

QT-Brightek Chip LED Series

SMD 0603 BI-Color LED

Part No.: QBLP601-YIG

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Introduction

Feature:

- Water clear lens
- Package in tape and reel
- Ultra bright 0603 LED package
- AlInGaP technology for yellow (Y)
- InGaN technology for true green (IG)
- Viewing angle: 140 deg typ.

Description:

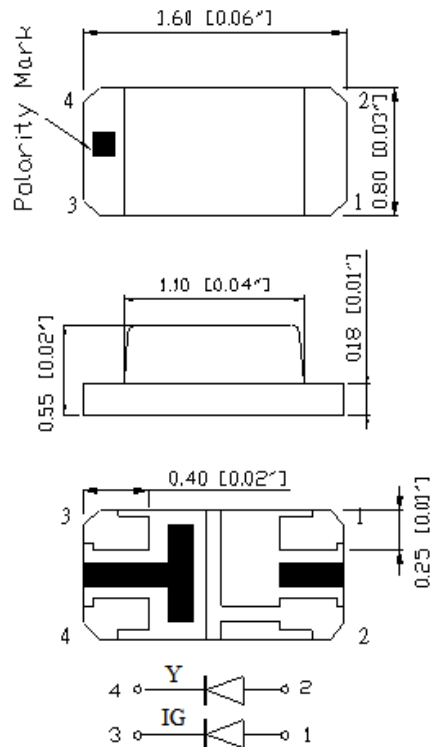
These ultra bright 0603 YIG bi-color LEDs have a height profile of 0.55mm. Combination of high brightness output and small footprint, these LEDs are ideal for keypad backlighting, status indication, and color mixing applications.

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 _F (mA)	V _F (V)		λ _D (nm)			I _V (mcd)	
			Typ.	Max	Min.	Typ.	Max.	Min.	Typ.
QBLP601-YIG	Yellow	20	2.0	2.5	585	590	595	100	160
	True Green	20	3.1	3.7	515	520	525	320	450

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
InGaN	111	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 for AllnGaP @ I_F=20mA

Bin	Min.	Max.	Unit
□	1.7	2.5	V

Forward Voltage V_F for InGaN @ I_F=20mA

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

Luminous Intensity I_V for Yellow @ I_F=20mA

Bin	Min.	Max.	Unit
H2	100	160	mcd
I2	160	250	

Luminous Intensity I_V for True Green @ I_F=20mA

Bin	Min.	Max.	Unit
O	320	400	mcd
P	400	500	
Q	500	630	

Dominant Wavelength λ_D for Yellow @ $I_F=20mA$

Bin	Min.	Max.	Unit
m	585	590	nm
n	590	595	

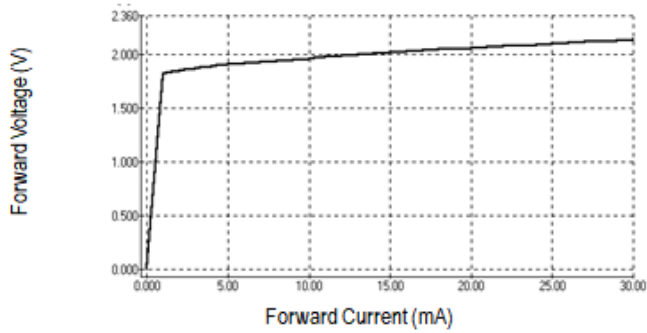
Dominant Wavelength λ_D for True Green @ $I_F=20mA$

Bin	Min.	Max.	Unit
U	520	522.5	nm
V	522.5	525	
W	525	527.5	
X	527.5	530	

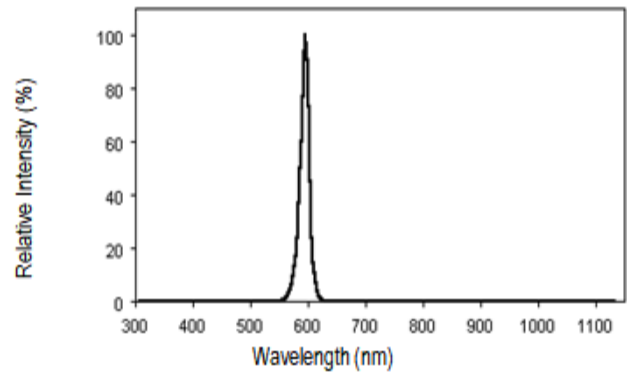
Characteristic Curves

Yellow

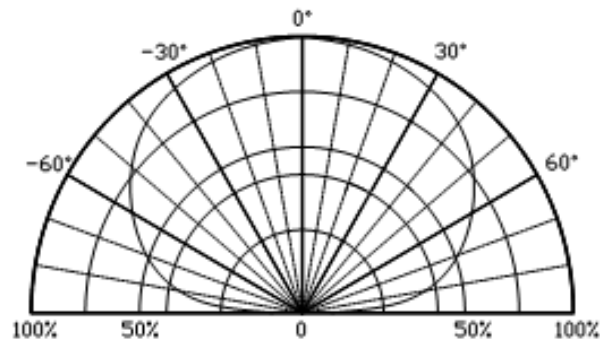
Forward Current vs. Forward Voltage



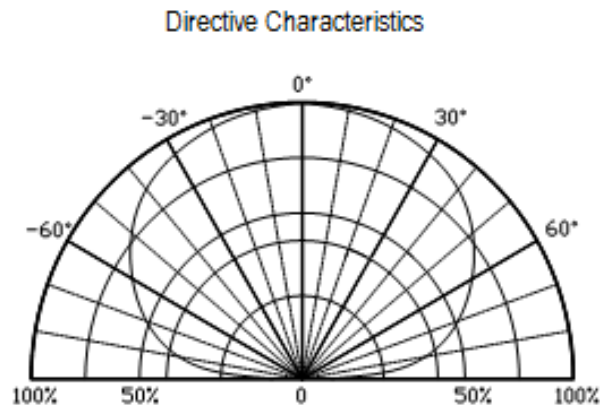
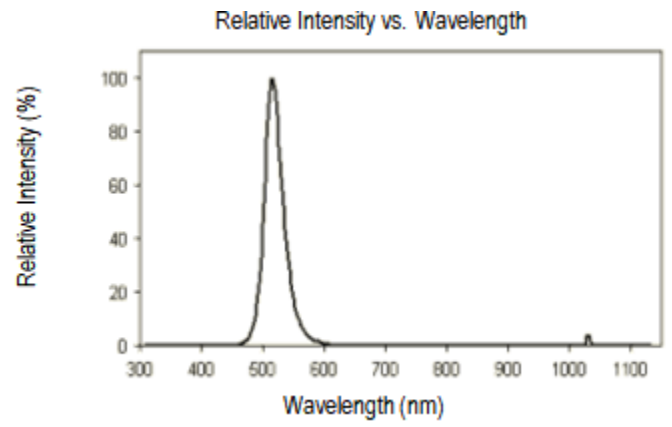
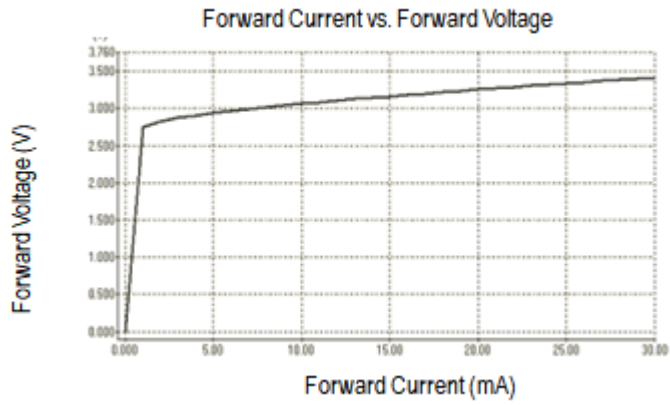
Relative Intensity vs. Wavelength



Directive Characteristics

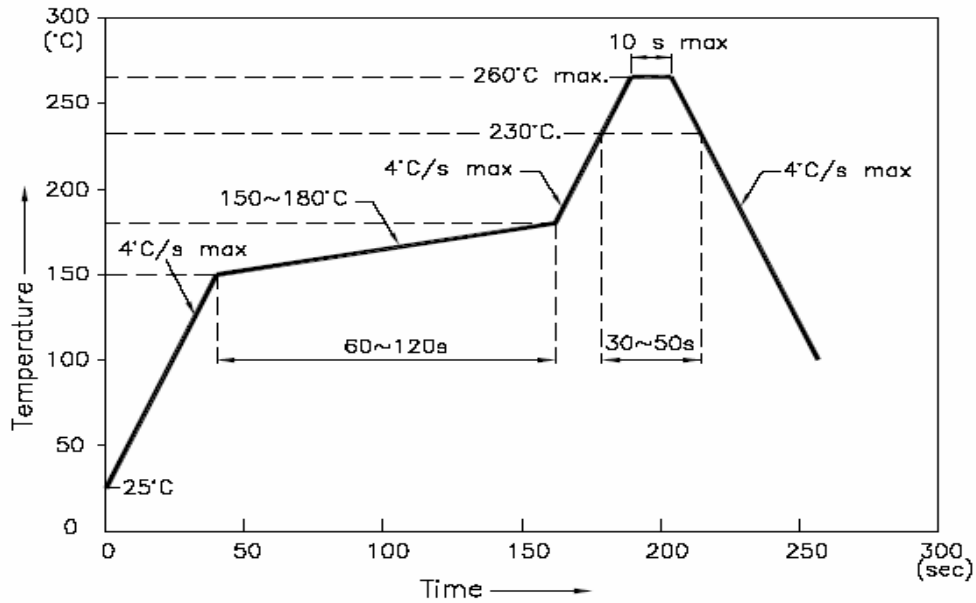


True Green

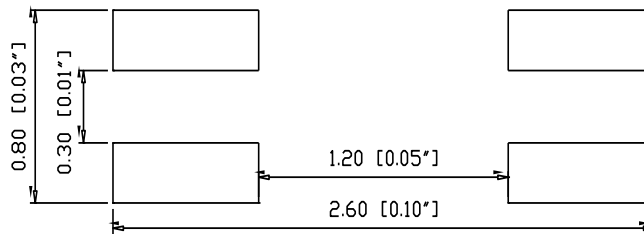


Solder Profile & Footprint

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



RECOMMEND PAD LAYOUT

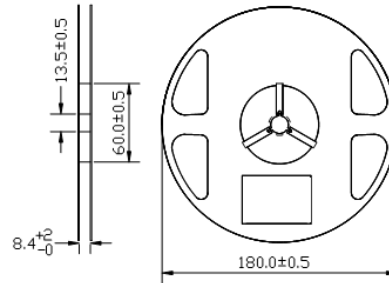


Units: mm

tolerance: +/- 0.1mm

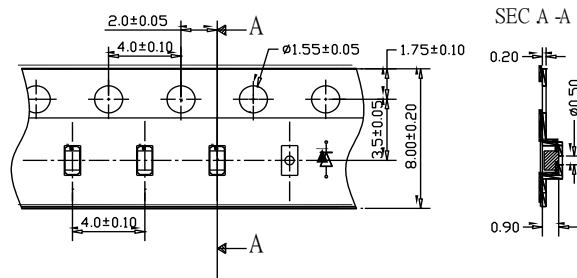
Packing

Reel Dimension:



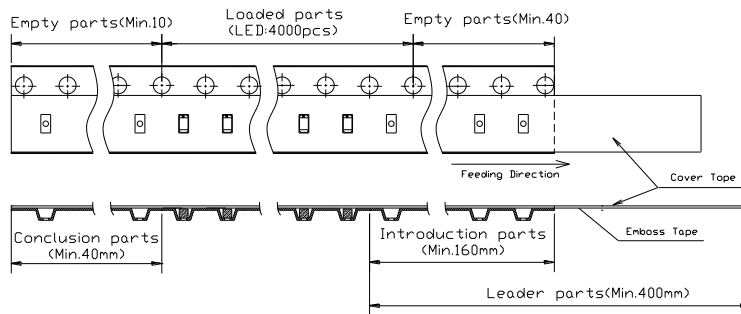
Unit: mm

Tape Dimension:

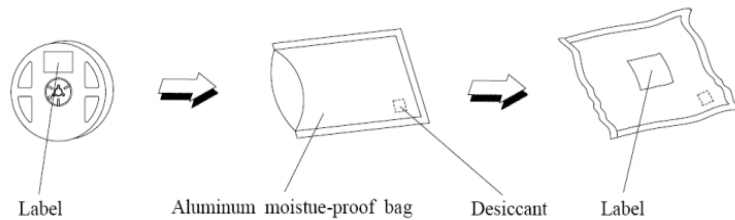


Unit: mm

Arrangement of Tape:



Packaging Specifications:





Ordering Information

Part #	Orderable Part #	Spec Range	Quantity per reel
QBLP601-YIG	QBLP601-YIG	Yellow (Y): $I_V=160\text{mcd typ. @ } 20\text{mA} / \lambda_D:$ 585nm to 595nm	4000pcs
		True Green (IG): $I_V=450\text{mcd typ. @ } 20\text{mA} / \lambda_D:$ 520nm to 530nm	

Revision History

Description:	Revision #	Revision Date
New Release of QBLP601-YIG	V1.0	11/29/2018

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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.