

QT-Brightek PLCC Series

5050 PLCC-8 RGBW LED

Part No.: QBLP679-RGBXW

RGB=Color Code

X=White Color Code

X=C (Cool White)

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Introduction

Feature:

- Package in tape and reel
- Water clear lens for R/G/B
- Yellow diffused lens for W
- Ultra bright PLCC-8 5050 Pkg
- InGaN technology for G/B/W
- AlInGaP technology for R
- Viewing Angle: 120 deg typ.
- MSL 5A

Description:

This ultra bright PLCC8 RGBW LEDs have a height profile of 1.65mm. Combination of high brightness output and white face color, this LED is ideal for architecture lighting, status indication, and color mixing applications.

Application:

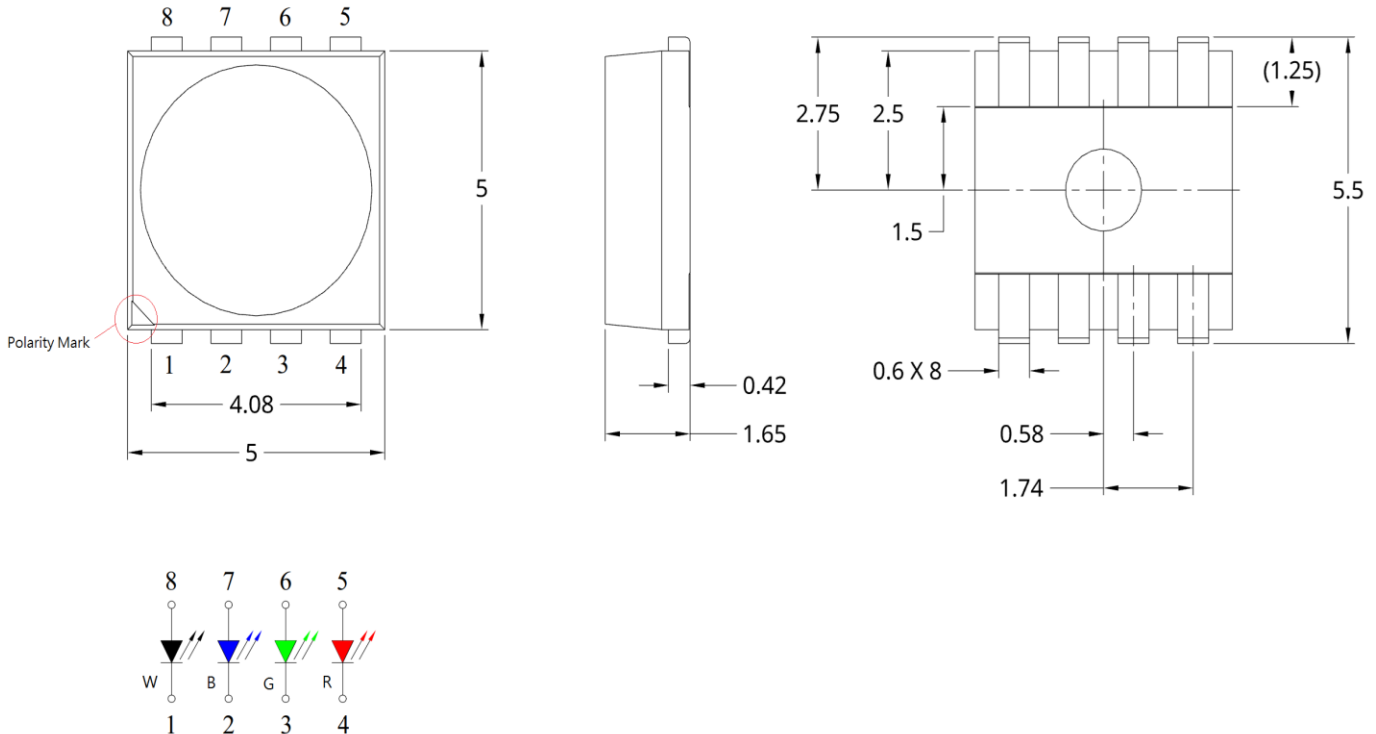
- Status indication
- Back lighting application
- Architecture lighting

Certification & Compliance:

- ISO9001
- RoHS Compliant



Dimension:



Units: mm / tolerance = +/-0.2mm

Electrical / Optical Characteristic (Ta=25 °C)

P/N	Color	I _F (mA)	V _F (V)		λ _D (nm)			I _V (mcd)	
			Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.
QBLP679-RGBCW	Red	20	2.0	2.6	615	624	630	300	500
	Green	20	3.2	3.7	515	525	530	1500	2200
	Blue	20	3.2	3.7	460	470	475	200	450
	Cool White (CW)	20	3.2	3.7	-	X=0.317 Y=0.330 CCT: 6500K	-	6	8

Absolute Maximum Rating

Material	P _d (mW)	I _F (mA)	I _{FP} (mA)*	V _R (V)	T _{OP} (°C)	T _{ST} (°C)	T _{SOL} (°C)**
AllInGaP (R)	78	30	100	5	-40 to +85	-40 to +85	260
InGaN (G/B/W)	111	30	100	5	-40 to +85	-40 to +85	260

*Duty Factor=10%, Frequency=1kHz

**IR Reflow for no more than 5 sec @ 260 °C

Luminous Intensity I_V for Red @ $I_F=20mA$

Bin	Min.	Max.	Unit
P	300	500	mcd
Q	500	700	
R	700	900	

Luminous Intensity I_V for Green @ $I_F=20mA$

Bin	Min.	Max.	Unit
V	1500	2000	mcd
W	2000	2500	
X	2500	3200	

Luminous Intensity I_V for Blue @ $I_F=20mA$

Bin	Min.	Max.	Unit
M	200	300	mcd
N	300	400	
O	400	500	

Luminous Flux Φ_v for Cool White (CW) @ $I_F=20mA$

Bin	Min.	Max.	Unit
L0	6	8	lm
L1	8	10	
L2	10	12	
L3	12	14	

Dominant Wavelength λ_D for Red @ $I_F=20\text{mA}$

Bin	Min.	Max.	Unit
A	615	620	nm
B	620	625	
C	625	630	

Dominant Wavelength λ_D for Green @ $I_F=20\text{mA}$

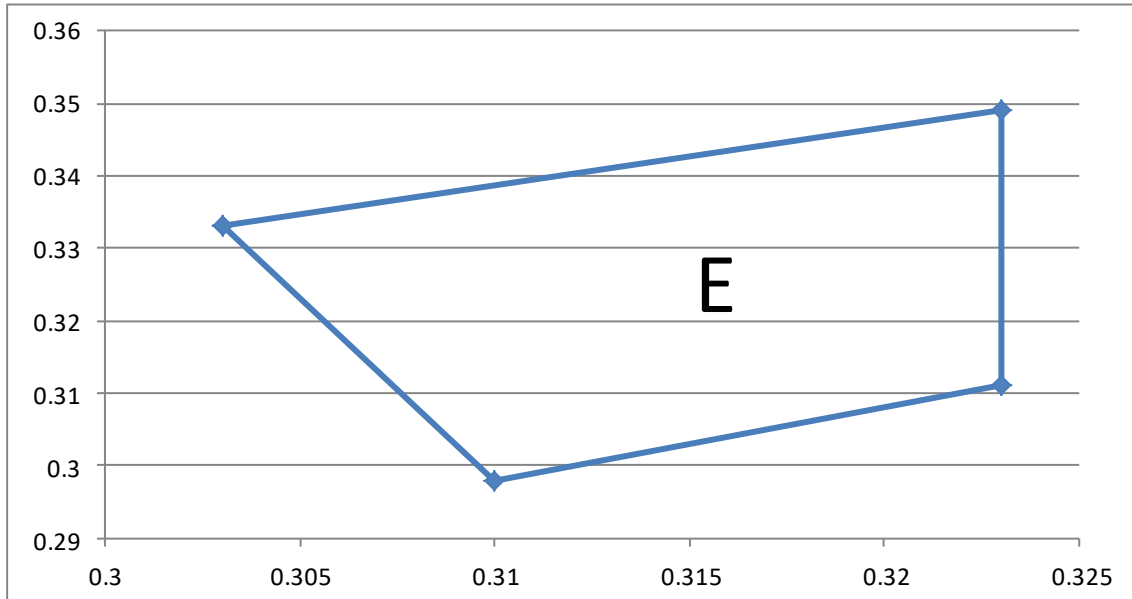
Bin	Min.	Max.	Unit
A	515	520	nm
B	520	525	
C	525	530	

Dominant Wavelength λ_D for Blue @ $I_F=20\text{mA}$

Bin	Min.	Max.	Unit
A	460	465	nm
B	465	470	
C	470	475	

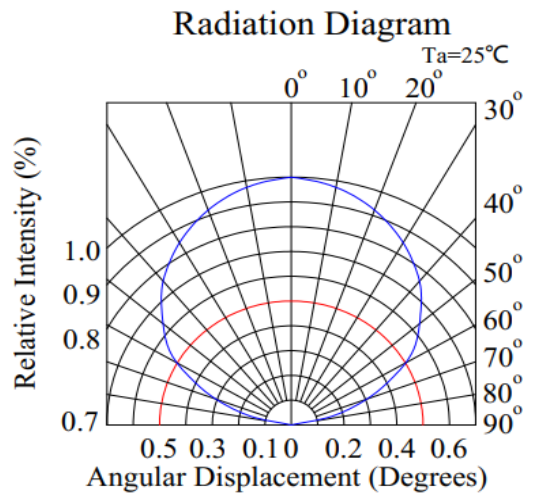
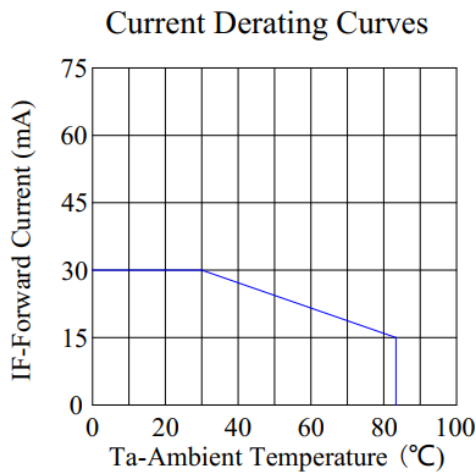
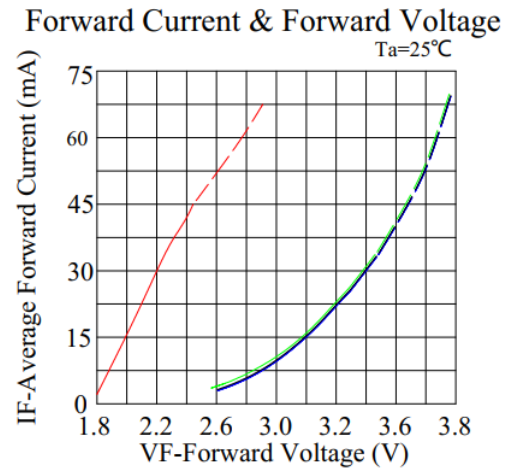
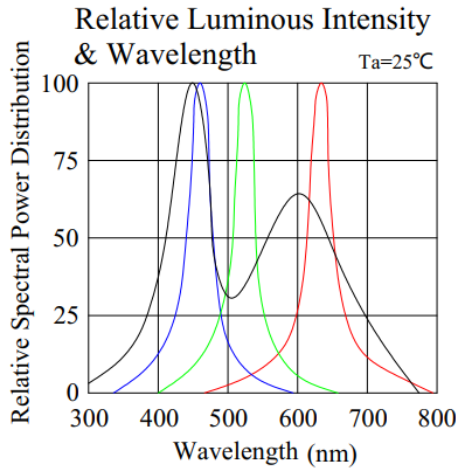
CIE Chromaticity Diagram

Cool White (CW)

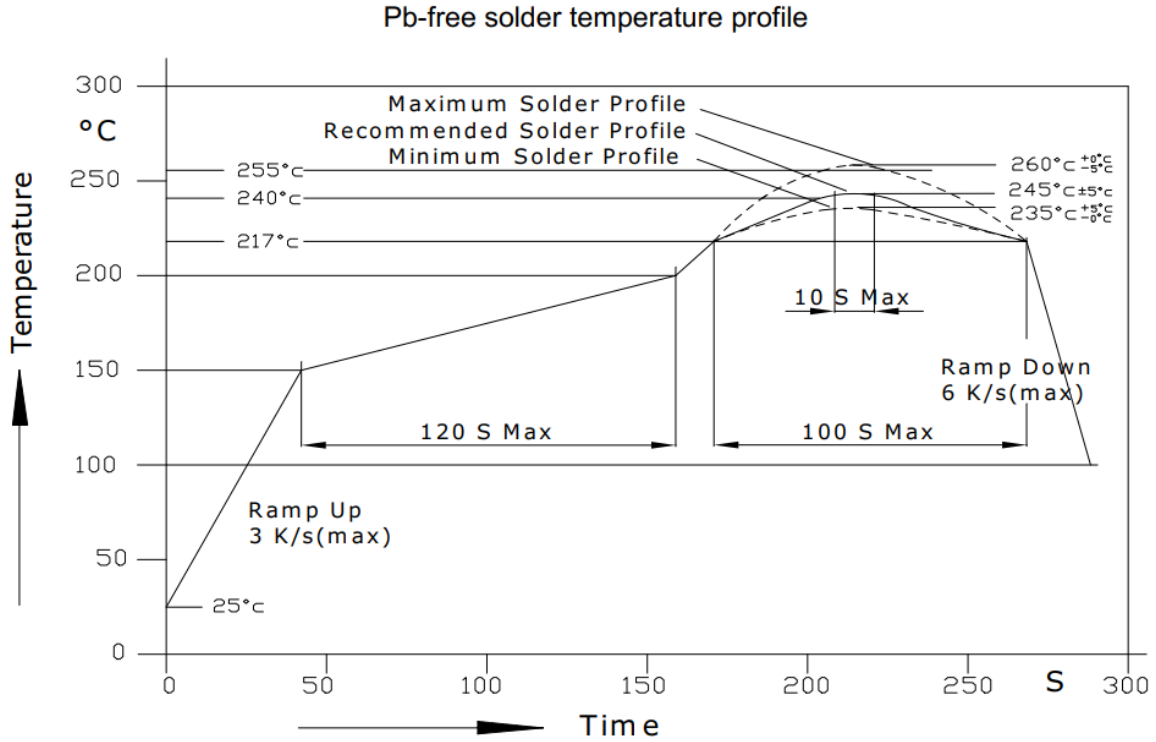


E	
0.303	0.333
0.323	0.349
0.323	0.311
0.310	0.298
0.303	0.333

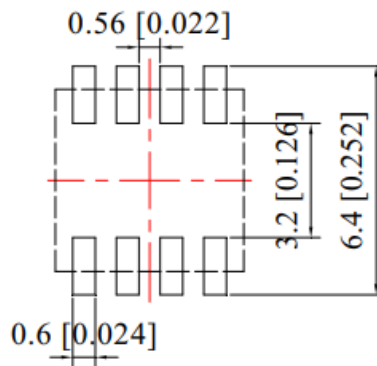
Characteristic Curves



Solder Profile & Footprint



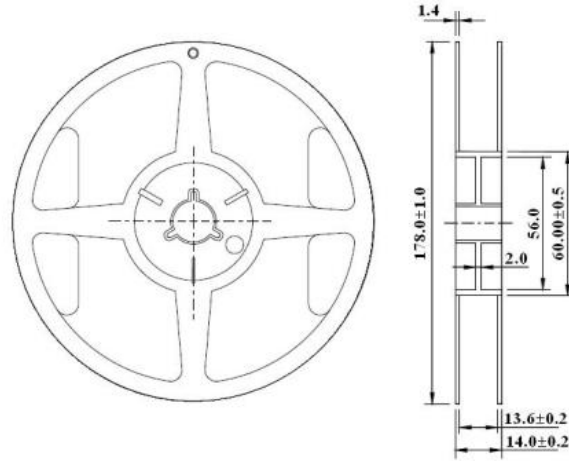
Recommended Soldering Pad Layout



Units: mm

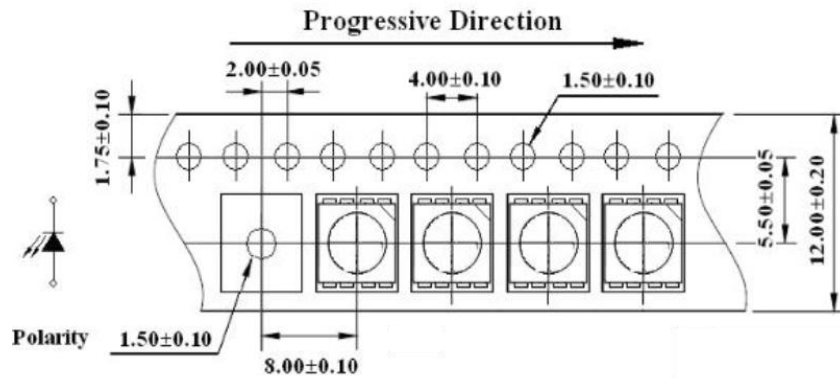
Packing

Reel Dimensions:



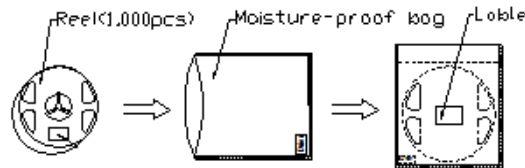
Unit: mm

Tape Dimension and Arrangement:



Unit: mm

Packaging Specifications:



Ordering Information

Part #	Orderable Part #	Spec Range	Quantity per reel
QBLP679-RGBCW	QBLP679-RGBCW	Red: $I_v=500\text{mcd typ. @ } 20\text{mA} / \lambda_D=615\text{nm to } 630\text{nm}$	1,000 units
		Green: $I_v=2200\text{mcd typ. @ } 20\text{mA} / \lambda_D=515\text{nm to } 530\text{nm}$	
		Blue: $I_v=450\text{mcd typ. @ } 20\text{mA} / \lambda_D=460\text{nm to } 475\text{nm}$	
		White: $\Phi_v=8\text{lm typ. @ } 20\text{mA} / (X=0.317, Y=0.330) \text{ typ. CCT: } 6500\text{K typ.}$	

Revision History

Description:	Revision #	Revision Date
New Release of QBLP679-RGBXW	V1.0	04/30/2019
Update dimension drawing	V1.1	05/26/2022



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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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