

QT-Brightek High Power Series

4W High Power UV LED

Part No.: QBHP5050E-UVXXXBK

XXX: UV Wavelength
B: 125° Viewing Angle
K: Single chip

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Introduction

Feature:

- 4W High Power UV LED
- Packed in tape and reel
- ESD rating: 8KV (HBM)
- Viewing Angle: 125° typ.

Description:

This 4W high power UV LED has compact size of 5.0 x 5.0mm. It is ideal for both indoor and outdoor lighting

Application:

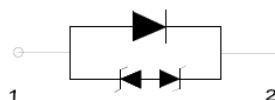
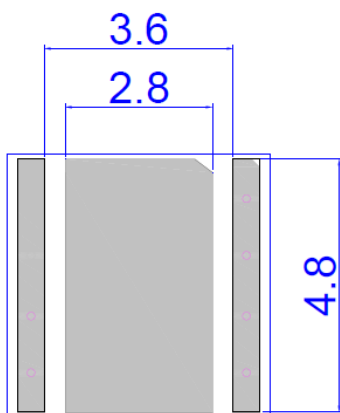
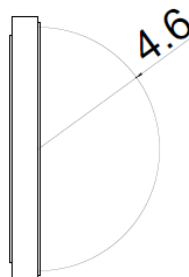
- UV curing
- UV marking
- Purification
- Inspection
- Sterilization and Disinfection

Certification & Compliance:

- TS16949
- ISO9001
- RoHS Compliant



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. |
| QBHP5050E-UV385BK | UV | 1500 | 3.4 | 3.7 | 4.6 | 380 | 385 | 390 | 2000 | 3000 | 4000 |
| QBHP5050E-UV395BK | UV | 1500 | 3.4 | 3.7 | 4.6 | 390 | 395 | 400 | 2000 | 3000 | 4000 |

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 | 7.5 | 2000 | 2500 | 5 | -40 to +80 | -40 to +100 | 260 |

*Duty 1/10 @ 10ms Pulse Width

Forward Voltage V_F @ I_F=1500mA

| Bin | Min. | Max. | Unit |
|-----|------|------|------|
| A1 | 3.4 | 3.8 | V |
| A2 | 3.8 | 4.2 | |
| A3 | 4.2 | 5.6 | |

Radiometric Power P_o for UV385K & UV395K @ I_F=1500mA

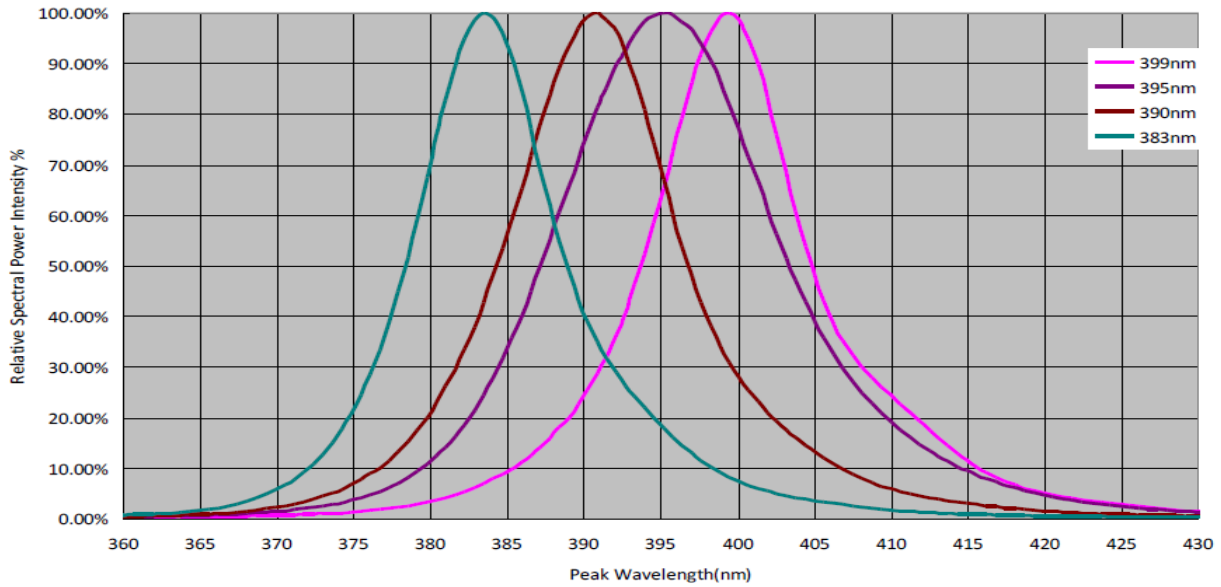
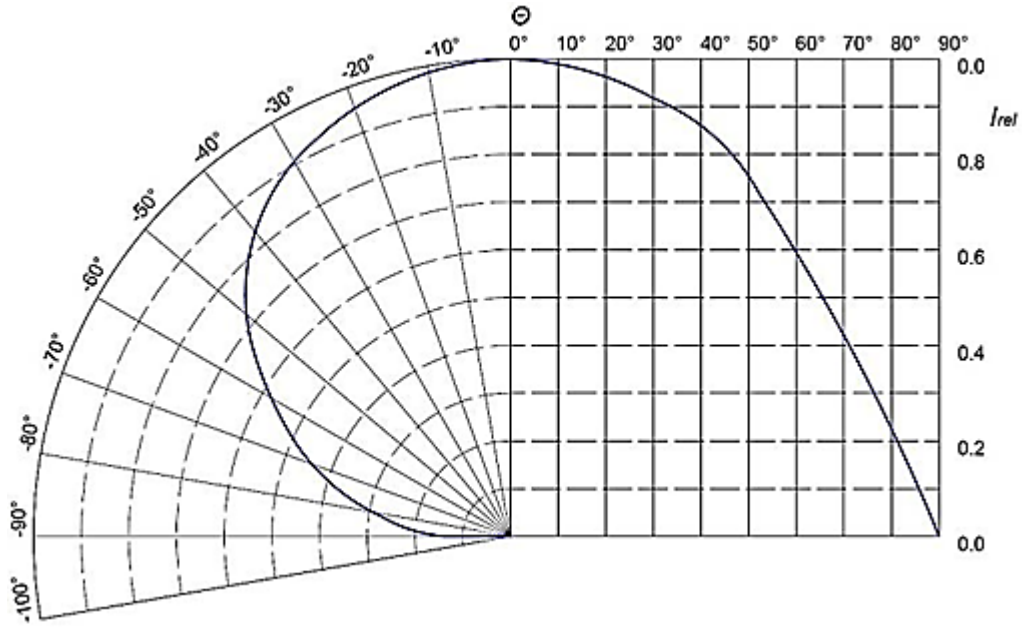
| Bin | Min. | Max. | Unit |
|-----|------|------|------|
| P30 | 2500 | 3000 | mW |
| P35 | 3000 | 3500 | |
| P40 | 3500 | 4000 | |
| P45 | 4000 | 4500 | |

Tolerance of measurement of forward voltage: ±0.1V

Tolerance of measurement of Radiometric Power: ±15%

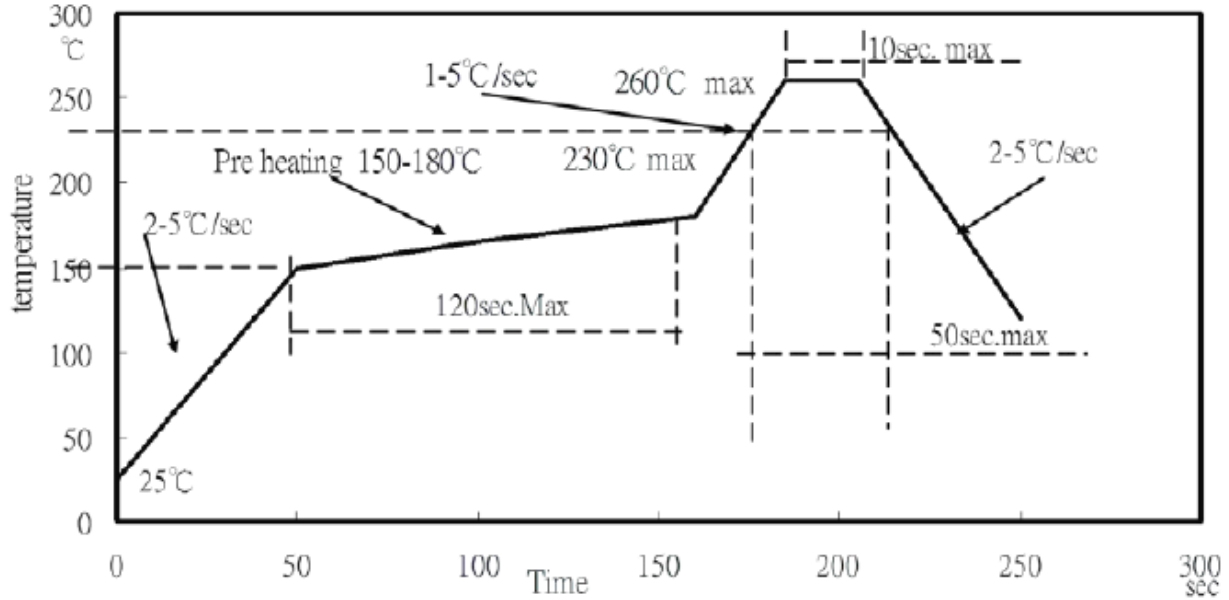
Tolerance of measurement of Peak wavelength: ±2nm

Characteristic Curves

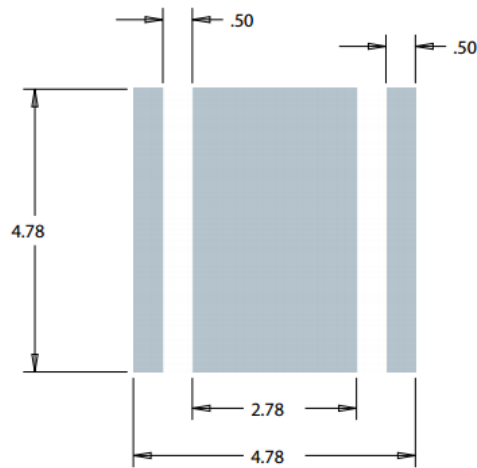


IR Reflow Soldering Profile

Lead Free solder



Recommended Soldering Pad:

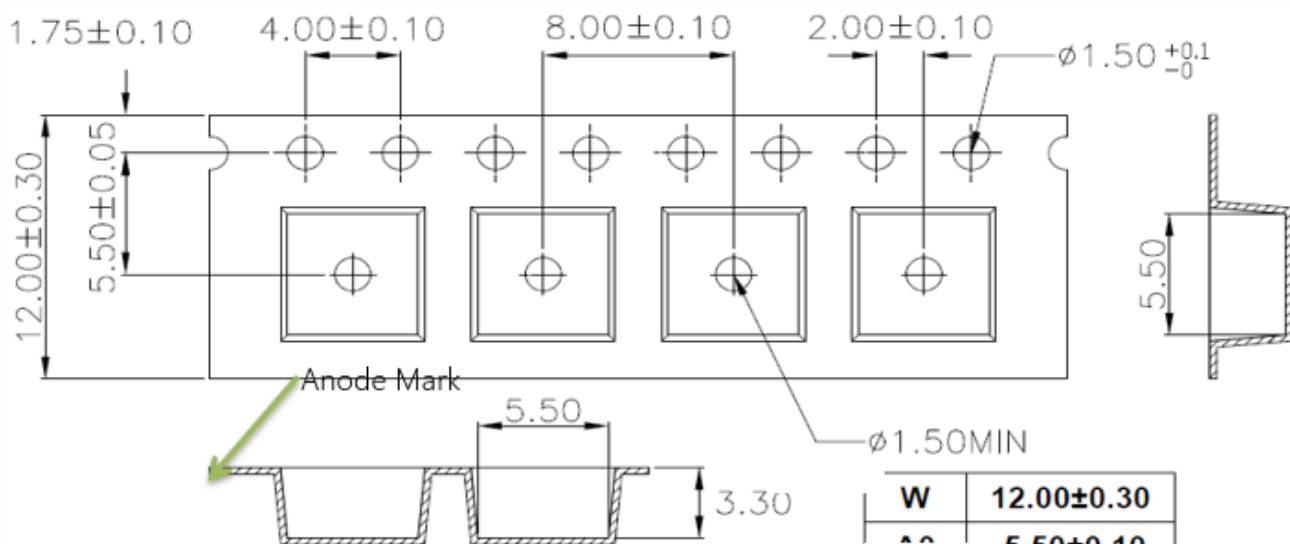


Unit: mm

Tolerance is ±0.13mm unless other specified.

Packing

Tape and Reel:



1. 10 sprocket hole pitch cumulative tolerance ± 0.20 .
2. Carrier camber is within 1 mm in 250 mm.
3. Material : Black Conductive Polystyrene Alloy.
4. All dimensions meet EIA-481-D requirements.
5. Thickness : 0.30 ± 0.05 mm.

User Feed Direction



Unit: mm

Labeling



Part No: _____
 Customer P/N: _____
 Item: _____
 Q'ty: _____
 Vf: _____
 Iv: _____
 WI: _____
 Date: _____

Made in Taiwan

Caution

| | |
|--|---|
| | <h1>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 |
|-------------------|-------------------|--|-------------------|
| QBHP5050E-UV385BK | QBHP5050E-UV385BK | Po=3000mW typ. @ I _F =1500mA, λ _p =380nm to 390nm | 500 units |
| QBHP5050E-UV395BK | QBHP5050E-UV395BK | Po=3000mW typ. @ I _F =1500mA, λ _p =390nm to 400nm | 500 units |

Revision History

| Description: | Revision # | Revision Date |
|----------------------------------|------------|---------------|
| New Release of QBHP5050E-UVXXXBK | V1.0 | 02/26/2016 |
| | | |
| | | |
| | | |
| | | |

Disclaimer

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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.