

**QT-Brightek Chip LED Series**

**SMD 1209 Red LED**

**Part No.: QBLP653R-S**

**R: Reverse Mount**

Product: QBLP653R-S	Date: July 03, 2024	Page 1 of 9
	Version# 1.0	



**Table of Contents:**

Introduction ..... 3

Electrical / Optical Characteristic (T=25 °C) ..... 4

Absolute Maximum Rating ..... 4

Characteristic Curves..... 5

Solder Profile & Footprint ..... 6

Packing ..... 7

Labeling ..... 8

Ordering Information ..... 8

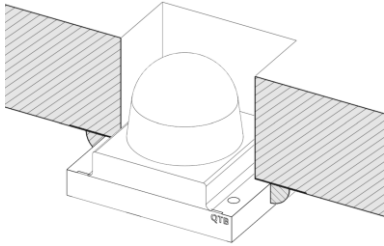
Revision History ..... 9

Disclaimer ..... 9

## Introduction

### Feature:

- Water clear lens
- Package in tap and reel
- Reverse mount (bottom entry)
- Bright 1209 LED package
- Beam angle: 15 deg typ.
- Pkg height: 2.5mm



### Application:

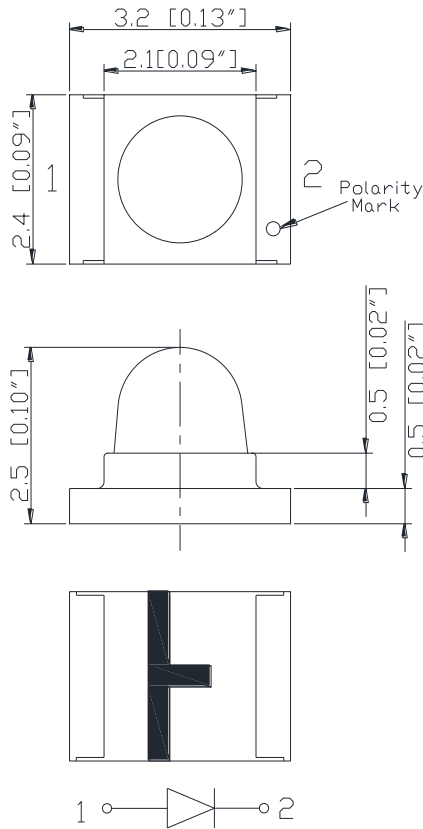
- Status indication
- Back lighting application
- Light pipe
- Signal

### Certification & Compliance:

- ISO9001
- RoHS Compliant



### Dimension:



Units: mm / tolerance = +/-0.15mm

## Electrical / Optical Characteristic (T=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.	Min.	Typ.	Max.	Typ.	Min.	Typ.
QBLP653R-S	Red	20	1.95	2.5	630	640	650	650	500	1400

## 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

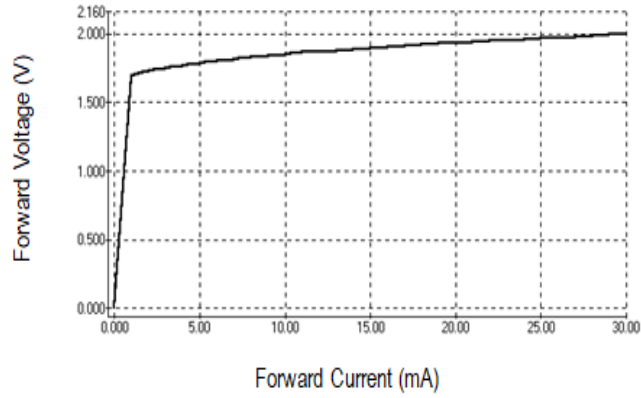
Bin	Min.	Max.	Unit
Q	500	630	mcd
R	630	800	
S	800	1000	
T	1000	1250	
U	1250	1600	
V	1600	2000	
W	2000	2500	

## Dominant Wavelength λ<sub>D</sub> @ I<sub>F</sub>=20mA

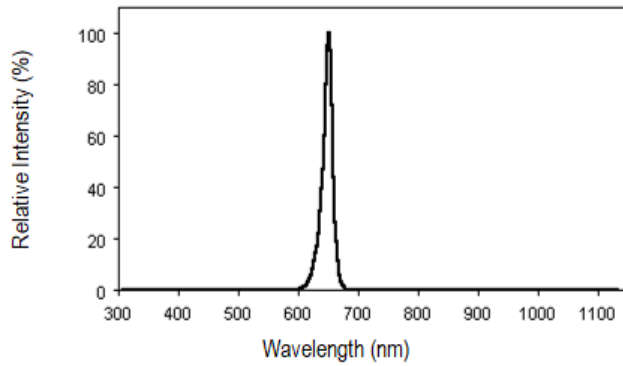
Bin	Min.	Max.	Unit
v	630	635	nm
w	635	650	

## Characteristic Curves

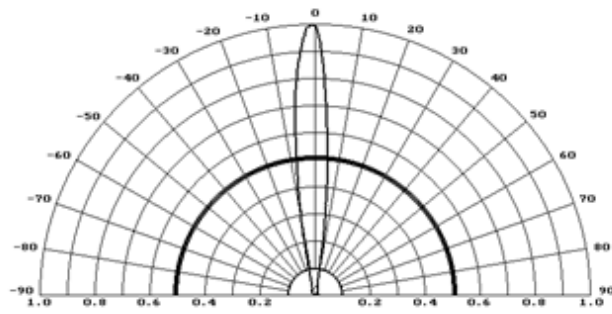
Forward Current vs. Forward Voltage



Relative Intensity vs. Wavelength

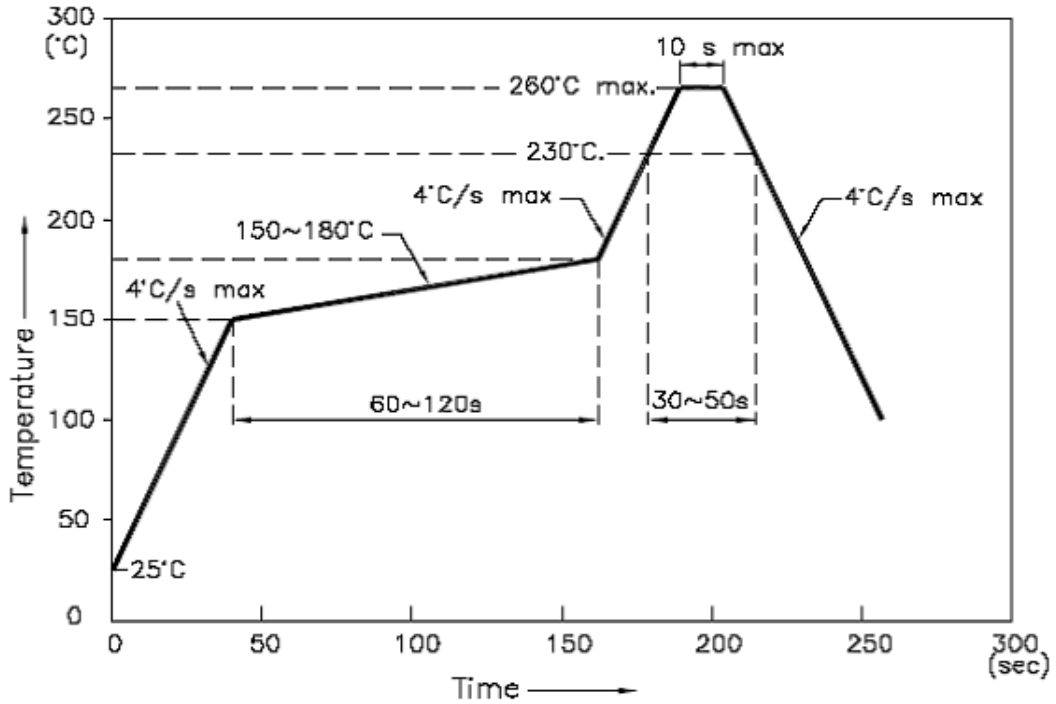


Directive Characteristics

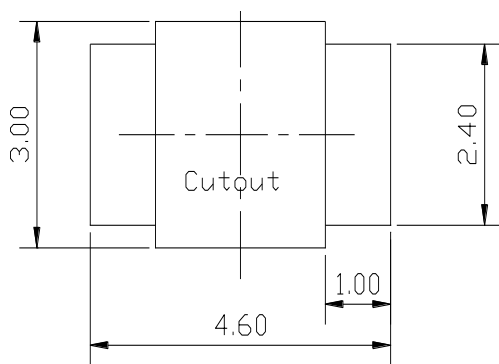


## Solder Profile & Footprint

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

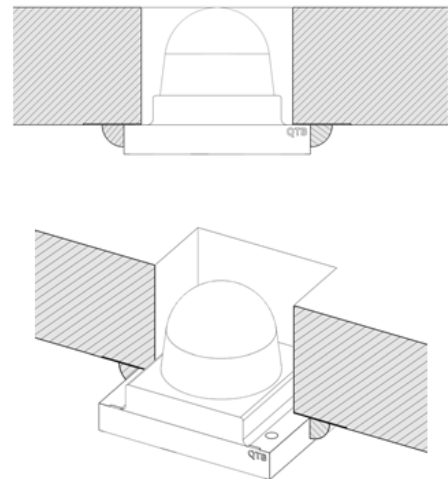


### Recommended Pad Layout



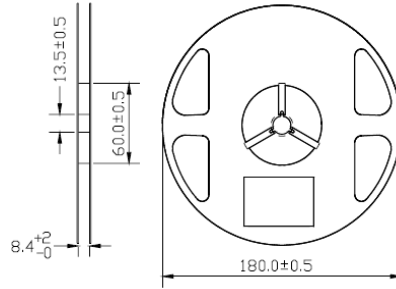
Unit: mm

### Mounting Illustration



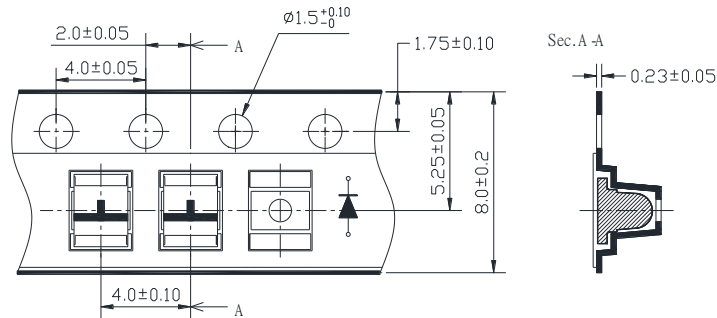
## Packing

Reel Dimension:



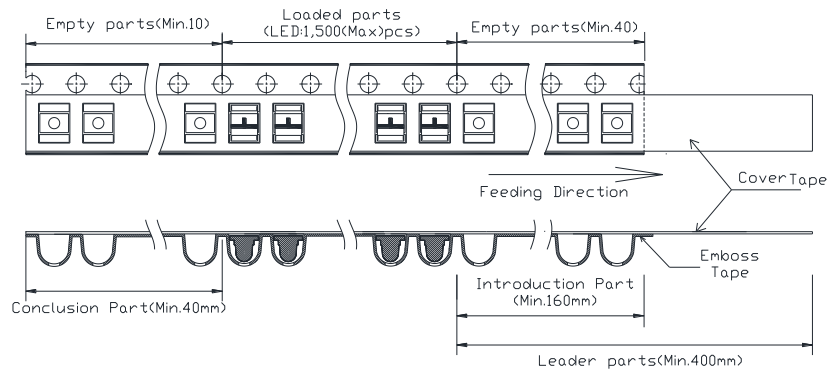
Unit: mm

Tape Dimension:

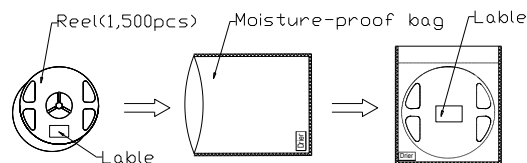


Unit: mm

Arrangement of Tape:



Packaging Specification:



## Labeling



Part No: \_\_\_\_\_  
Customer P/N: \_\_\_\_\_  
Item: \_\_\_\_\_  
Q'ty: \_\_\_\_\_  
Vf: \_\_\_\_\_  
Iv: \_\_\_\_\_  
Wl: \_\_\_\_\_  
Date: \_\_\_\_\_

**Made in China**

## Ordering Information

Orderable Part #	Spec Range	Quantity per reel
QBLP653R-S	Iv=1400mcd typ. @ If=20mA / Color = 630 to 650nm	1,500 units





## Revision History

Description:	Revision #	Revision Date
New Release of QBLP653R-S	V1.0	07/03/2024

## 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.