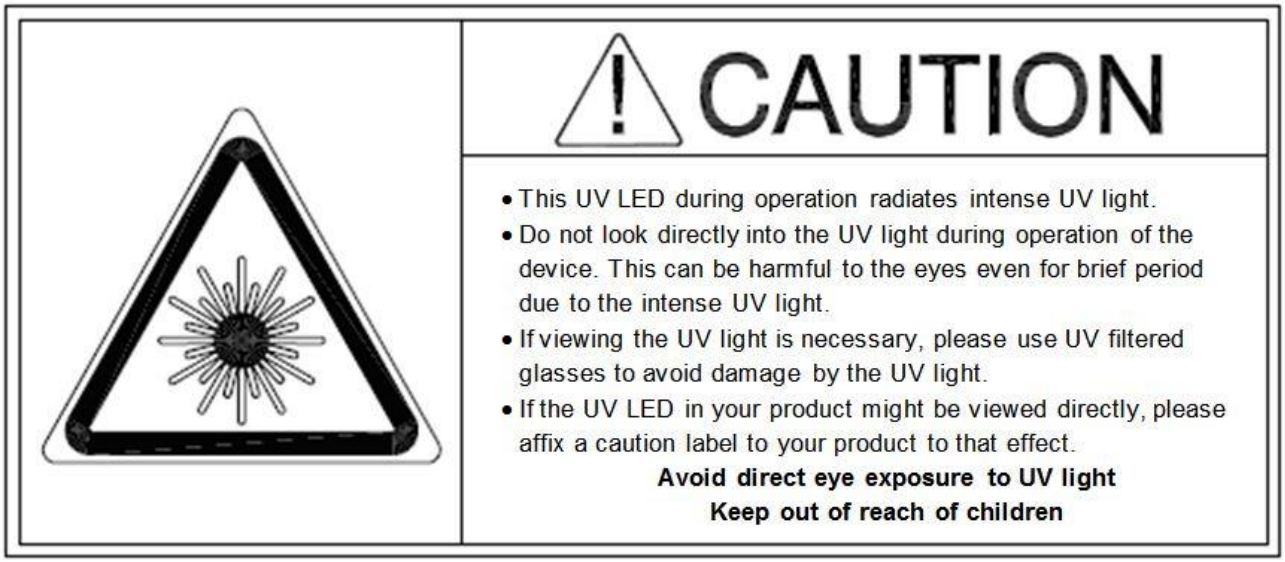
Item	Dimension	Tolerance	Unit
A	7.35	±0.10	mm
B	7.25	±0.10	mm
C	0.33	±0.02	mm
D	4.35	±0.10	mm

Unit: mm

Labeling



Caution



Ordering Information

Orderable Part #	Spec Range	Quantity per reel
QBHP6868E-UV365K	Po=4000mW typ. @ I_F=4000mA, λ_p=365nm to 370nm	350 units
QBHP6868E-UV385K	Po=4500mW typ. @ I_F=4000mA, λ_p=380nm to 390nm	350 units
QBHP6868E-UV395K	Po=4500mW typ. @ I_F=4000mA, λ_p=390nm to 400nm	350 units
QBHP6868E-UV405K	Po=4500mW typ. @ I_F=4000mA, λ_p=400nm to 410nm	350 units
QBHP6868E-UV415K	Po=4500mW typ. @ I_F=4000mA, λ_p=410nm to 420nm	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
Update bin info and chip form factor	V3.0	07/10/2023

Disclaimer

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QT-BRIGHTEK's products are not authorized for use as critical components in life support devices or systems without the express written approval of QT-BRIGHTEK. 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.