QT-Brightek Side View LED Series

0602 Side View LED

Part No.: QBLP617-IW5
Table of Contents:
Introduction ........................................................................................................................................3
Electrical / Optical Characteristic (Ta=25 °C) ..................................................................................4
Absolute Maximum Rating ..............................................................................................................4
CIE Chromaticity Table ..................................................................................................................5
Characteristic Curves .....................................................................................................................6
Solder Profile & Footprint ..............................................................................................................7
Packing ............................................................................................................................................8
Labeling .........................................................................................................................................9
Ordering Information ....................................................................................................................9
Revision History ............................................................................................................................10
Disclaimer .....................................................................................................................................10
# Introduction

**Feature:**
- Package in tape and reel
- Side View Ultra bright 0602 LED package
- InGaN technology
- 140° Viewing Angle

**Description:**

These ultra bright side view 0602 LEDs have a height profile of 0.6mm. With higher packing density and smaller footprint, these LEDs are ideal for smaller equipment and miniature application.

**Application:**
- Status indication
- Back lighting application
- General Use

**Certification & Compliance:**
- TS16949
- ISO9001
- RoHS Compliant

---

## Dimension:

![Diagram showing the dimensions of the LED package.](image)

Units: mm / tolerance = +/-0.1mm
## Electrical / Optical Characteristic (Ta=25 °C)

<table>
<thead>
<tr>
<th>Product</th>
<th>Color</th>
<th>( I_F ) (mA)</th>
<th>( V_F ) (V)</th>
<th>CCT Coordinate</th>
<th>( I_V ) (mcd)</th>
</tr>
</thead>
<tbody>
<tr>
<td>QBLP617-IW5</td>
<td>White</td>
<td>5</td>
<td>2.8</td>
<td>3.1</td>
<td>X = 0.29, Y = 0.30</td>
</tr>
</tbody>
</table>

### Absolute Maximum Rating

<table>
<thead>
<tr>
<th>Material</th>
<th>( P_d ) (mW)</th>
<th>( I_F ) (mA)</th>
<th>( I_{FP} ) (mA)*</th>
<th>( V_R ) (V)</th>
<th>( T_{OP} ) (°C)</th>
<th>( T_{ST} ) (°C)</th>
<th>( T_{SOL} ) (°C)**</th>
</tr>
</thead>
<tbody>
<tr>
<td>InGaN</td>
<td>93</td>
<td>30</td>
<td>125</td>
<td>5</td>
<td>-40 to +80</td>
<td>-40 to +85</td>
<td>260</td>
</tr>
</tbody>
</table>

*Duty 1/8 @ 1kHz  
**IR Reflow for no more than 10 sec @ 260 °C

### Forward Voltage \( V_F \) @ \( I_F=5mA \)

<table>
<thead>
<tr>
<th>Bin</th>
<th>Min.</th>
<th>Max.</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>e</td>
<td>2.5</td>
<td>2.8</td>
<td>V</td>
</tr>
<tr>
<td>f</td>
<td>2.8</td>
<td>3.1</td>
<td>V</td>
</tr>
</tbody>
</table>

### Luminous Intensity \( I_V \) @ \( I_F=5mA \)

<table>
<thead>
<tr>
<th>Bin</th>
<th>Min.</th>
<th>Max.</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>G</td>
<td>50</td>
<td>63</td>
<td>mcd</td>
</tr>
<tr>
<td>H</td>
<td>63</td>
<td>80</td>
<td>mcd</td>
</tr>
<tr>
<td>I</td>
<td>80</td>
<td>100</td>
<td>mcd</td>
</tr>
<tr>
<td>J</td>
<td>100</td>
<td>125</td>
<td>mcd</td>
</tr>
<tr>
<td>K</td>
<td>125</td>
<td>160</td>
<td>mcd</td>
</tr>
</tbody>
</table>
### CIE Chromaticity Table

<table>
<thead>
<tr>
<th></th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>0.25</td>
<td>0.24</td>
<td>0.29</td>
<td>0.29</td>
</tr>
<tr>
<td>Y</td>
<td>0.24</td>
<td>0.27</td>
<td>0.26</td>
<td>0.26</td>
</tr>
<tr>
<td></td>
<td>0.27</td>
<td>0.27</td>
<td>0.31</td>
<td>0.31</td>
</tr>
<tr>
<td></td>
<td>0.24</td>
<td>0.29</td>
<td>0.27</td>
<td>0.27</td>
</tr>
</tbody>
</table>
Characteristic Curves

Forward Current vs. Forward Voltage

Relative Luminous Intensity-IF (Ta=25°C)

Relative Luminous Intensity-Ta

IF-Ta

Relative Intensity vs. Wavelength

Directive Characteristics
Solder Profile & Footprint

-The recommended reflow soldering profile is as follows (temperatures indicated are as measured on the surface of the LED resin):

![Graph showing the recommended reflow soldering profile]

**Recommended Pad Layout**

- **Units:** mm
- **Tolerance:** ± 0.1mm

---

Product: QBL617-IW5  
Date: January 27, 2016  
Page 7 of 10  
Version# 1.0
Packing

Reel Dimension:

![Reel Dimension Diagram]

Tape Dimension:

![Tape Dimension Diagram]

Arrangement of Tape:

![Arrangement of Tape Diagram]

Packaging Specifications:

![Packaging Specifications Diagram]
Labeling

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

Made in China

Ordering Information

<table>
<thead>
<tr>
<th>Part #</th>
<th>Orderable Part #</th>
<th>Spec Range</th>
<th>Quantity per reel</th>
</tr>
</thead>
<tbody>
<tr>
<td>QBLP617-IW5</td>
<td>QBLP617-IW5</td>
<td>Iv=98mcd typ. @ IF=5mA / CCT Coordinate: (X=0.29, Y=0.30) typ.</td>
<td>4,000 units</td>
</tr>
</tbody>
</table>
Revision History

<table>
<thead>
<tr>
<th>Description</th>
<th>Revision #</th>
<th>Revision Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Release of QBLP617-IW5</td>
<td>V1.0</td>
<td>01/27/2016</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Disclaimer

QT-BRIGHTEK reserves the right to make changes without further notice to any products herein to improve reliability, function or design. QT-BRIGHTEK 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.

Life Support Policy

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.