

# QT-Brightek Chip LED Series

## SMD 1208 Deep Red LED

**Part No.: QBLP653-S3**

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

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## Introduction

### Feature:

- Water clear lens
- Package in tap and reel
- Bright 1208 LED package
- AllnGaP technology
- Viewing angle: 15 deg typ.

### Description:

This bright 1208 LED has a height profile of 2.5mm. With narrow viewing angle, LED produces high bright light output.

### Application:

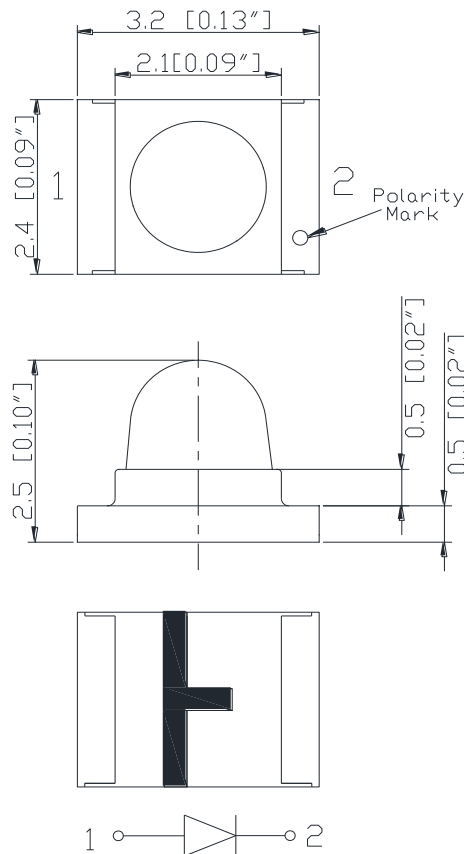
- Status indication
- Back lighting application

### Certification & Compliance:

- ISO9001
- RoHS Compliant



### Dimension:



Units: mm / tolerance = +/-0.15mm

**Electrical / Optical Characteristic (Ta=25 °C)**

Product	Color	I <sub>F</sub> (mA)	V <sub>F</sub> (V)		λ <sub>D</sub> (nm)	λ <sub>P</sub> (nm)			I <sub>V</sub> (mcd)	
			Typ.	Max.	Typ.	Min.	Typ.	Max.	Min.	Typ.
QBLP653-S3	Red	20	1.9	2.5	642	650	660	670	320	625

**Absolute Maximum Rating**

Material	P <sub>d</sub> (mW)	I <sub>F</sub> (mA)	I <sub>FP</sub> (mA)*	V <sub>R</sub> (V)	T <sub>OP</sub> (°C)	T <sub>ST</sub> (°C)	T <sub>SO L</sub> (°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<sub>F</sub> @ I<sub>F</sub>=20mA**

Bin	Min.	Max.	Unit
□	1.7	2.5	V

**Luminous Intensity I<sub>V</sub> @ I<sub>F</sub>=20mA**

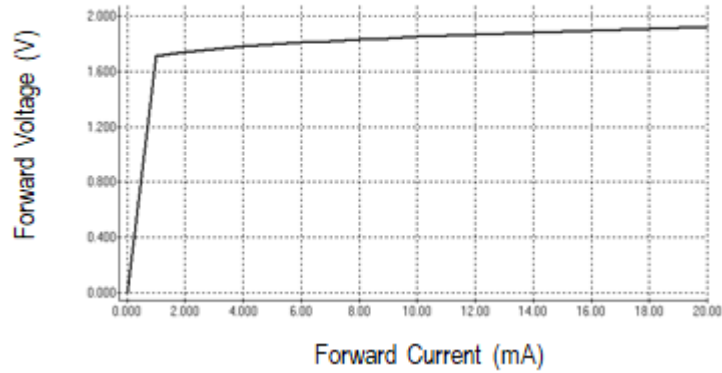
Bin	Min.	Max.	Unit
O	320	400	mcd
P	400	500	
Q	500	630	
R	630	800	
S	800	1000	

**Peak Wavelength λ<sub>P</sub> @ I<sub>F</sub>=20mA**

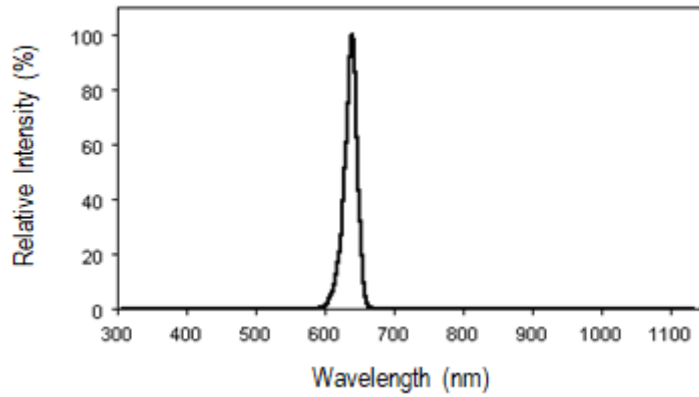
Bin	Min.	Max.	Unit
X	650	660	nm
Y	660	670	

## Characteristic Curves

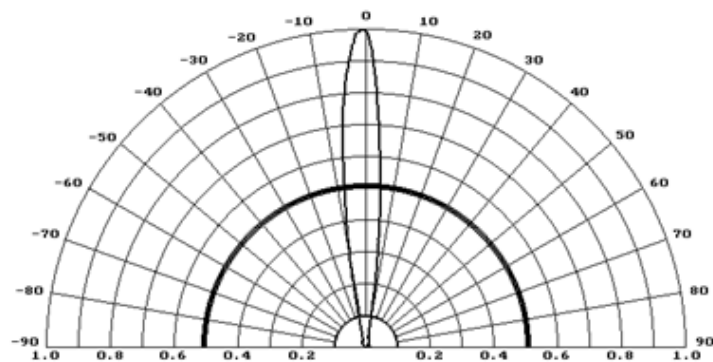
Forward Current vs. Forward Voltage



Relative Intensity vs. Wavelength

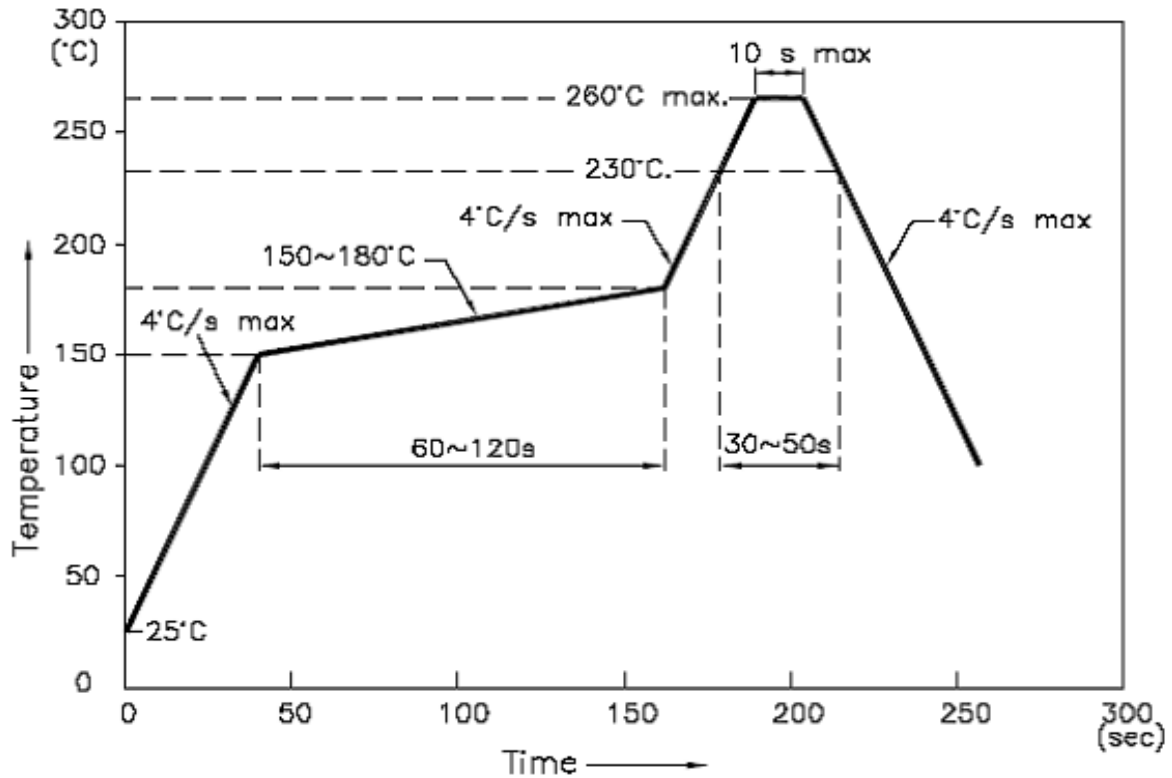


Directive Characteristics

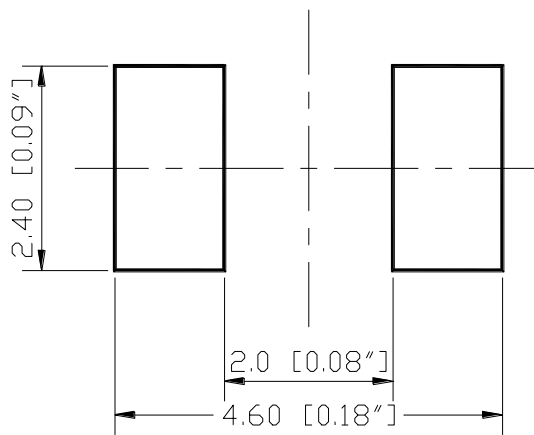


## Solder Profile & Footprint

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



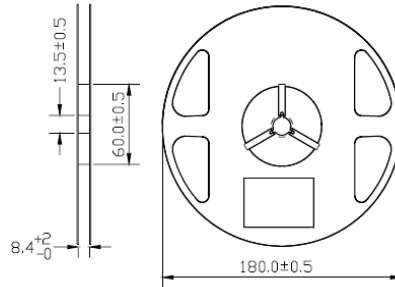
### Recommended Pad Layout



Units: mm

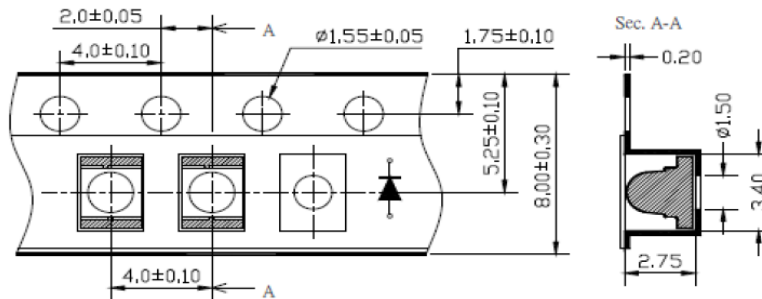
## Packing

### Reel Dimension:



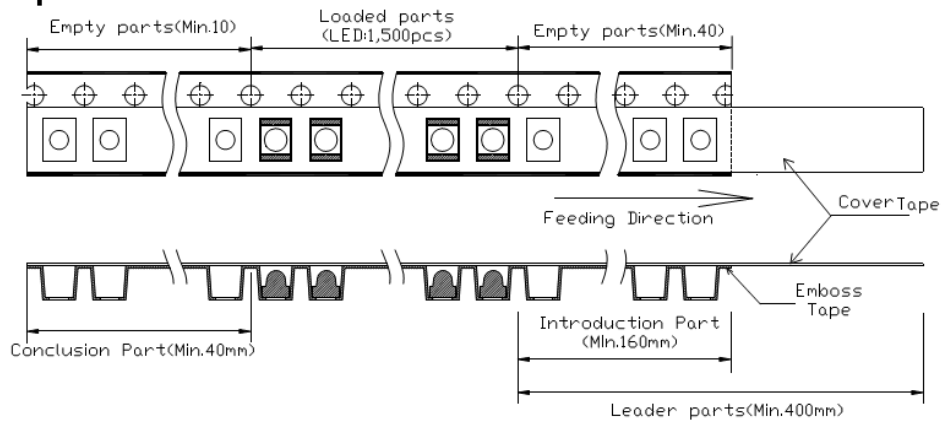
Unit: mm

### Tape Dimension:

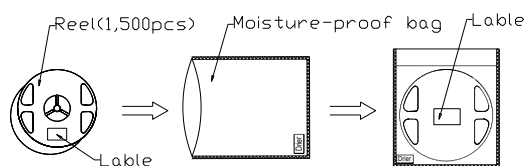


Unit: mm

### Arrangement of Tape:



### Packaging Specification:



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**Labeling**

Part No: \_\_\_\_\_

Customer P/N: \_\_\_\_\_

Item: \_\_\_\_\_

Q'ty: \_\_\_\_\_

Vf: \_\_\_\_\_

Iv: \_\_\_\_\_

VI: \_\_\_\_\_

Date: \_\_\_\_\_

**Made in China****Ordering Information**

Part #	Orderable Part #	Spec Range	Quantity per reel
QBLP653-S3	QBLP653-S3	Iv=625mcd typ. @ I <sub>F</sub> =20mA / λ <sub>P</sub> =660nm typ., λ <sub>d</sub> =640nm typ	1,500 units



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## Revision History

Description:	Revision #	Revision Date
New Release of QBLP653-S3	V1.0	06/05/2023



## 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.