

QT-Brightek Chip LED Series

SMD 0402 Deep Red LED

Part No.: QBLP595-S3

S3: $\lambda_p=660\text{nm}$

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Introduction

Feature:

- Water clear lens
- Color: red
- Package in tape and reel
- Compact 0402 package
- AllnGaP technology
- Viewing angle: 140° typ.

Description:

These ultra bright 0402 LEDs have a height profile of 0.50mm. Combination of high brightness output and small footprint, these LEDs are ideal for keypad backlighting and status indication.

Application:

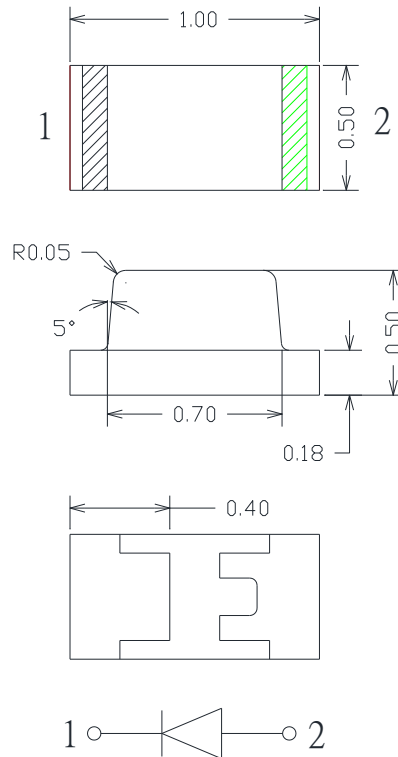
- Status indication
- Back lighting application

Certification & Compliance:

- ISO9001
- RoHS Compliant



Dimension:



Units: mm / tolerance = +/-0.1mm

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. | Min. | Typ. | Max. | Min. | Typ. |
| QBLP595-S3 | Deep Red | 20 | 1.9 | 2.5 | 640 | 650 | 660 | 670 | 12.5 | 25 |

Absolute Maximum Rating

| Material | P _d (mW) | I _F (mA) | I _{FP} (mA)* | V _R (V) | T _{OP} (°C) | T _{ST} (°C) | T _{SO L} (°C)** |
|----------|---------------------|---------------------|-----------------------|--------------------|----------------------|----------------------|--------------------------|
| AllnGaP | 75 | 30 | 125 | 5 | -40 ~ +80 | -40 ~ +85 | 260 |

*Duty 1/8 @ 1KHz

**IR Reflow for no more than 10 sec @ 260 °C

Forward Voltage V_F @ I_F=20mA

| Bin | Min. | Max. | Unit |
|-----|------|------|------|
| □ | 1.7 | 2.5 | V |

Luminous Intensity I_V @ I_F=20mA

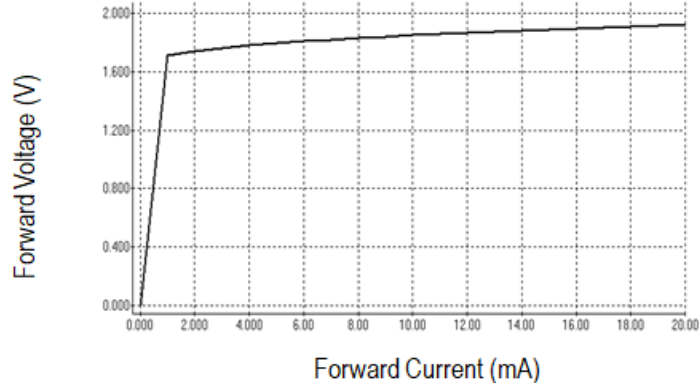
| Bin | Min. | Max. | Unit |
|-----|------|------|------|
| A | 12.5 | 16 | mcd |
| B | 16 | 20 | |
| C | 20 | 25 | |
| D | 25 | 32 | |
| E | 32 | 40 | |

Peak Wavelength λ_P @ I_F=20mA

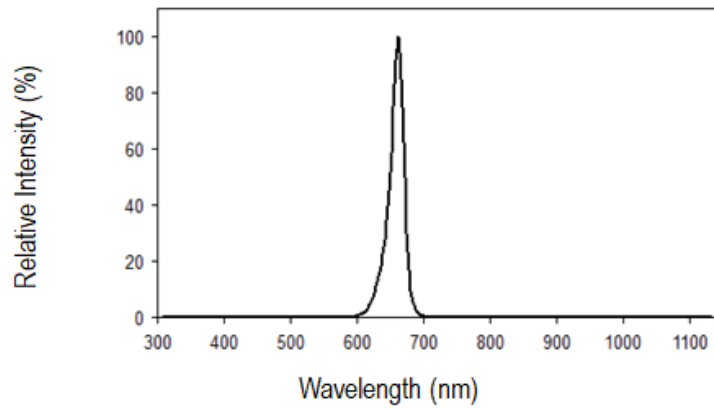
| Bin | Min. | Max. | Unit |
|-----|------|------|------|
| X | 650 | 660 | nm |
| Y | 660 | 670 | |

Characteristic Curves

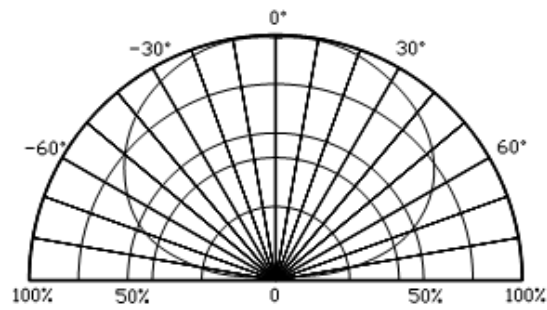
Forward Current vs. Forward Voltage



Relative Intensity vs. Wavelength

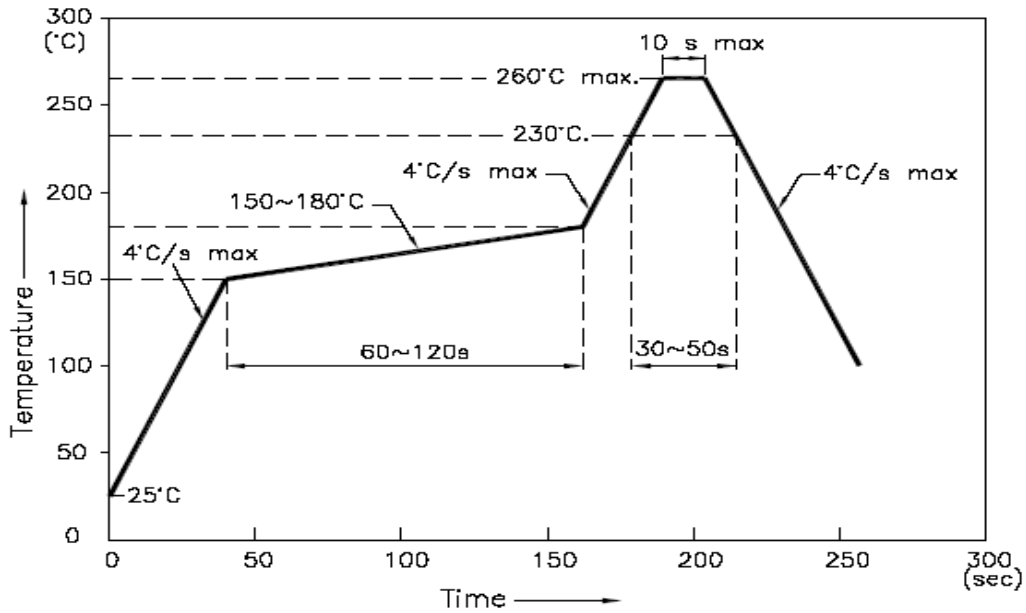


Directive Characteristics

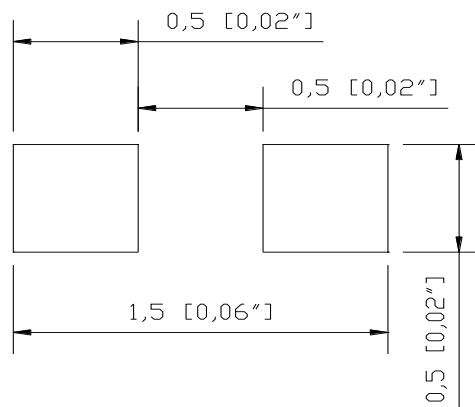


Solder Profile & Footprint

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



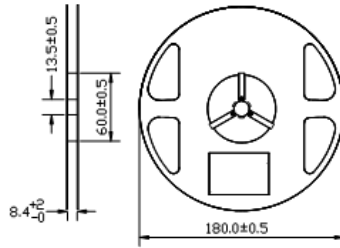
Recommended Pad Layout



Units: mm

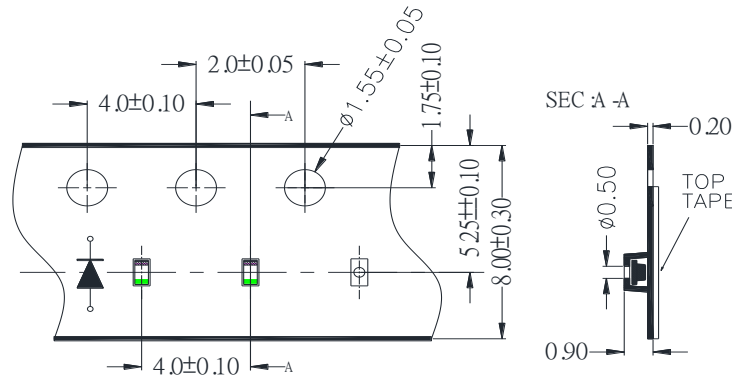
Packing

Reel Dimension:



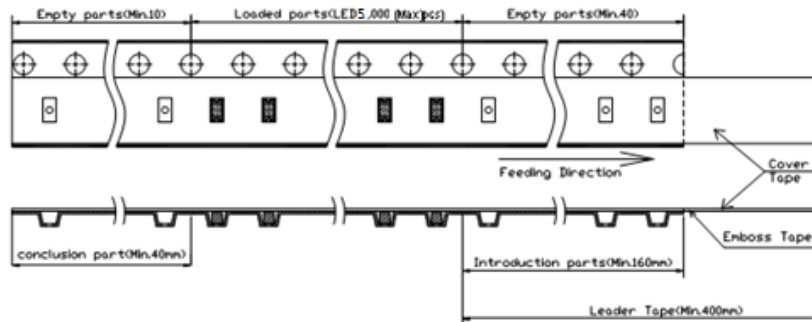
Unit: mm

Tape Dimension:

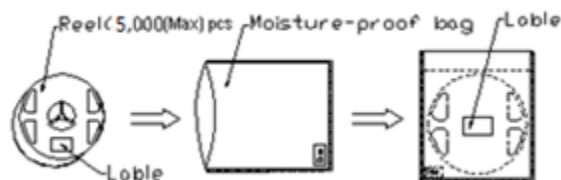


Unit: mm

Arrangement of Tape:



Packaging Specifications:



Ordering Information

| Orderable Part # | Spec Range | Quantity per reel |
|------------------|--|-------------------|
| QBLP595-S3 | Iv=25mcd typ. @ I _F =20mA / λ _P =660nm typ., λ _d =640nm typ | 5,000 units |

Revision History

| Description: | Revision # | Revision Date |
|---------------------------|------------|---------------|
| New Release of QBLP595-S3 | V1.0 | 04/12/2023 |
| | | |
| | | |
| | | |
| | | |

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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.