

QT-Brightek PLCC6 Series

PLCC6 RGB LED

Part No.: QBLP679-RGB

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Introduction

Feature:

- Diffused lens
- Package in tape and reel
- Ultra bright PLCC6 RGB LED
- Direct Drive
- InGaN technology for IB/IG
- AlInGaP technology for R
- 120 degree viewing angle
- Black Face

Description:

This ultra bright PLCC6 RGB LED has a height profile of 1.60mm. Combination of high brightness output and direct drive capability, these LEDs are ideal for architecture lighting, status indication, and color mixing applications.

Application:

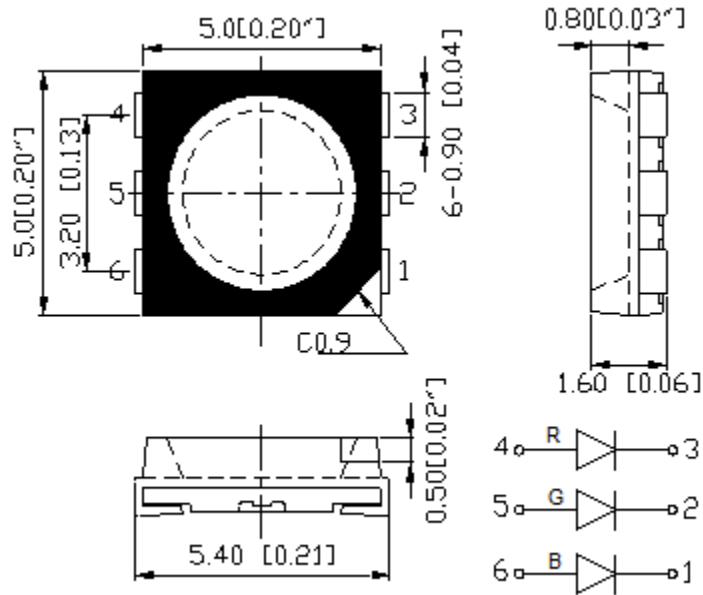
- Status indication
- Back lighting application
- Architecture lighting

Certification & Compliance:

- TS16949
- ISO9001
- IEC60529
- 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)	
			Typ.	Max.	Min.	Typ.	Max.	Min	Typ.
QBLP679-RGB	Red	20	2.0	2.5	615	620	630	400	630
	True Green	20	3.3	3.7	520	525	530	1000	1500
	Blue	20	3.2	3.7	465	470	475	200	285

Absolute Maximum Rating

Material	P _d (mW)	I _F (mA)	I _{FP} (mA)*	V _R (V)	T _{OP} (°C)	T _{ST} (°C)	T _{SOI} (°C)**	ESD (V)
InGaN (IB/IG)	111	30	125	5	-40 to +80	-40 to +85	260	HBM 2000
AllnGaP (R)	75	30	125	5	-40 to +80	-40 to +85	260	HBM 8000

*Duty 1/8 @ 1KHz

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

Luminous Intensity I_V for Red @ I_F=20mA

Bin	Min.	Max.	Unit
P	400	500	mcd
Q	500	630	
R	630	800	
S	800	1000	

Luminous Intensity I_V for True Green @ I_F=20mA

Bin	Min.	Max.	Unit
T	1000	1250	mcd
U	1250	1600	
V	1600	2000	
W	2000	2500	

Luminous Intensity I_V for Blue @ I_F=20mA

Bin	Min.	Max.	Unit
M	200	250	mcd
N	250	320	
O	320	400	
P	400	500	

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 True Green @ $I_F=20\text{mA}$

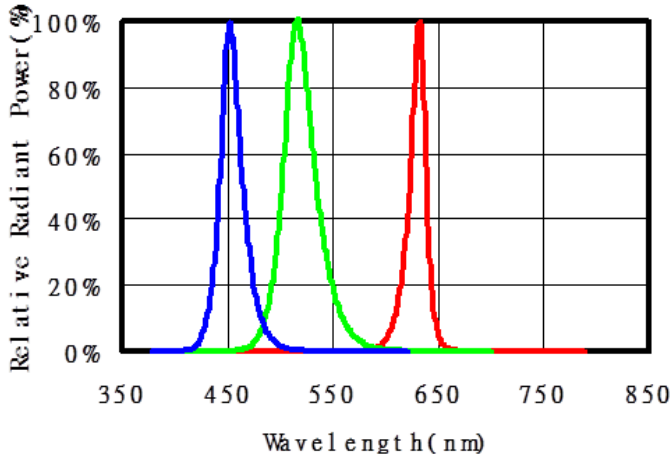
Bin	Min.	Max.	Unit
B	520	525	nm
C	525	530	

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

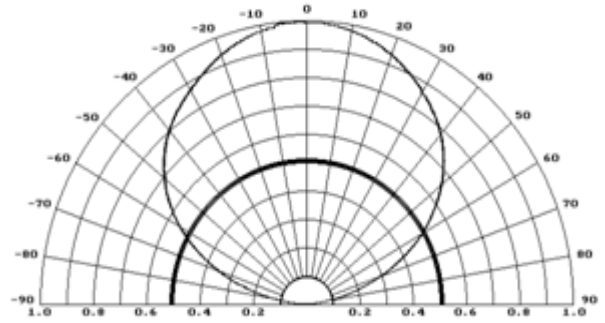
Bin	Min.	Max.	Unit
B	465	470	nm
C	470	475	

Characteristic Curves

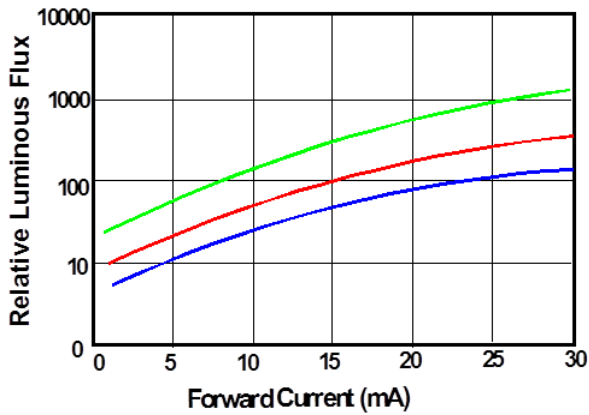
Relative Spectral Power Distribution (Ta=25°C)



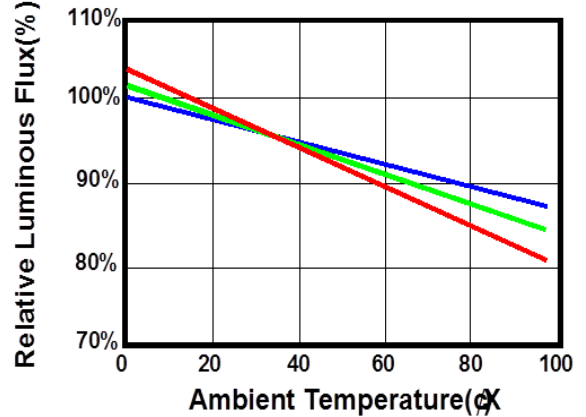
Directive Characteristics



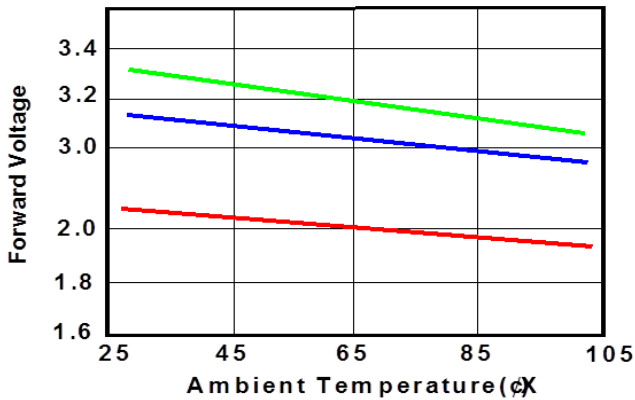
Relative Flux vs. Current (Ta=25°C)



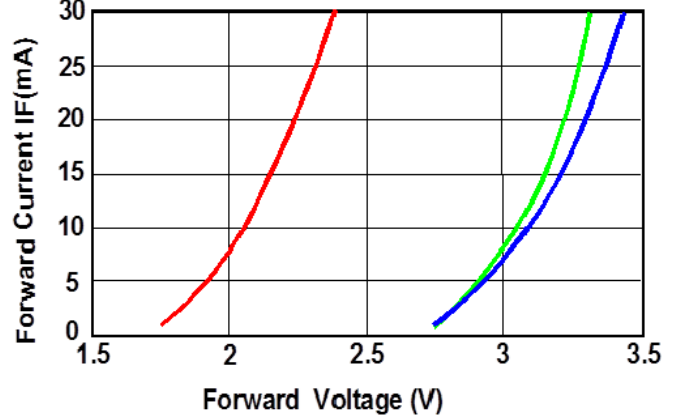
Relative Flux vs. Ambient Temperature



Forward Voltage vs. Ambient Temperature

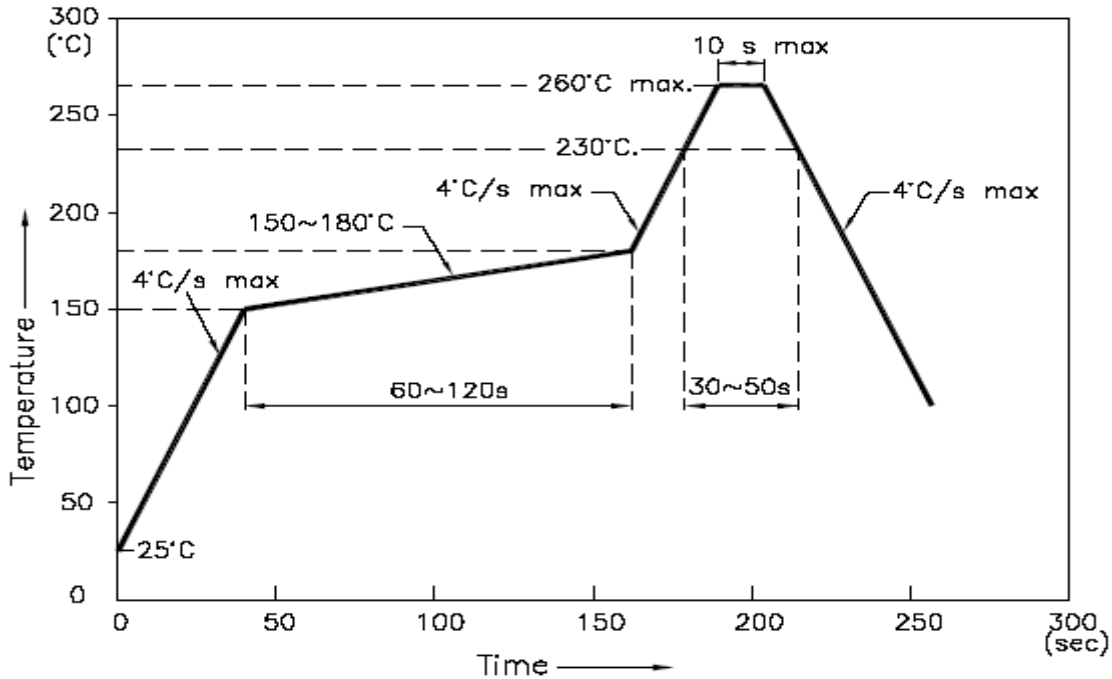


Electrical Characteristics (Ta=25)

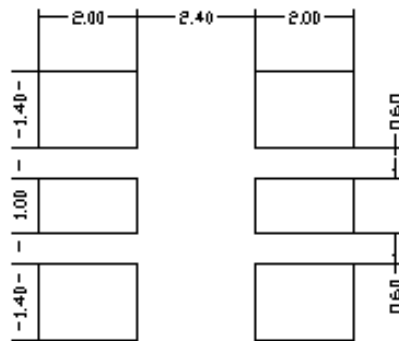


Solder Profile & Footprint

- Recommended tin solder specifications: melting temperature in the range of 178~192 °C
- The recommended reflow soldering profile is as follows (temperatures indicated are as measured on the surface of the LED resin):



Recommend Pad Layout

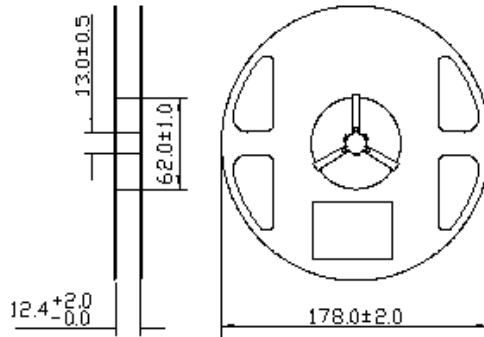


Units: mm

tolerance: +/- 0.2mm

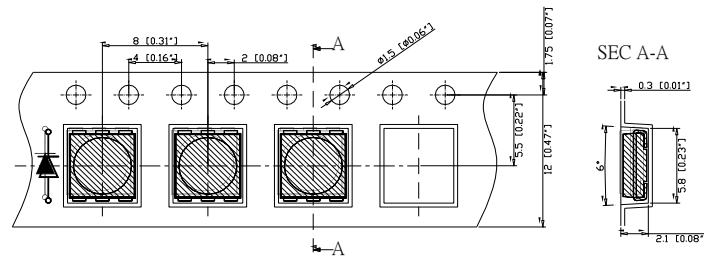
Packing

Reel Dimension:



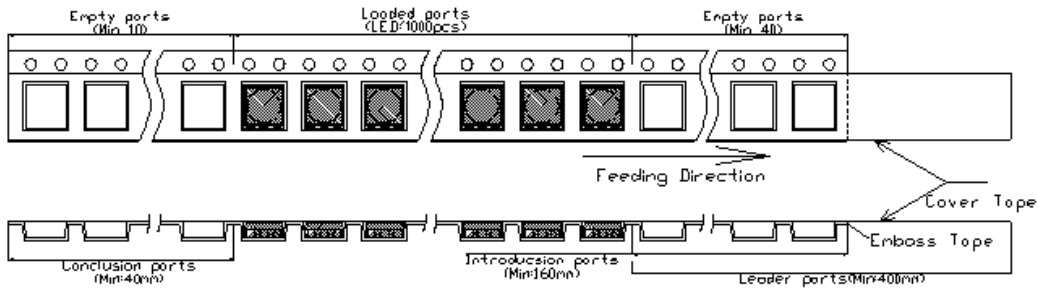
Unit: mm

Tape Dimension:

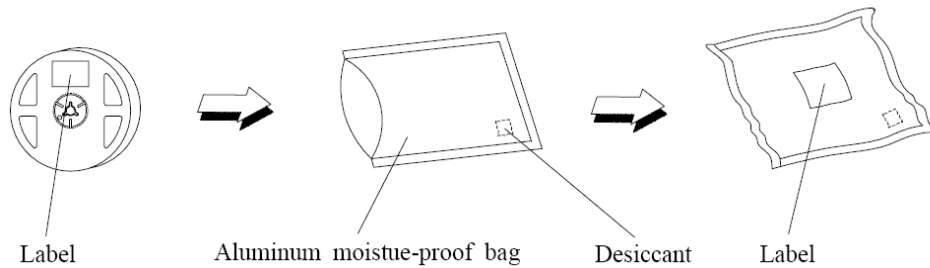


Unit: mm

Arrangement of Tape:



Packaging Specification:



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
QBLP679-RGB	QBLP679-RGB	Red: Iv=630mcd typ. / Color=615nm to 635nm	1000 units
		True Green: Iv=1500mcd typ. / Color=520nm to 530nm	
		Blue: Iv=285mcd typ. / Color=465nm to 475nm	

Revision History

Description:	Revision #	Revision Date
New Release of QBLP678-RGB	V1.0	09/20/2010
Updates –QBLP678-RGB2	V1.1	1/25/2011
Part number Updates – QBLP679 –RGB	V1.2	1/27/2011
Update new format/ amend spec	V1.3	11/13/2013
Update dimension drawing and spec	V2.0	04/23/2014

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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.