

**QT-Brightek Chip LED Series**

**SMD 1210 Bi-Color LED**

**Part No.: QBLP650-RAG**

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## Introduction

**Feature:**

- Water clear lens
- Package in tape and reel
- Ultra bright 1210 LED package
- AllnGaP technology for Red/Yellow Green

**Description:**

These ultra bright 1210 LEDs have a height profile of 1.1mm. Combination of high brightness output and small footprint, these LEDs are ideal for keypad backlighting and status indication.

**Application:**

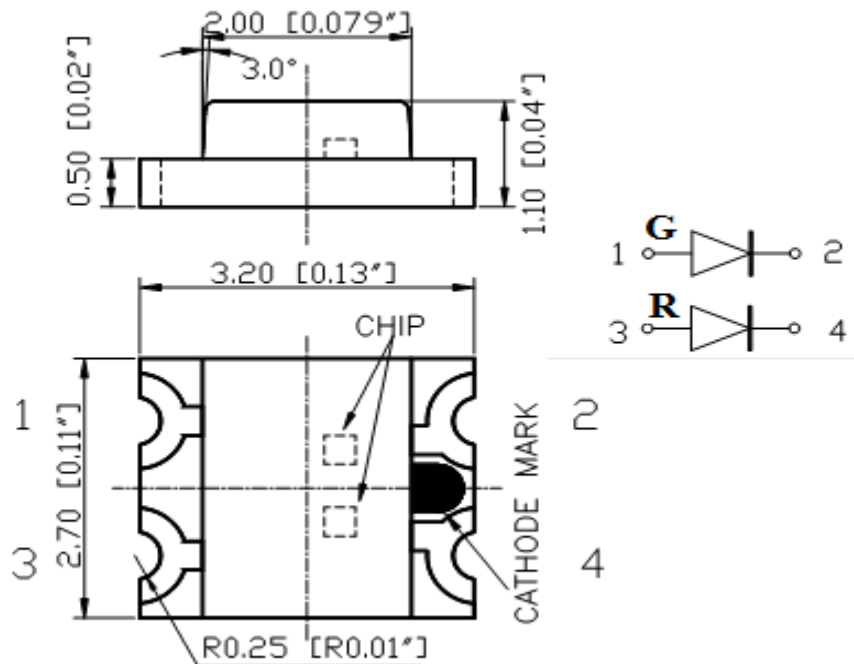
- Status indication
- Back lighting application

**Certification & Compliance:**

- TS16949
- ISO9001
- RoHS Compliant



**Dimension:**



Units: mm / tolerance = +/-0.1mm

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**Electrical / Optical Characteristic (T=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.
QBLP650-RAG	Red	20	2.0	2.5	615	624	630	80	180
	Yellow Green	20	2.0	2.5	565	573	576	25	55

**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 )	75	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> @ 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
D	25	32	mcd
E	32	40	
F	40	50	
G	50	63	
H	63	80	
I	80	100	
J	100	125	
K	125	160	
L	160	200	
M	200	250	

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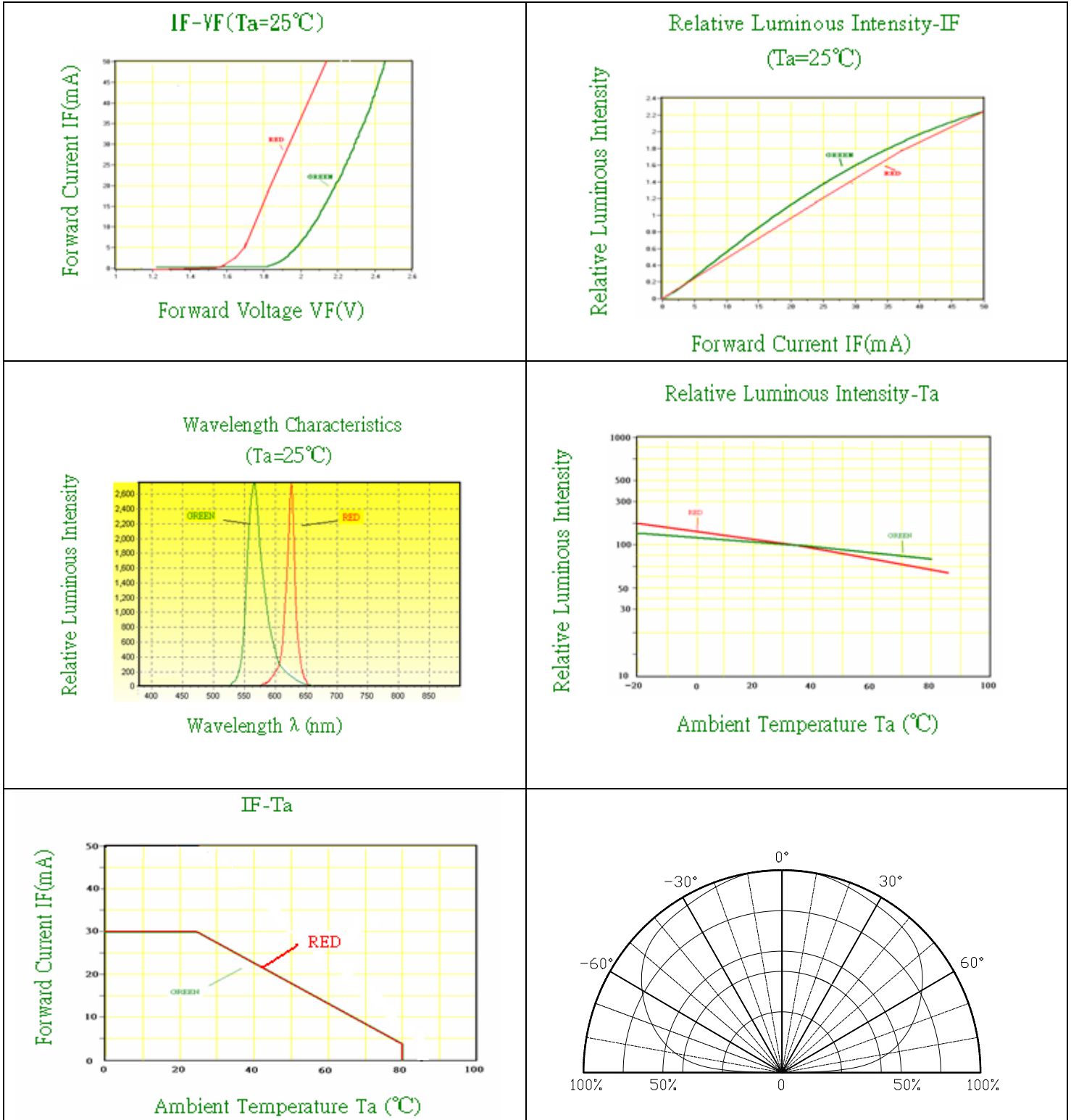
**Dominant Wavelength  $\lambda_D$  for Yellow Green @  $I_F=20mA$** 

Bin	Min.	Max.	Unit
h	565	568	nm
i	568	572	
j	572	576	

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

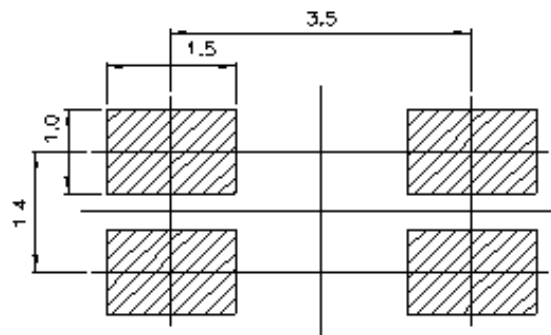
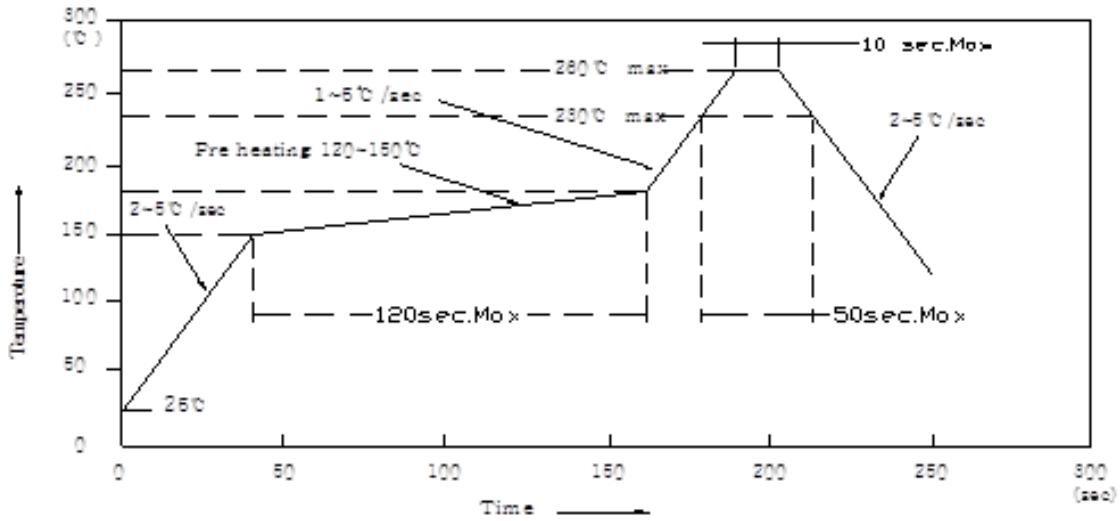
Bin	Min.	Max.	Unit
s	615	620	nm
t	620	625	
u	625	630	

**Characteristic Curves**



**Solder Profile & Footprint:**

**IR Reflow Soldering Profile  
Lead Free Solder**



( Proposed Solder footprint )

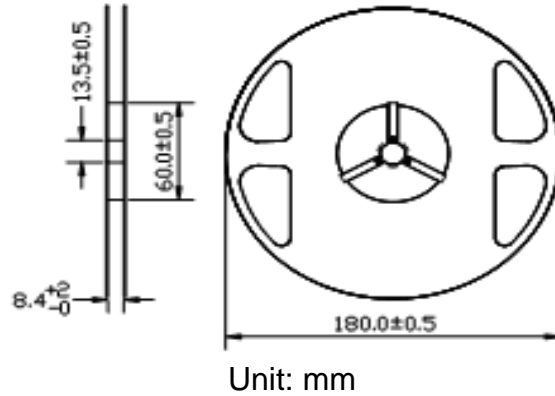
Units: mm

tolerance: +/- 0.1mm

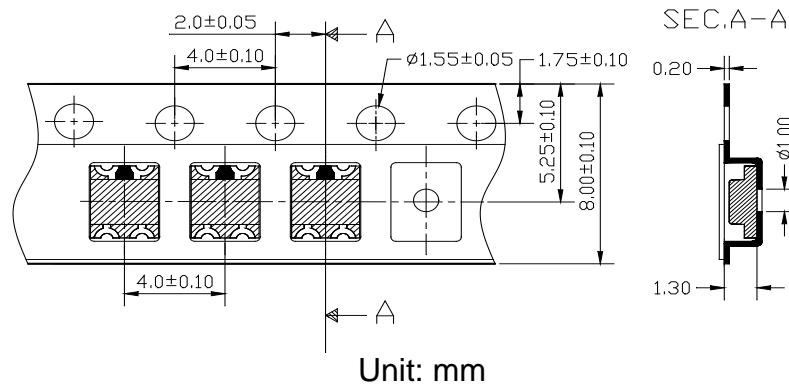
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## Packing

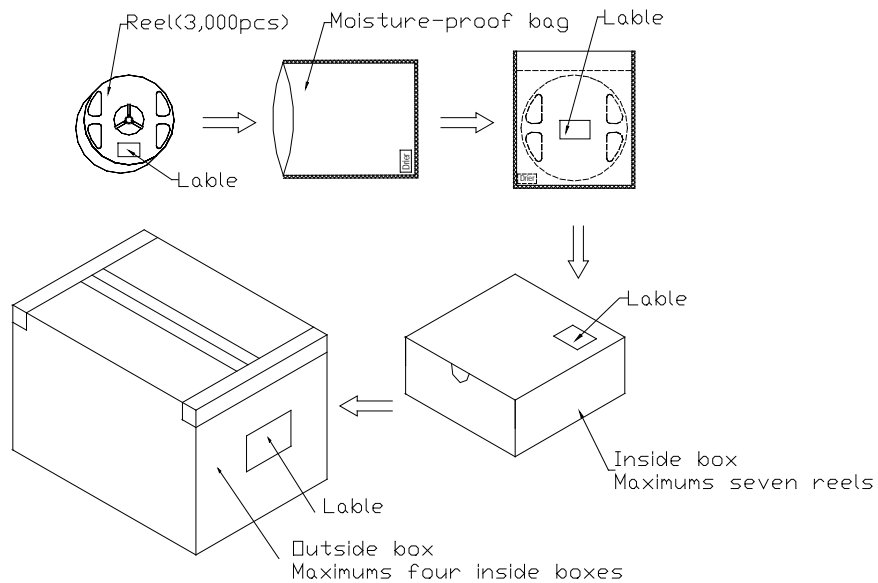
### Reel Dimension:



### Tape Dimension:



### Packing Specifications:



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**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
QBLP650-RAG	QBLP650-RAG	R: Iv = 180mcd typ. / Color = 615-630nm	3,000 units
		AG: Iv = 55mcd typ. / Color= 565-576nm	

## Revision History

Description:	Revision #	Revision Date
New Release of QBLP650-RAG	V1.0	09/20/2010
Brightness	V1.1	06/25/2011
Add Bin code/ amend brightness	V1.2	01/04/2012
Update Format	V1.3	08/27/2012

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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.