

QT-Brightek PLCC Series
Dome Type PLCC4 Red LED

Part No.: QBLP677BD-RD-2897

BD = Common Cathode with Dome Lens
D = 50mA Sorting
2897: High Bright

| | | |
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| | Version# 1.0 | |



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Introduction

Feature:

- Water Clear lens
- Ultra bright PLCC4 LED
- Common cathode
- Beam angle: 30° typ.
- MSL 3
- Height profile: 3.6mm

Application:

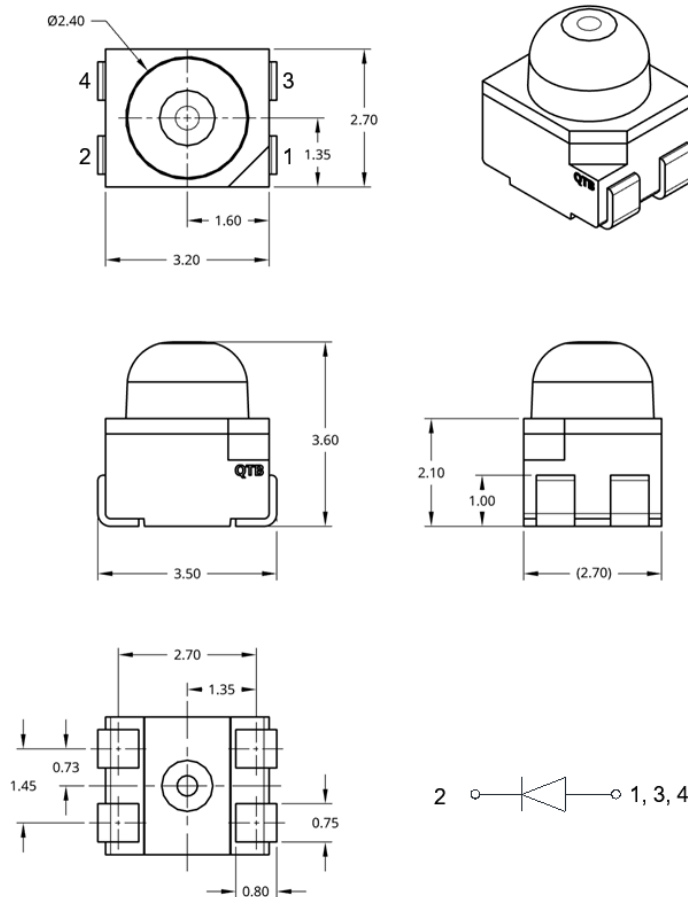
- Warning light
- Emergency light
- Architecture lighting

Certification & Compliance:

- ISO9001
- RoHS Compliant



Dimension:



Units: mm / tolerance = +/-0.2mm

Electrical / Optical Characteristic (Ta=25 °C)

| Product | Color | I _F (mA) | V _F (V) | | λ _D (nm) | | | λ _P (nm) | I _V (mcd) | | |
|-------------------|-------|---------------------|--------------------|------|---------------------|------|------|---------------------|----------------------|-------|-------|
| | | | Typ. | Max. | Typ. | Typ. | Max. | Typ. | Min. | Typ. | Max. |
| QBLP677BD-RD-2897 | Red | 50 | 2.2 | 2.8 | 618 | 620 | 628 | 630 | 9000 | 17500 | 23824 |

Absolute Maximum Rating

| Material | P _d (mW) | I _F (mA) | I _{FP} (mA)* | V _R (V) | T _{OP} (°C) | T _{ST} (°C) | T _{SOL} (°C)** |
|----------|---------------------|---------------------|-----------------------|--------------------|----------------------|----------------------|-------------------------|
| AllnGaP | 196 | 70 | 150 | 5 | -40 ~ +90 | -40 ~ +90 | 240 |

*Duty 1/10 @ 1KHz

**IR Reflow for no more than 8 sec @ 240 °C

Forward Voltage V_F for Red (RD) @ I_F=50mA

| Bin | Min. | Max. | Unit |
|-----|------|------|------|
| A | 1.9 | 2.2 | V |
| B | 2.2 | 2.5 | |
| C | 2.5 | 2.8 | |

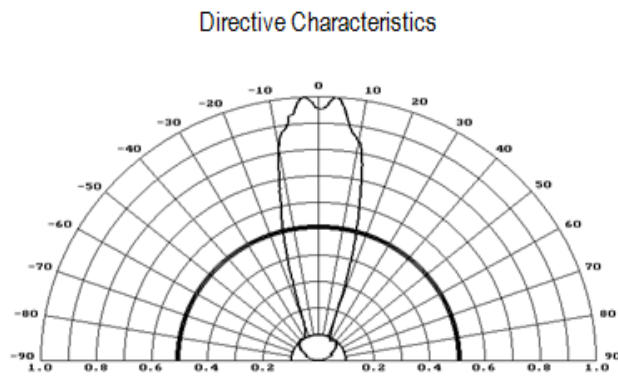
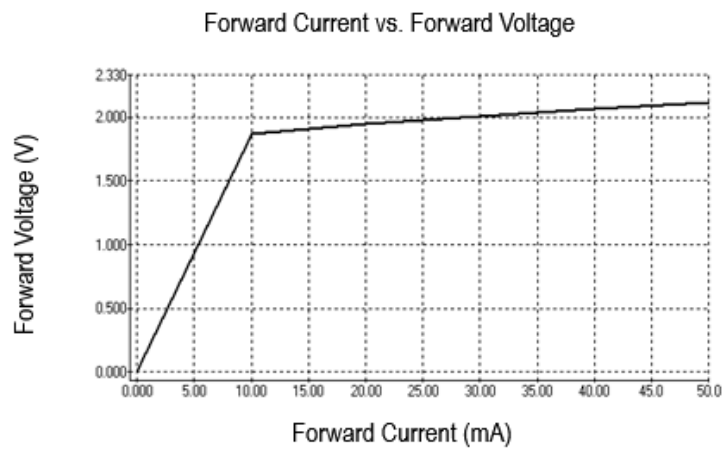
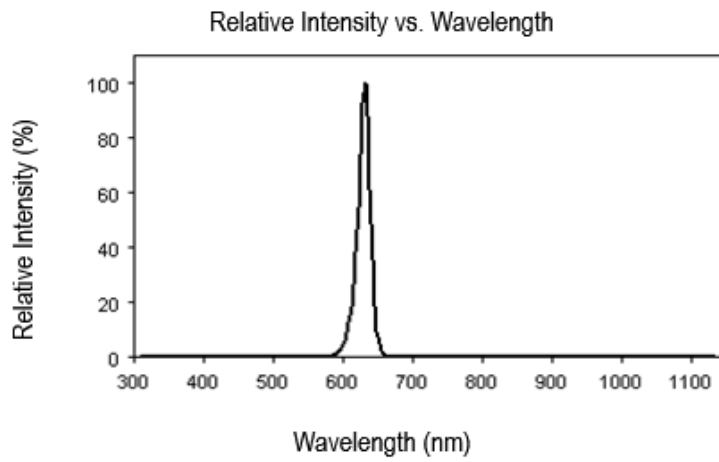
Luminous Intensity I_V for @ I_F=50mA

| Bin | Min. | Max. | Unit |
|-----|-------|-------|------|
| 2b | 9000 | 11647 | mcd |
| 2c | 11647 | 14823 | |
| 2d | 14823 | 18794 | |
| 2e | 18794 | 23824 | |

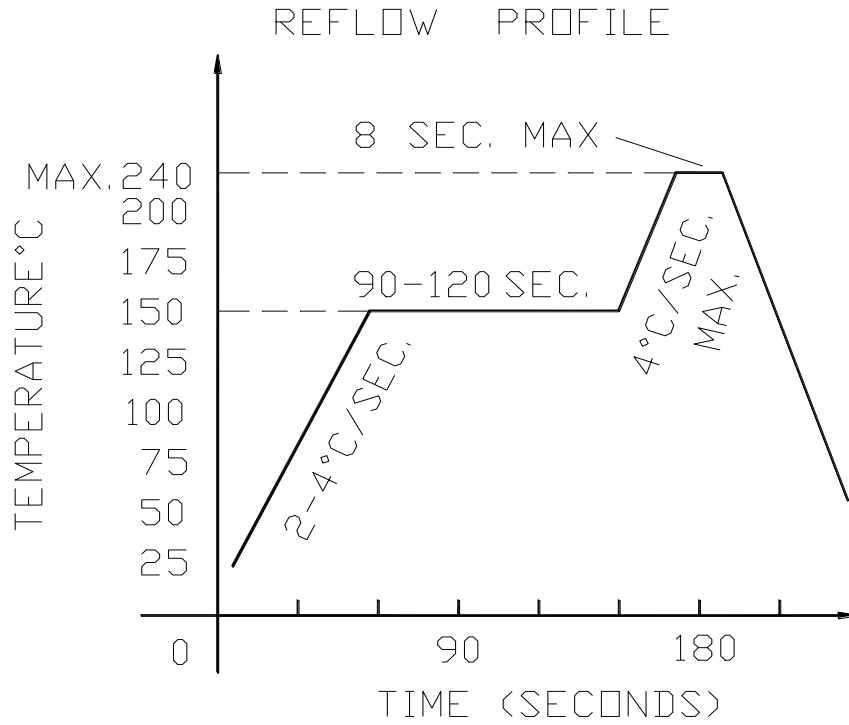
Dominant Wavelength λ_D @ I_F=50mA

| Bin | Min. | Max. | Unit |
|-----|------|------|------|
| A | 618 | 623 | nm |
| B | 623 | 628 | |

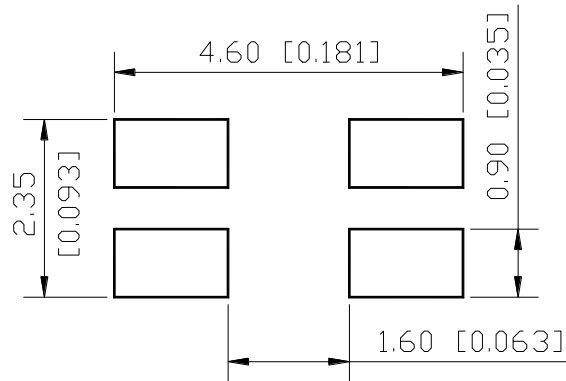
Characteristic Curves



Solder Profile & Footprint



Recommend Pad Layout



Units: mm

Handling Precautions

1. It is recommended to store the products in sealed and anti-static bags with desiccant inside at the following condition:

- Humidity: <60% RH
- Temperature: 5°C~30°C

2. Shelf life in sealed bag: 12 month at 5°C~30°C and <60% R.H

3. After the package is opened:

3.1 The products should be used within a week (168 hours)

3.2 Or product should be stored at $\leq 20\%$ RH and (5°C~30°C) with zip-lock sealed bag

3.3 It is recommended to bake before soldering when the package is unsealed after 72hrs;

3.3.1 Baking condition (Tape and Reel Type): $60\pm 3^\circ\text{C}$ (24~36 hrs) and < 5% RH

3.4 Products require baking before soldering/mounting if **3.1** or **3.2** is not met. Baking condition refers to **3.3.1**

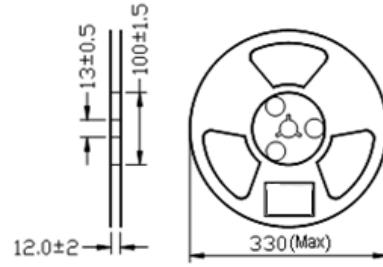
4. If the product is not used within 3 months since manufacturing date, it is recommended to bake for 24 hrs @ 60°C before use.

5. If the product is not used after 3 months since manufacturing date, it is recommended to bake for 36~48 hrs @ 60°C before use.

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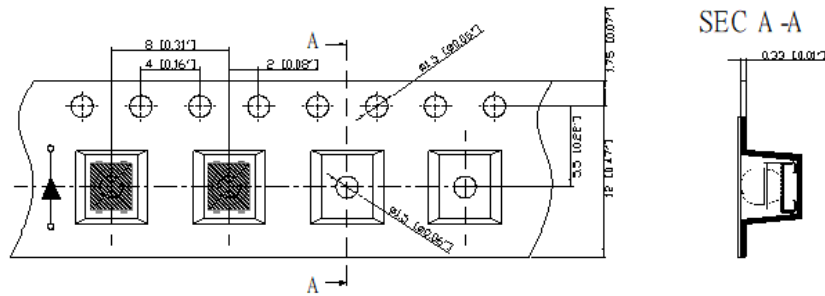
Packing

Reel Dimension:



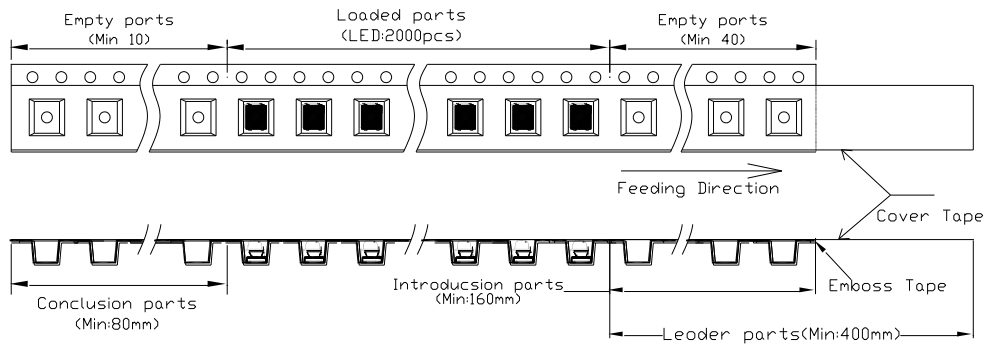
Unit: mm

Dimensions of Tape:

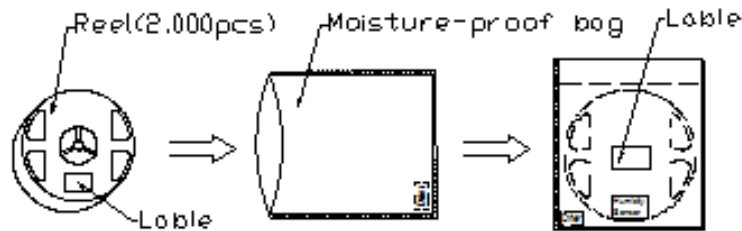


Unit: mm

Arrangement of Tape:



Packaging Specifications:



Labeling



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

Made in China

Ordering Information

| Orderable Part # | Spec Range | Quantity per Reel |
|-------------------|--|-------------------|
| QBLP677BD-RD-2897 | Iv=17500mcd typ., $\lambda_D=618\text{nm to }628\text{nm}$ @ I _F =50mA | 2000 units |



Revision History

| Description: | Revision # | Revision Date |
|----------------------------------|------------|---------------|
| New Release of QBLP677BD-RD-2897 | V1.0 | 11/13/2025 |
| | | |
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| | | |

Disclaimer

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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.

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