

QT-Brightek PLCC LED Series

SMD 1608 (0603) PLCC-2 LEDs

Part No.: QBLP661-XX5 Series

XX: Color Code
5: 5mA Sorting

Product: QBLP661-XX5 Series	Date: December 01, 2020	Page 1 of 11
	Version# 1.0	

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Introduction

Feature:

- Water clear lens
- Package in tape and reel
- 1608 Metric (0603) PLCC-2 Package
- Compatible with 0603 SMD form factor
- Sorted @ 5mA
- Viewing angle: 120deg typ.
- AllInGaP technology for R
- InGaN technology for IG/IB
- MSL 5A

Description:

These ultrabright 1608 metric (0603) PLCC-2 LEDs have a height profile of 0.55mm. Combination of high brightness output and small footprint, these LEDs are ideal for keypad backlighting and status indication.

Application:

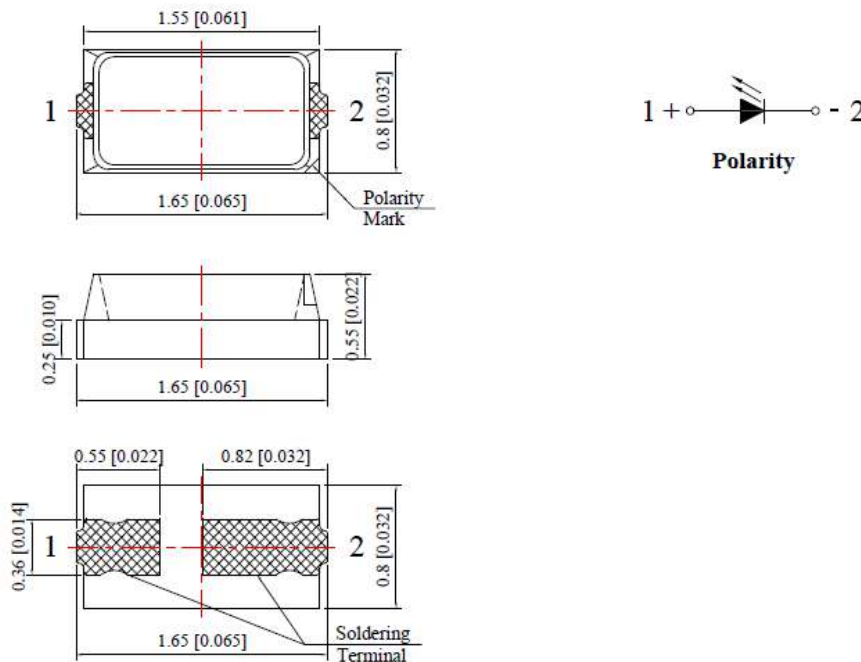
- Status indication
- Back lighting application

Certification & Compliance:

- ISO9001
- RoHS Compliant



Dimension:



Units: mm / tolerance = +/-0.2mm

Electrical / Optical Characteristic (Ta=25 °C)

Product	Color	I _F (mA)	V _F (V)			λ _D (nm)			I _v (mcd)		
			Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.
QBLP661-R5	Red	5	1.5	1.8	2.1	615	620	625	30	60	150
		10*	-	1.9	-				-	110	-
		20*	-	2.0	2.4				-	250	-
QBLP661-IG5	True Green	5	2.5	2.8	3.1	515	520	530	250	500	1000
		10*	-	3.0	-				-	800	-
		20*	-	3.2	3.6				-	1600	-
QBLP661-IB5	Blue	5	2.6	2.8	3.2	460	465	475	40	70	190
		10*	-	2.9	-				-	160	-
		20*	-	3.2	3.6				-	300	-

*V_F and I_v values are provided for reference

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 (R)	60	25	100	5	-40 ~ +85	-40 ~ +90	260
InGaN (IG/IB)	90	25	100	5	-40 ~ +85	-40 ~ +90	260

*Duty 1/8 @ 1KHz

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

Forward Voltage V_F for Red (R) @ $I_F=5mA$

Bin	Min.	Max.	Unit
a	1.5	1.7	V
b	1.7	1.9	
c	1.9	2.1	

Forward Voltage V_F for True Green (IG) @ $I_F=5mA$

Bin	Min.	Max.	Unit
f	2.5	2.7	V
g	2.7	2.9	
h	2.9	3.1	

Forward Voltage V_F for Blue (IB) @ $I_F=5mA$

Bin	Min.	Max.	Unit
i	2.6	2.8	V
j	2.8	3.0	
k	3.0	3.2	

Luminous Intensity I_V for Red (R) @ $I_F=5mA$

Bin	Min.	Max.	Unit
1	30	70	mcd
2	70	110	
3	110	150	

Luminous Intensity I_V for True Green (IG) @ $I_F=5mA$

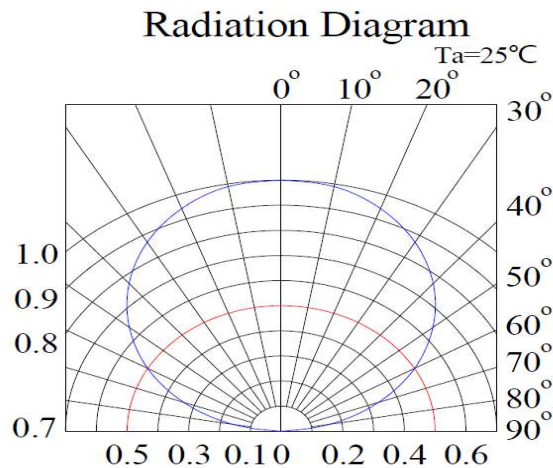
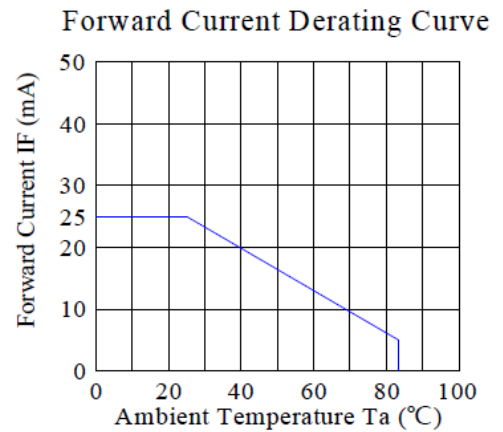
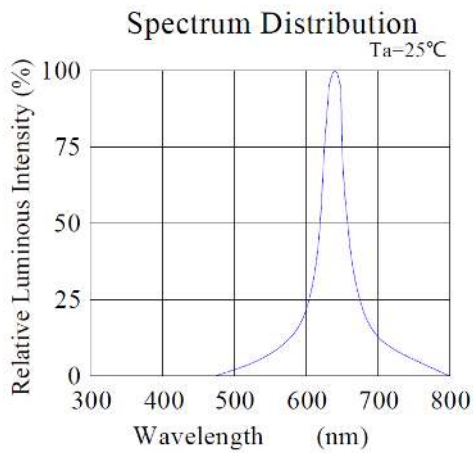
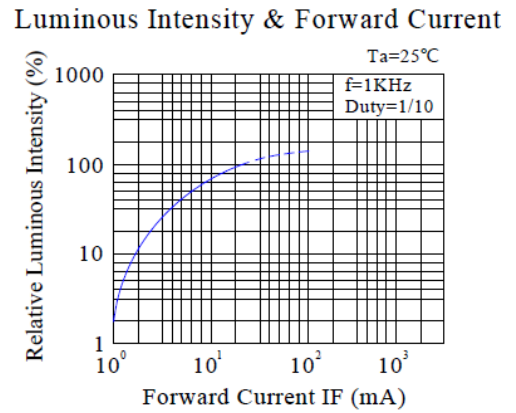
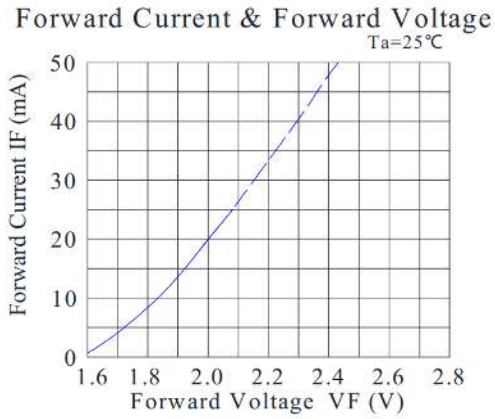
Bin	Min.	Max.	Unit
1	250	500	mcd
2	500	750	
3	750	1000	

Luminous Intensity I_V for Blue (IB) @ $I_F=5mA$

Bin	Min.	Max.	Unit
1	40	90	mcd
2	90	140	
3	140	190	

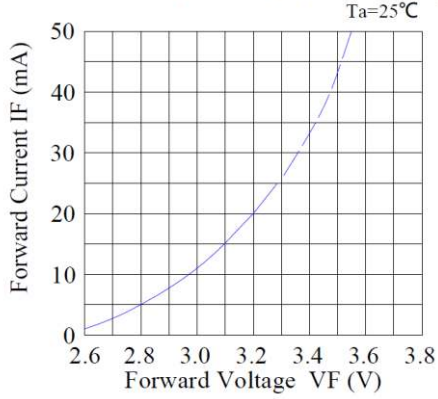
Characteristic Curves

AllInGaP (R)

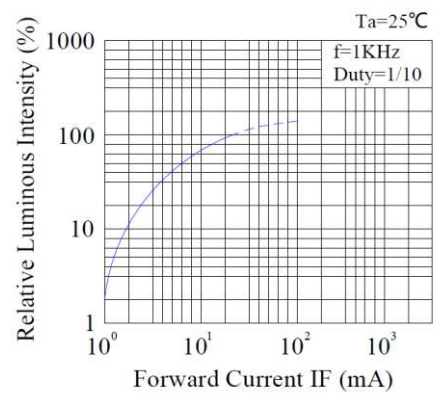


InGaN (IG/IB)

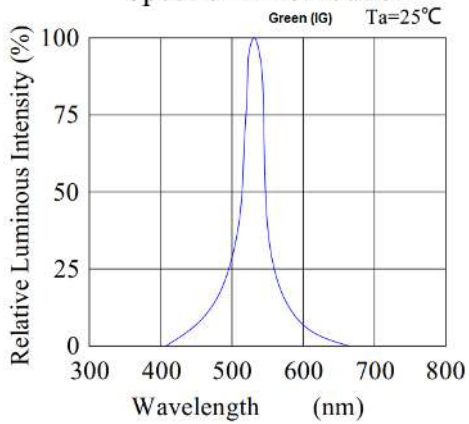
Forward Current & Forward Voltage



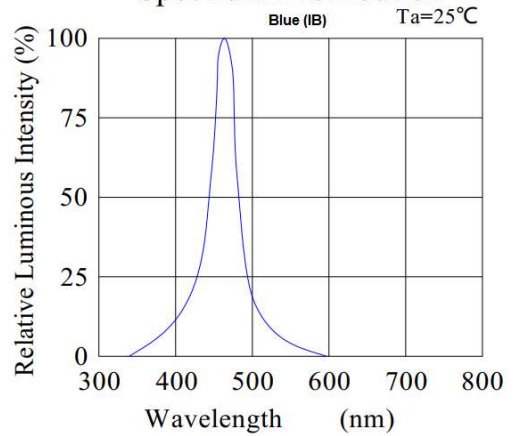
Luminous Intensity & Forward Current



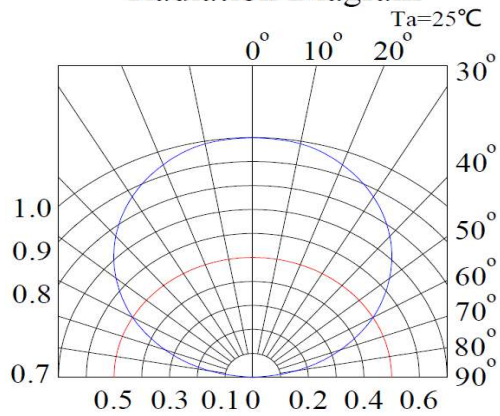
Spectrum Distribution



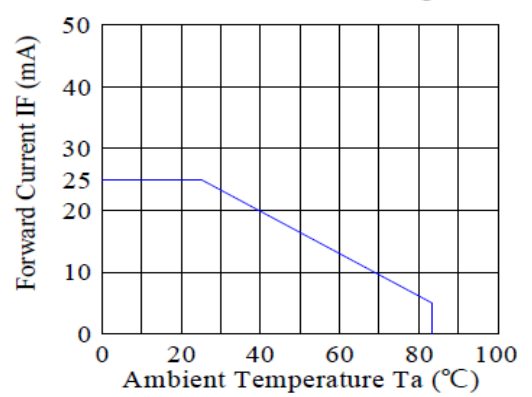
Spectrum Distribution



Radiation Diagram



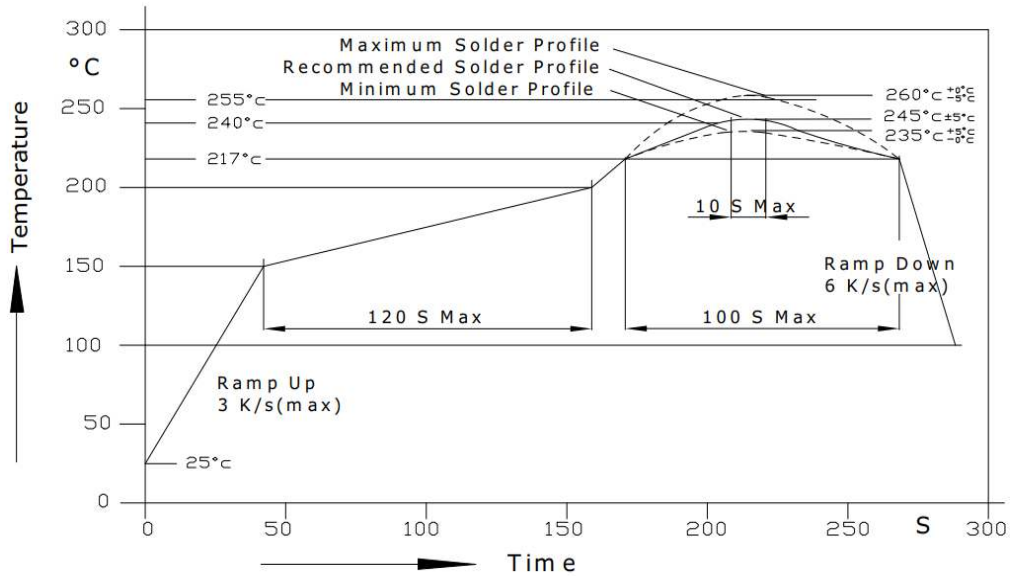
Forward Current Derating Curve



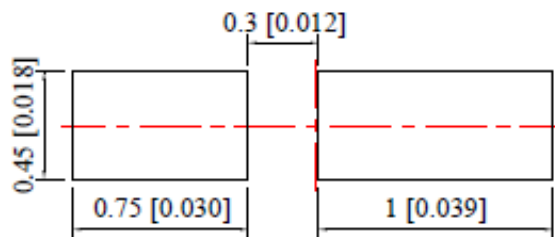
Solder Profile & Footprint

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

Pb-free solder temperature profile.



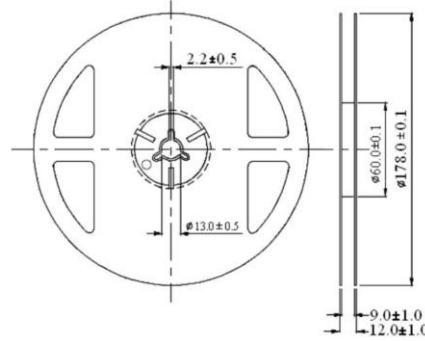
Recommended Pad Layout



Units: mm

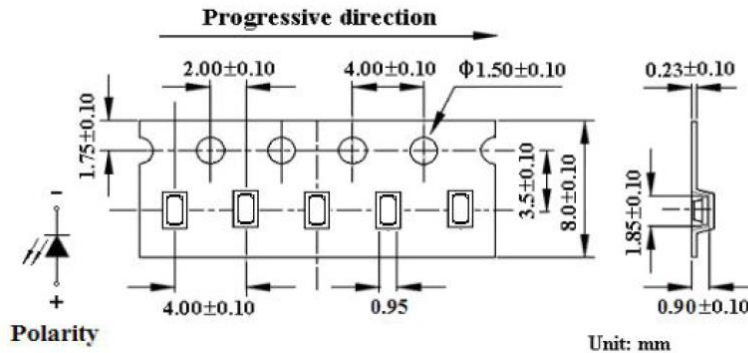
Packing

Reel Dimension:



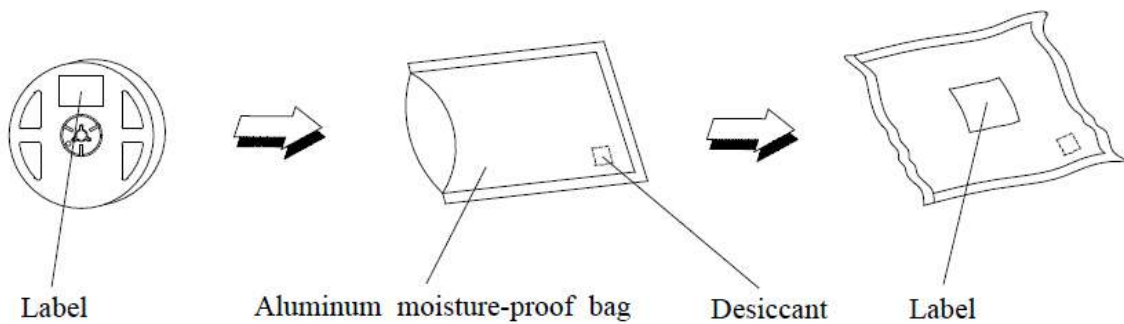
Unit: mm

Tape Dimension:



Unit: mm

Packing & Label 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
QBLP661-R5	QBLP661-R5	Iv=60mcd Typ. @ I _F =5mA / Color=615nm-625nm	4,000 units
QBLP661-IG5	QBLP661-IG5	Iv=500mcd Typ. @ I _F =20mA / Color=515nm-530m	4,000 units
QBLP661-IB5	QBLP661-IB5	Iv=70mcd Typ. @ I _F =20mA / Color=460nm-475nm	4,000 units

Revision History

Description:	Revision #	Revision Date
New Release of QBLP661-XX5 series	V1.0	12/01/2020

Disclaimer

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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.