

# **QT-Brightek Chip LED Series**

## **SMD 1205 Bi-Color LED**

**Part No.: QBLP655R-RIG**

**R: Red**

**IG: True Green**

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## Introduction

### Feature:

- Clear lens
- Package in tape and reel
- Ultra bright 1205 package
- InGaN technology for IG
- AlInGaP technology for R
- Viewing angle: 140 degrees
- Reverse Mountable

### Description:

These ultra-bright 655R LEDs have a height profile of 1.10mm. With a combination of high brightness output and small footprint, these LEDs are ideal for keypad backlighting and status indication.

### Application:

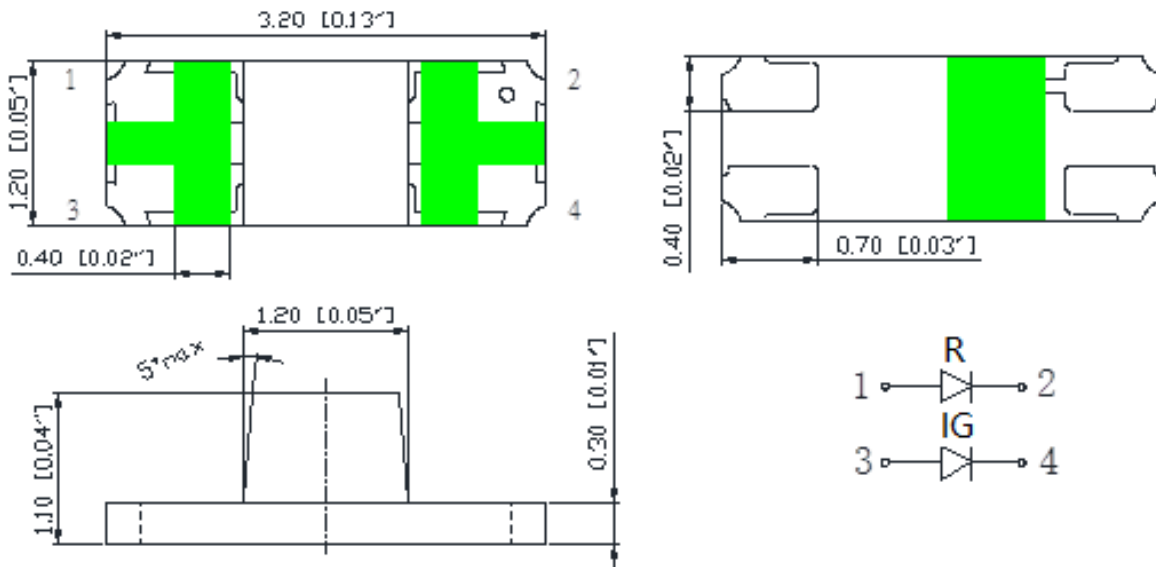
- Status indication
- Back lighting application

### Certification & Compliance:

- TS16949
- ISO9001
- RoHS Compliant



### Dimension:



Units: mm / tolerance = +/-0.1mm

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

Product	Color	I <sub>F</sub> (mA)	V <sub>F</sub> (V)		λ <sub>D</sub> (nm)			I <sub>V</sub> (mcd)	
			Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.
QBLP655R-RIG	Red	20	2.0	2.5	615	623	630	50	90
	True Green	20	3.1	3.7	515	520	525	250	450

### 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>SOL</sub> (°C)**
AllnGaP (R/AG/Y/O)	75	30	125	5	-40 ~ +85	-40 ~ +100	260
InGaN (IB/IG/IW)	120	30	125	5	-40 ~ +85	-40 ~ +100	260

\*Duty 1/8 @ 1kHz

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

### Forward Voltage V<sub>F</sub> for AllnGaP @ I<sub>F</sub>=20mA

Bin	Min.	Max.	Unit
□	1.7	2.5	V

### Forward Voltage V<sub>F</sub> for InGaN @ I<sub>F</sub>=20mA

Bin	Min.	Max.	Unit
f	2.8	3.1	V
g	3.1	3.4	
h	3.4	3.7	

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

Bin	Min.	Max.	Unit
G	50	63	mcd
H	63	80	
I	80	100	
J	100	125	
K	125	160	
L	160	200	
M	200	250	
N	250	320	
O	320	400	
P	400	500	
Q	500	630	
R	630	800	

**Dominant Wavelength  $\lambda_D$  for True Green @  $I_F=20mA$** 

Bin	Min.	Max.	Unit
S	515	517.5	nm
T	517.5	520	
U	520	522.5	
V	522.5	525	

**Dominant Wavelength  $\lambda_D$  for Red @  $I_F=20mA$** 

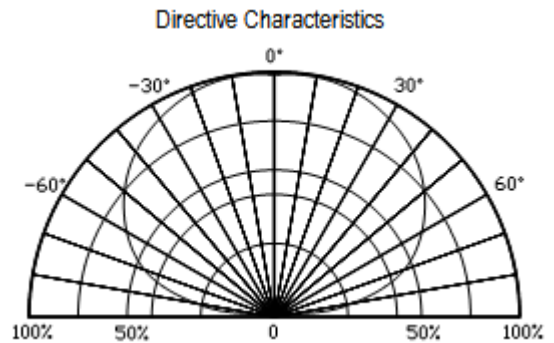
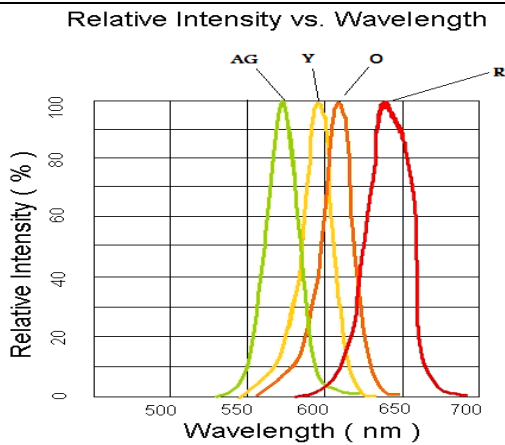
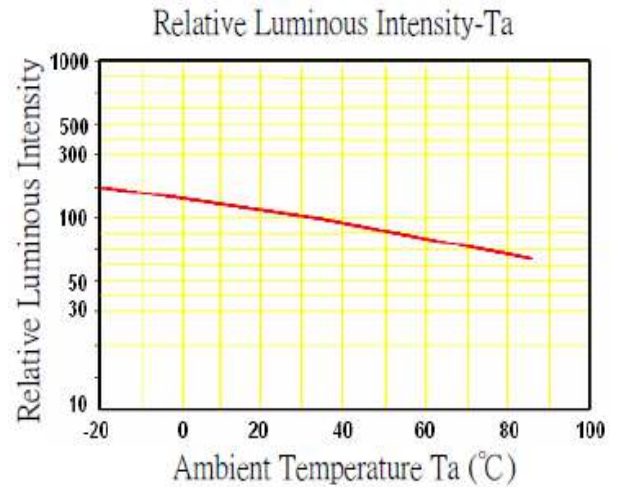
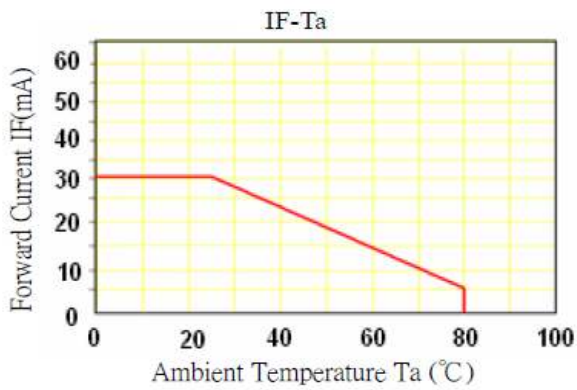
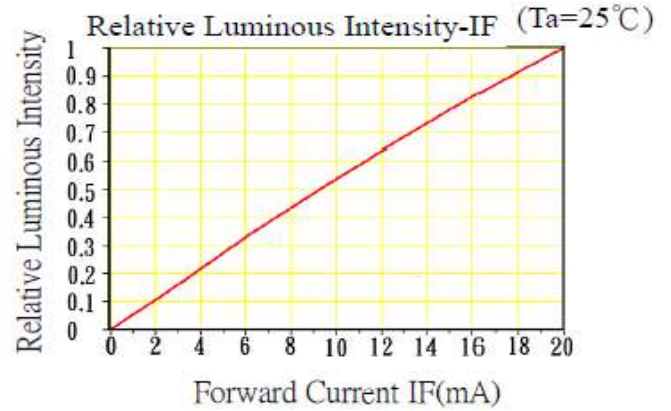
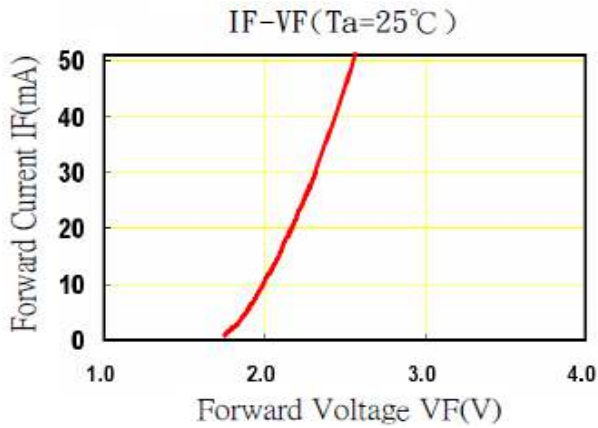
Bin	Min.	Max.	Unit
s	615	620	nm
t	620	625	
u	625	630	

## Note:

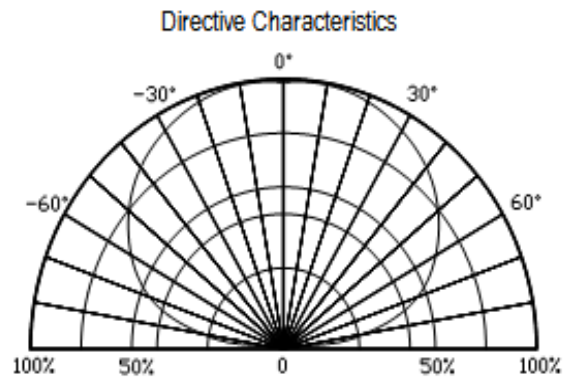
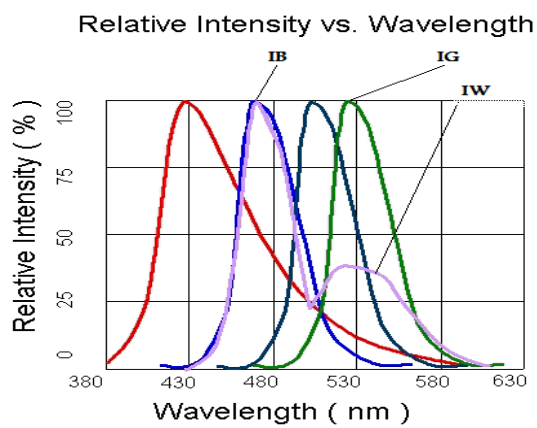
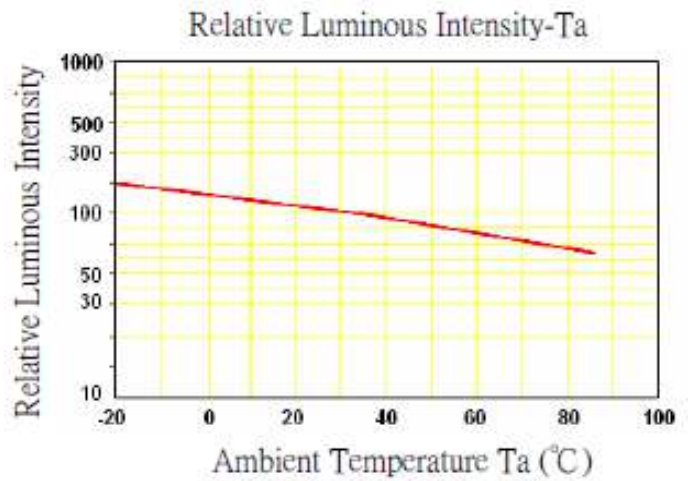
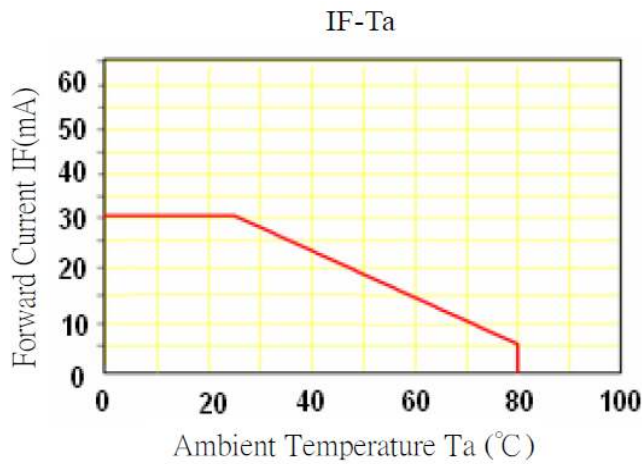
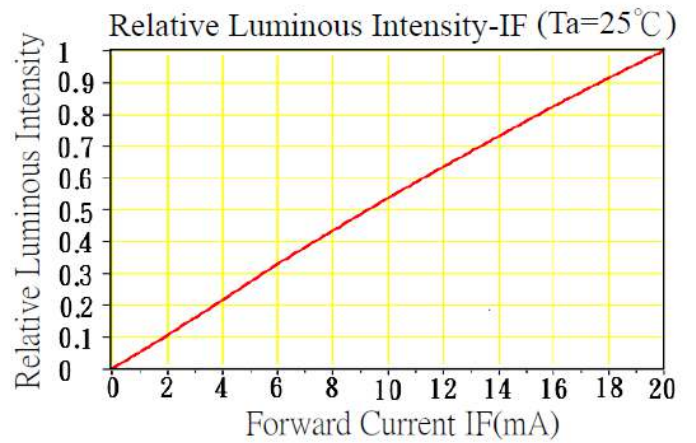
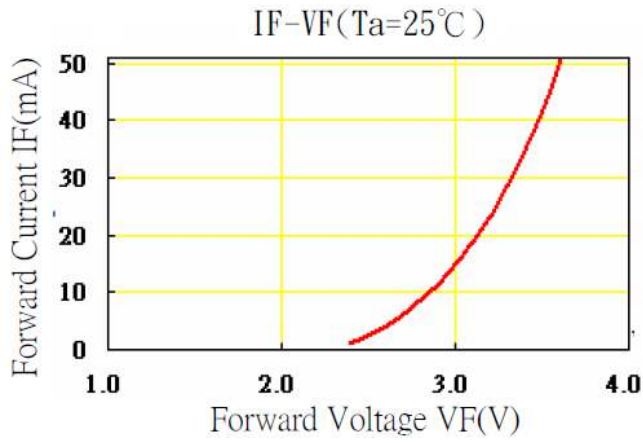
Tolerance of measurement of forward voltage:  $\pm 0.1V$ Tolerance of measurement of luminous intensity:  $\pm 15\%$ Tolerance of measurement of dominant wavelength:  $\pm 2nm$

## Characteristic Curves

AllInGaP (R)

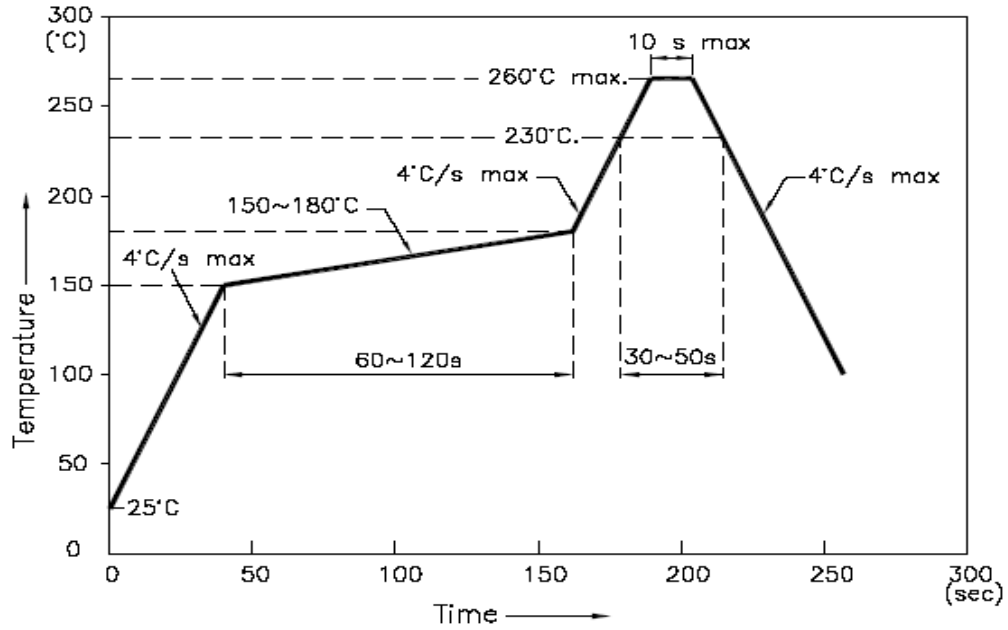


InGaN (IG)

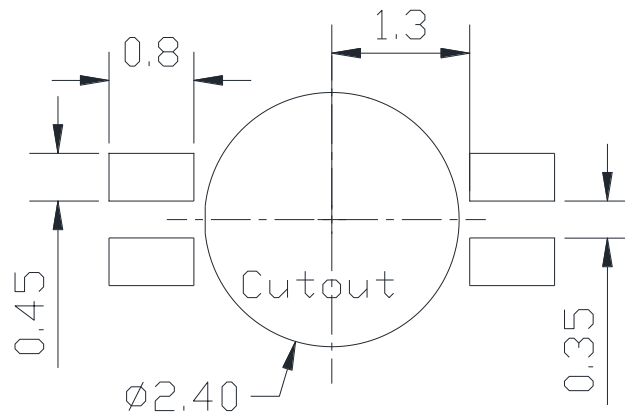


## Solder Profile & Footprint

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



### Recommended Pad Layout



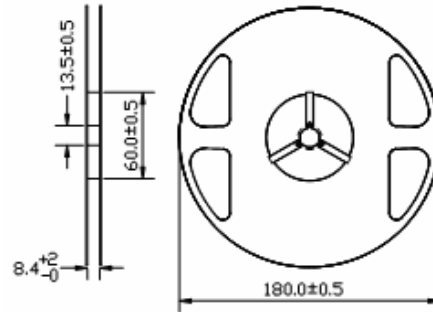
Units: mm

tolerance: +/- 0.1mm



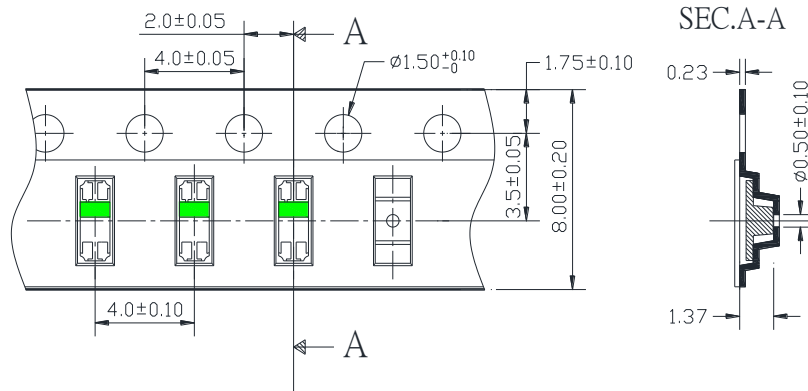
## Packing

### Reel Dimension:



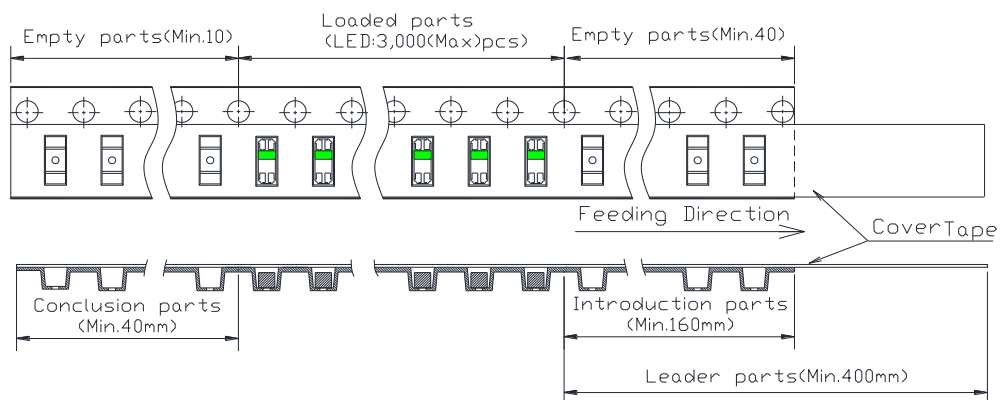
Unit: mm

### Tape Dimension:

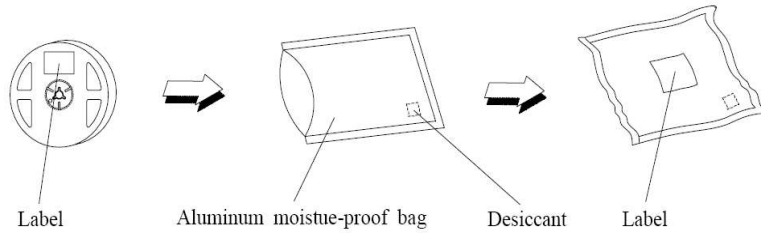


Unit: mm

### Arrangement of Tape:



**Packaging Specifications:**



**Labeling**



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

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

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

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

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

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

**WI:** \_\_\_\_\_

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

**Made in China**

**Ordering Information**

Part #	Orderable Part #	Spec Range	Quantity per reel
QBLP655R-RIG	QBLP655R-RIG	Iv=90mcd typ. @ 20mA / λ <sub>D</sub> =615-630nm Iv=450mcd typ. @ 20mA / λ <sub>D</sub> =515-525nm	3,000 units

**Revision History**

Description:	Revision #	Revision Date
New Release of QBLP655R-RIG	V1.0	06/08/2017

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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.

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