

QT-Brightek High Power Series
3W ~ 5W High Power 3939 UV LED

Part No.: QBHP3939E-UVXXXYY0 Series

Y: Viewing Angle
XXX: UV Wavelength
Y0: 1000mA

Table of Contents:

Introduction	3
Electrical / Optical Characteristic (Ta=25 °C)	4
Absolute Maximum Rating	4
Characteristic Curves.....	6
IR Reflow Soldering Profile	8
Packing	9
Labeling	10
Caution	11
Ordering Information	11
Revision History	12
Disclaimer	12

Introduction

Feature:

- 3~5W High Power UV LED
- Clear Lens
- Packed in tape and reel
- ESD rating: 8KV (HBM)
- Viewing Angle Option:
 A=60° typ. (Crystal Glass Lens)
 B=120° typ. (Crystal Glass Lens)
 C=30° typ. (Crystal Glass Lens)

Description:

This 3~5W high power UV LED has compact size of 3.9 x 3.9mm. It is ideal for various UV applications.

Application:

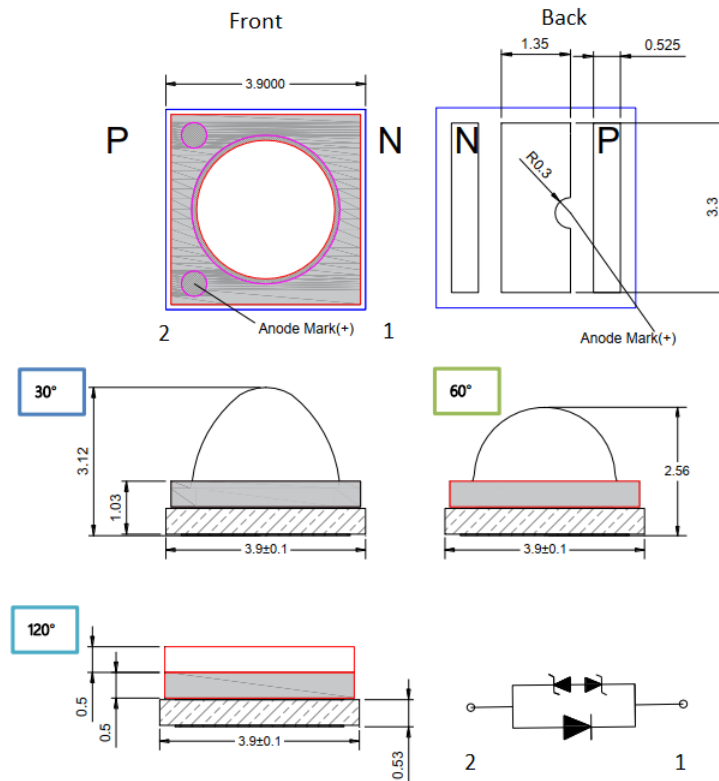
- UV curing
- UV marking
- Purification
- Inspection

Certification & Compliance:

- TS16949
- ISO9001
- RoHS Compliant



Outline Dimensions:



Units: mm / tolerance = +/-0.2mm

Electrical / Optical Characteristic (Ta=25 °C)

Part Number	Color	I _F (mA)	V _F (V)			λ _p (nm)			P _o (mW)		
			Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.
QBHP3939E-UV365AY0	UV (365nm)	1000	3.2	3.5	4.4	365	367	370	1100	1300	1500
QBHP3939E-UV365BY0											
QBHP3939E-UV365CY0											
QBHP3939E-UV385AY0	UV (385nm)	1000	3.2	3.4	4.4	380	385	390	1600	1800	2000
QBHP3939E-UV385BY0											
QBHP3939E-UV385CY0											
QBHP3939E-UV395AY0	UV (395nm)	1000	3.2	3.4	4.4	390	395	400	1600	1800	2000
QBHP3939E-UV395BY0											
QBHP3939E-UV395CY0											
QBHP3939E-UV405AY0	UV (405nm)	1000	3.2	3.4	4.4	400	405	410	1600	1800	2000
QBHP3939E-UV405BY0											
QBHP3939E-UV405CY0											

Absolute Maximum Rating

Material	P _d (W)	I _F (mA)	I _{FP} (mA)*	V _R (V)	T _{OP} (°C)	T _{ST} (°C)	T _{SO L} (°C)
InGaN	4.4	1000	1200	5	-40 to +80	-40 to +100	260

*Duty 1/10 @ 0.01s

Radiometric Power P_O for UV365 @ $I_F=1000\text{mA}$

Bin	Min.	Max.	Unit
C2	1100	1200	mW
C3	1200	1300	
C4	1300	1400	
C5	1400	1500	

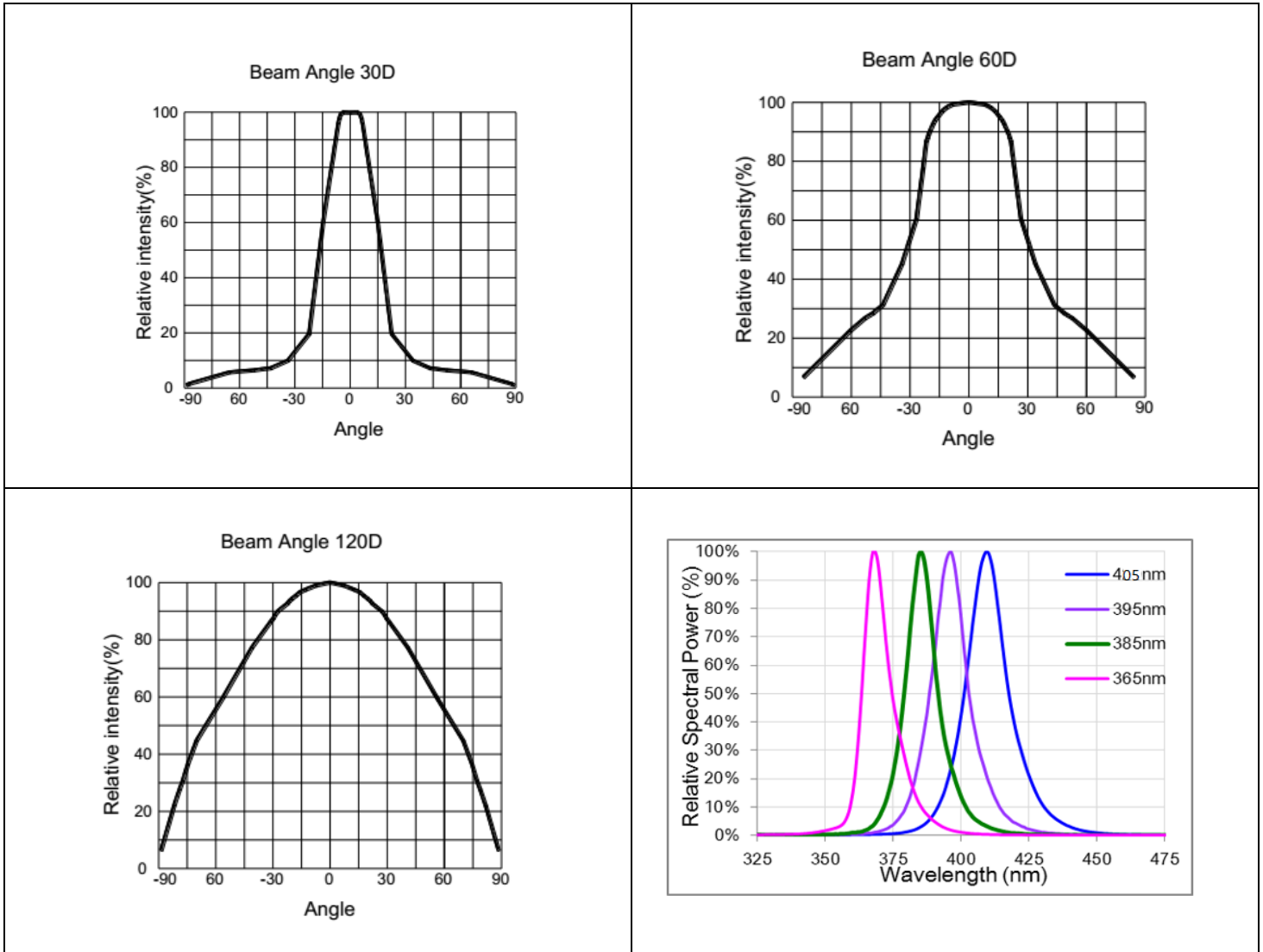
Radiometric Power P_O for UV385, UV395 & UV405 @ $I_F=1000\text{mA}$

Bin	Min.	Max.	Unit
C7	1600	1700	mW
C8	1700	1800	
C9	1800	1900	
C10	1900	2000	

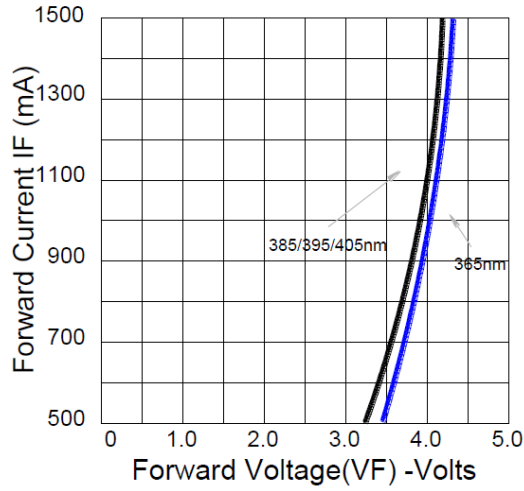
Note:

Tolerance of measurement of forward voltage: $\pm 0.2\text{V}$ Tolerance of measurement of radiant power: $\pm 15\%$ Tolerance of measurement of dominant wavelength: $\pm 2\text{nm}$

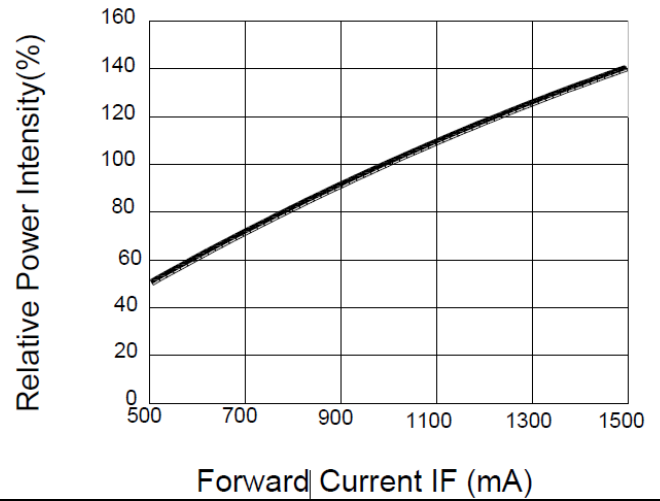
Characteristic Curves



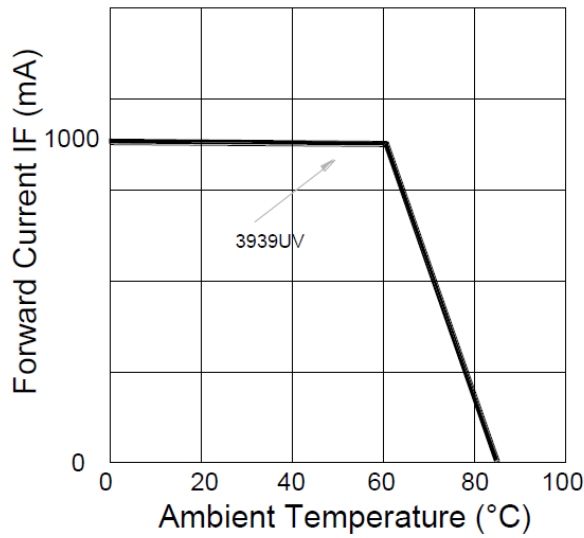
Forward Current VS. Forward Voltage



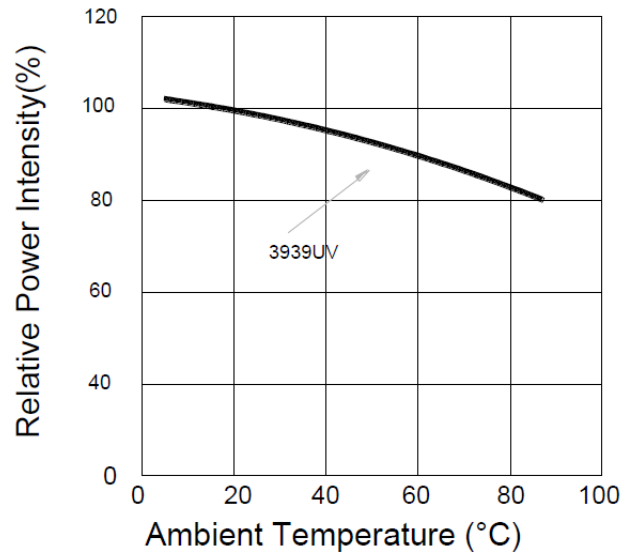
Relative Radiant Flux VS. Forward Current



Forward Current VS. Ambient Temperature

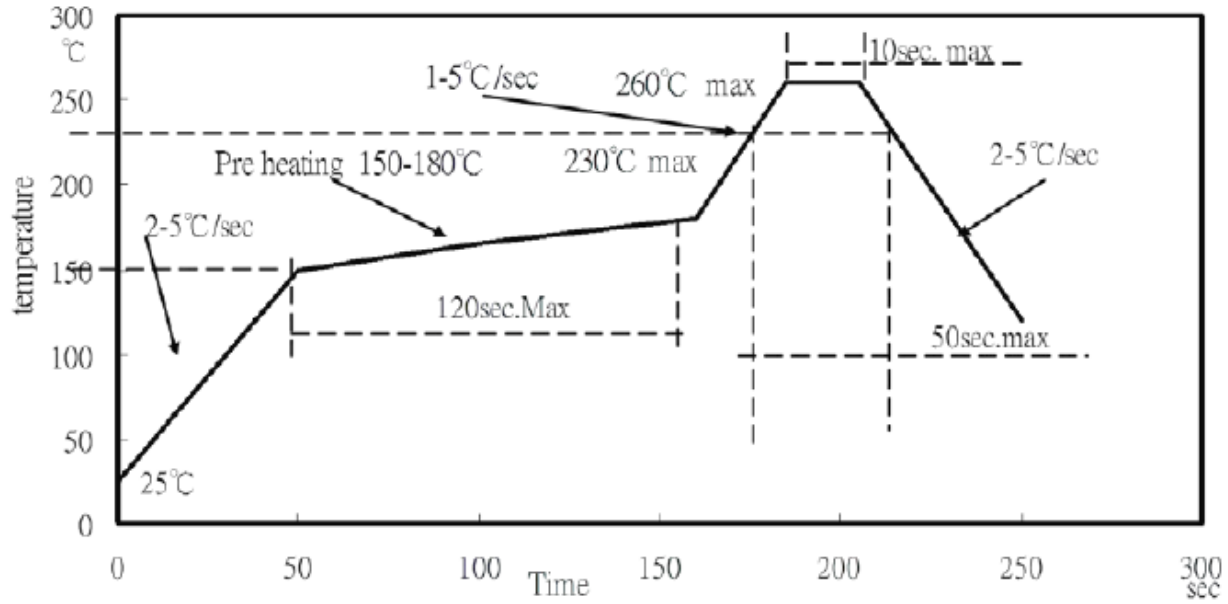


Radiant Power VS. Ambient Temperature

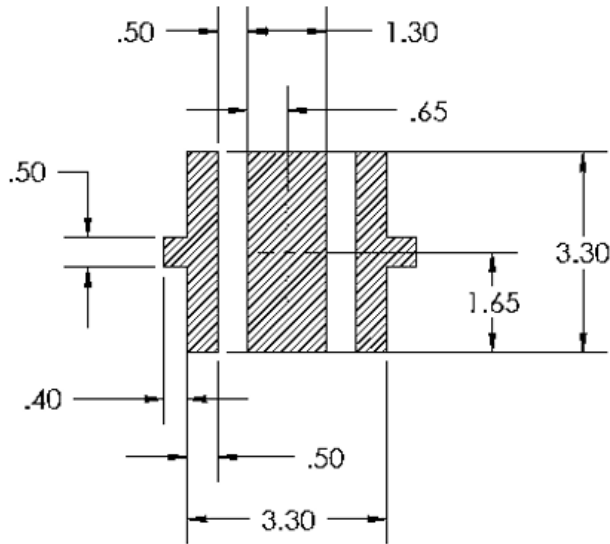


IR Reflow Soldering Profile

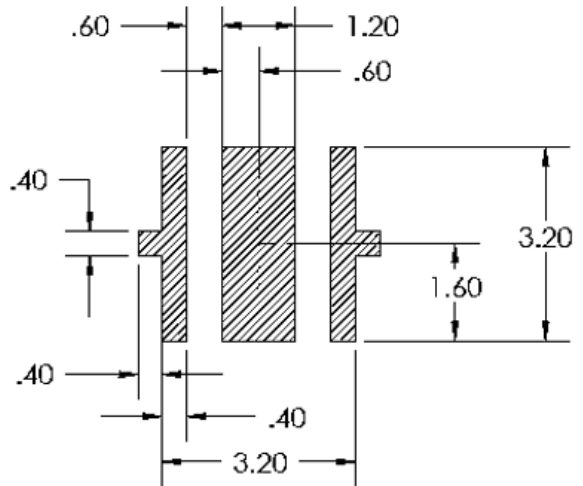
Lead Free solder



Recommended Soldering Pad:



RECOMMENDED PCB SOLDER PAD



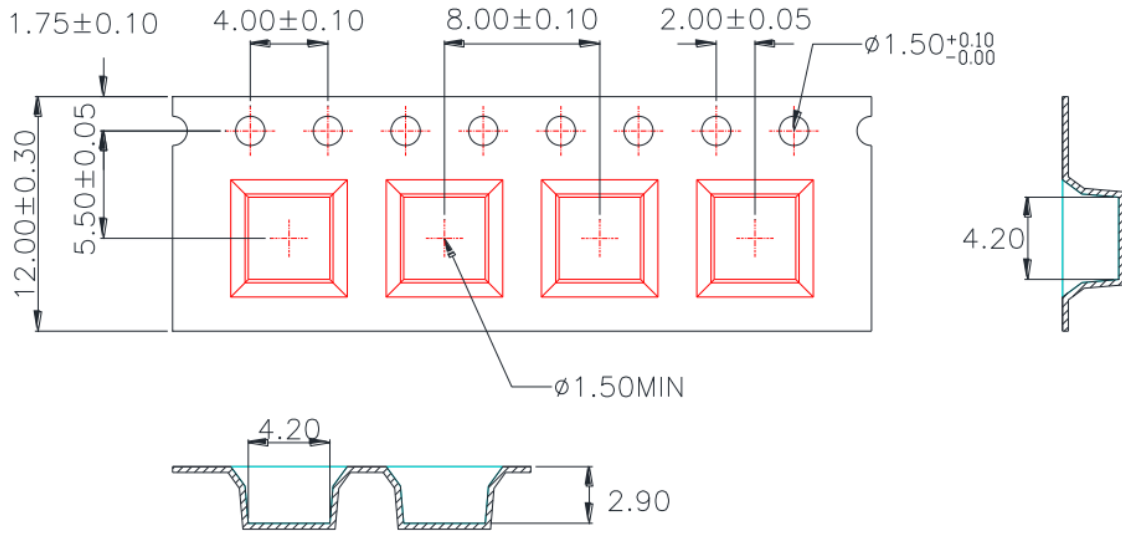
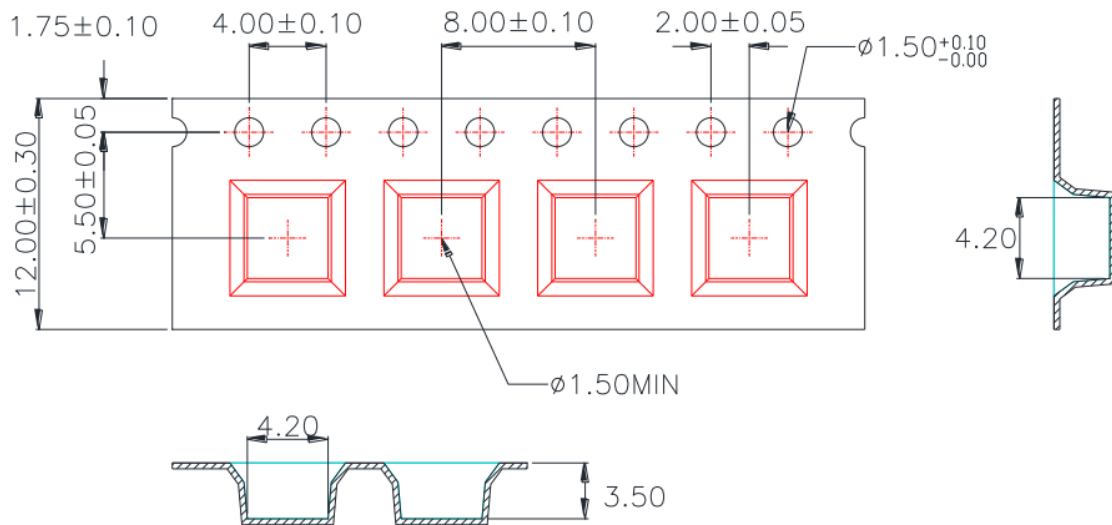
RECOMMENDED STENCIL PATTERN
(HATCHED AREA IS OPENING)

§ Suggest stencil t = 0.12 mm

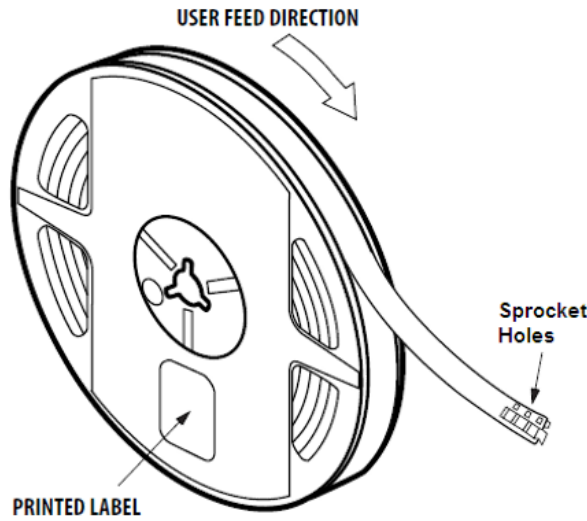
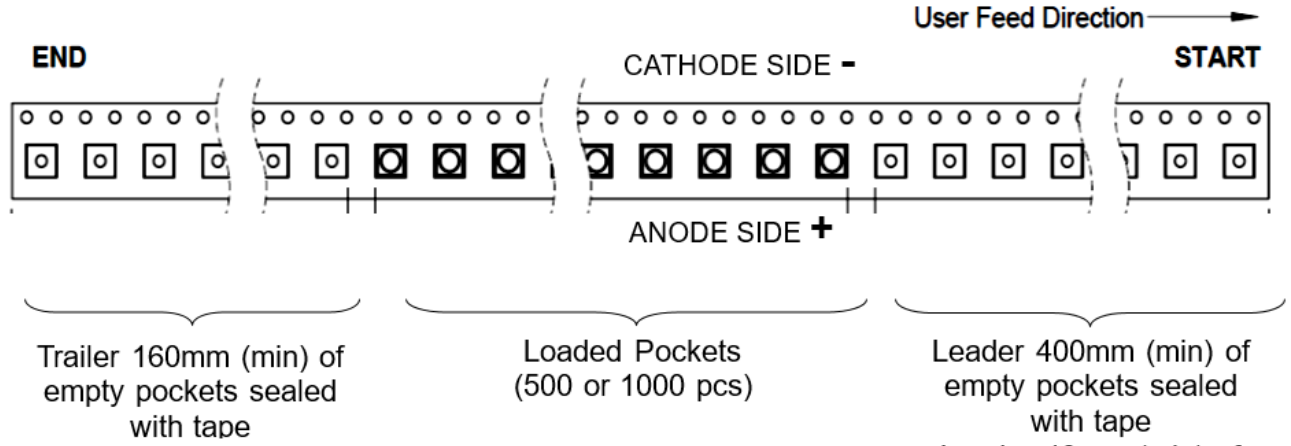
Unit: mm

Packing

Tape and Reel:

60° & 120°**30°**

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"> • This UV LED during operation radiates intense UV light. • 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. • If viewing the UV light is necessary, please use UV filtered glasses to avoid damage by the UV light. • If the UV LED in your product might be viewed directly, please affix a caution label to your product to that effect. <p style="text-align: center;">Avoid direct eye exposure to UV light Keep out of reach of children</p>

Ordering Information

Part #	Orderable Part #	Spec Range	Quantity per reel
QBHP3939E-UV365AY0	QBHP3939E-UV365AY0	Po=1300mW typ. @ If=1000mA, λp=365nm to 370nm	500 units
QBHP3939E-UV365BY0	QBHP3939E-UV365BY0		
QBHP3939E-UV365CY0	QBHP3939E-UV365CY0		
QBHP3939E-UV385AY0	QBHP3939E-UV385AY0	Po=1800mW typ. @ If=1000mA, λp=380nm to 390nm	500 units
QBHP3939E-UV385BY0	QBHP3939E-UV385BY0		
QBHP3939E-UV385CY0	QBHP3939E-UV385CY0		
QBHP3939E-UV395AY0	QBHP3939E-UV395AY0	Po=1800mW typ. @ If=1000mA, λp=390nm to 400nm	500 units
QBHP3939E-UV395BY0	QBHP3939E-UV395BY0		
QBHP3939E-UV395CY0	QBHP3939E-UV395CY0		
QBHP3939E-UV405AY0	QBHP3939E-UV405AY0	Po=1800mW typ. @ If=1000mA, λp=400nm to 410nm	500 units
QBHP3939E-UV405BY0	QBHP3939E-UV405BY0		
QBHP3939E-UV405CY0	QBHP3939E-UV405CY0		

Revision History

Description:	Revision #	Revision Date
New Release of QBHP3939E-UVXXXXYY0_series	V1.0	10/17/2019
Update brightness binning / update drawing	V1.1	01/21/2020

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.