QT-Brightek PLCC6 Series

PLCC6 RGB LED

Part No.: QBLP679E-RGB-3053

3053: White color created by RGB

Table of Contents:

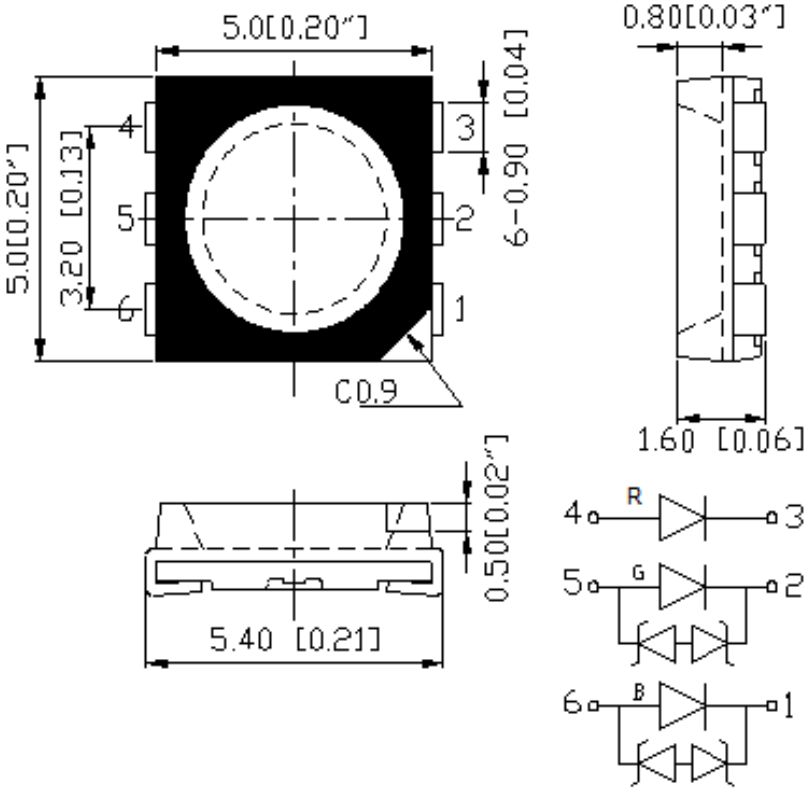
Introduction

Feature:
- White diffused lens
- Package in tape and reel
- Ultra bright PLCC6 RGB LED
- 3 independent R, G, B channel
- 120 degree viewing angle
- Black Face

Application:
- Ambient lighting
- Back lighting application
- Architecture lighting

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)			λ_p (nm)	I_V (mcd)	
			Min.	Typ.	Max.	Min.	Typ.	Max.	Typ.	Min	Typ.
QBLP679E-RGB-3053	Red	20	1.7	2.1	2.5	615	620	630	631	500	870
	Green	20	2.8	3.2	3.7	520	524	530	520	1000	1500
	Blue	20	2.8	3.0	3.7	465	477	475	462	200	255

Absolute Maximum Rating

Chip Material	P_d (mW)	I_F (mA)	I_{FP} (mA)*	V_R (V)	T_{OP} (°C)	T_{ST} (°C)	T_{SOL} (°C)**
AlInGaP (R)	75	30	125	5	-40 to +80	-40 to +85	260
InGaN (IB/IG)	111	30	125	5	-40 to +80	-40 to +85	260

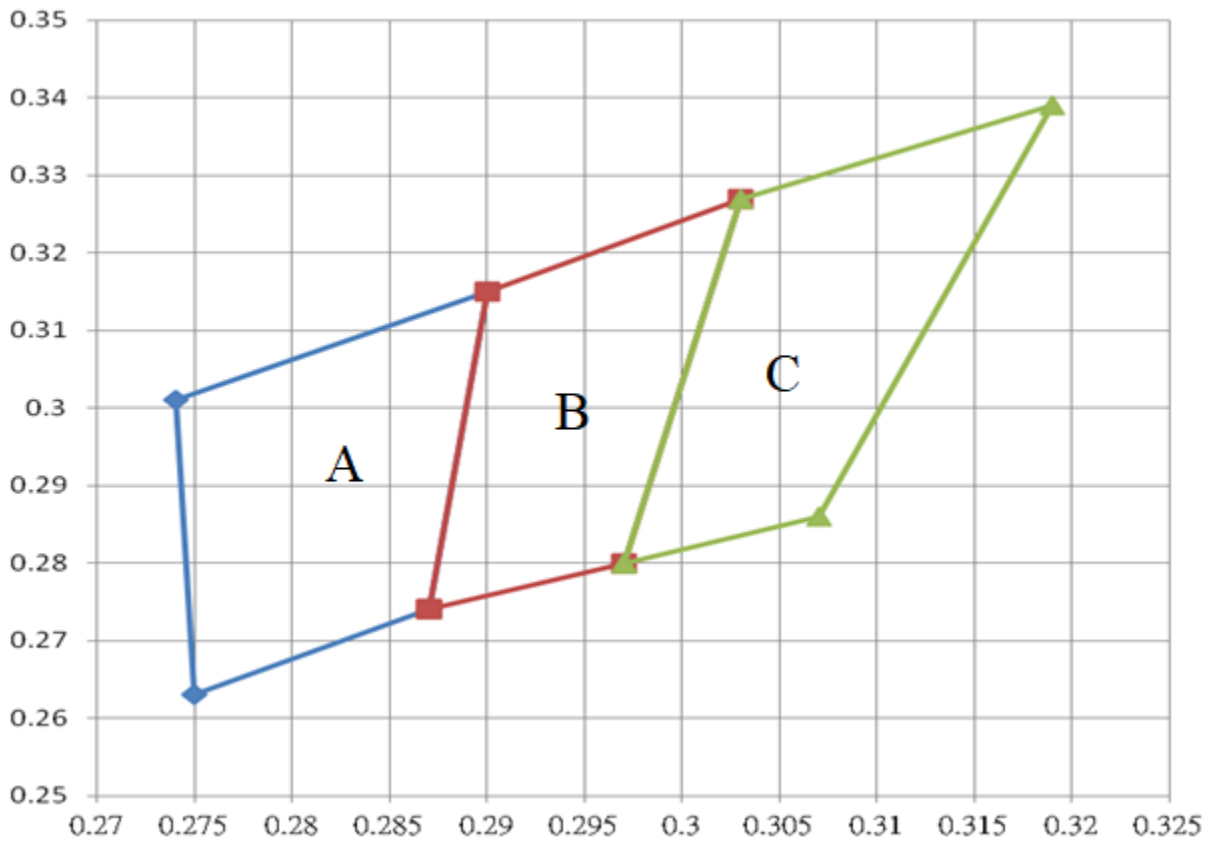
*Duty 1/8 @ 1KHz

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

Luminous Intensity I_V for White (RGB Color Mixing) @ Red I_F=20mA, Green I_F=20mA, Blue I_F=20mA

Bin	Min.	Max.	Unit
Q	1700	2300	mcd
R	2300	2900	
S	2900	3500	
T	3500	4100	
U	4100	4700	
V	4700	5300	

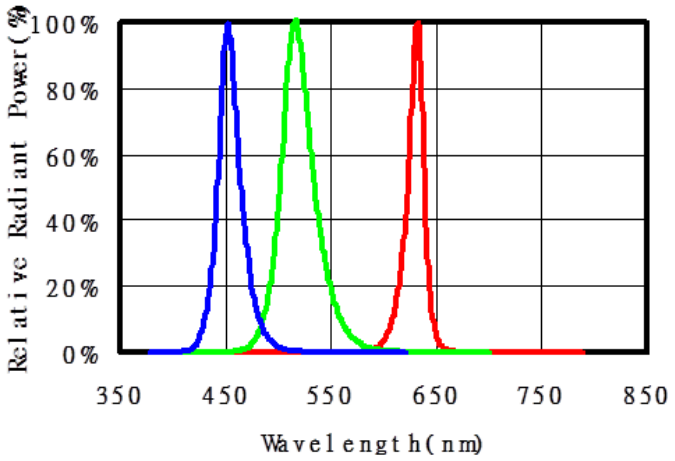
Chromaticity Coordinates:



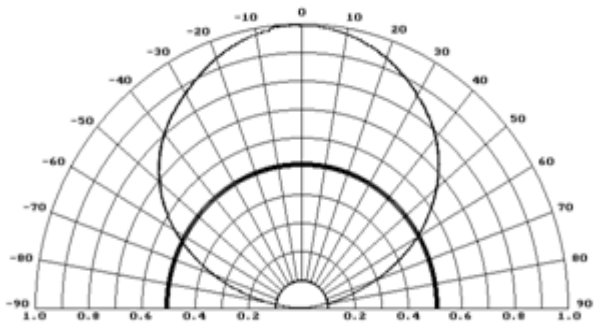
RGB Color Mixing Condition: Red IF=20mA, Green IF=20mA, Blue IF=20mA

Characteristic Curves

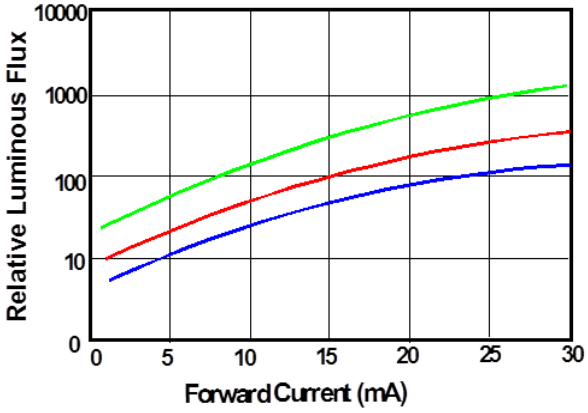
Relative Spectral Power Distribution(Ta=25℃)



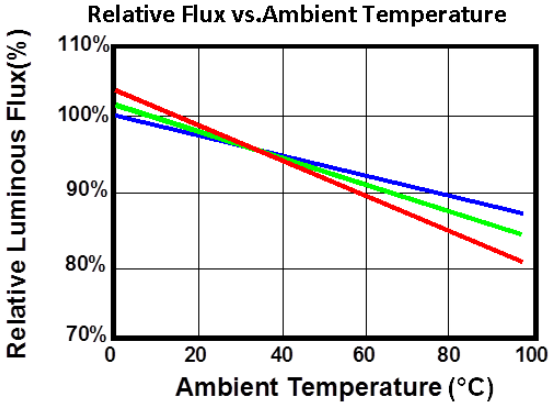
Directive Characteristics



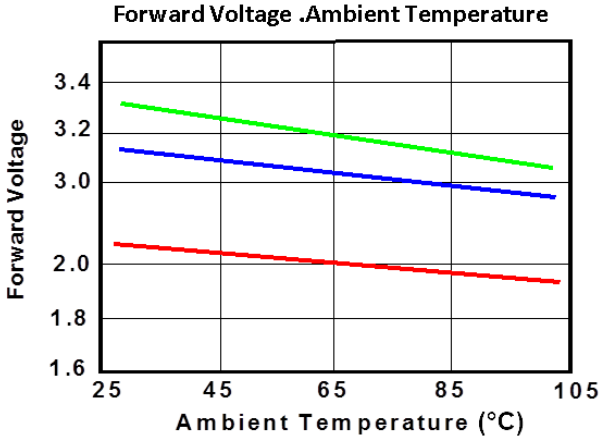
Relative Flux vs.Current (Ta=25℃)



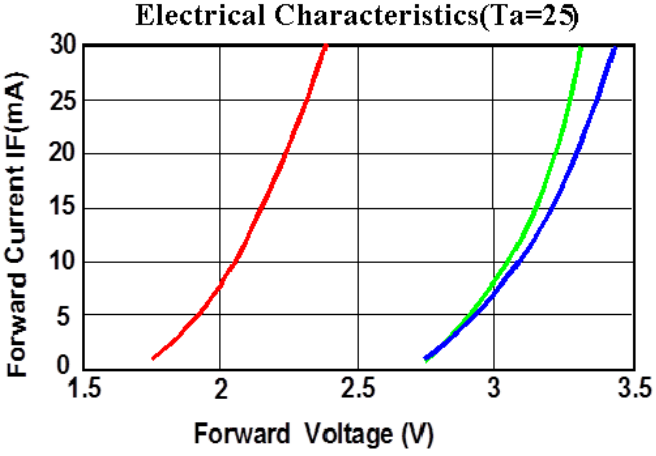
Relative Flux vs.Ambient Temperature



Forward Voltage .Ambient Temperature

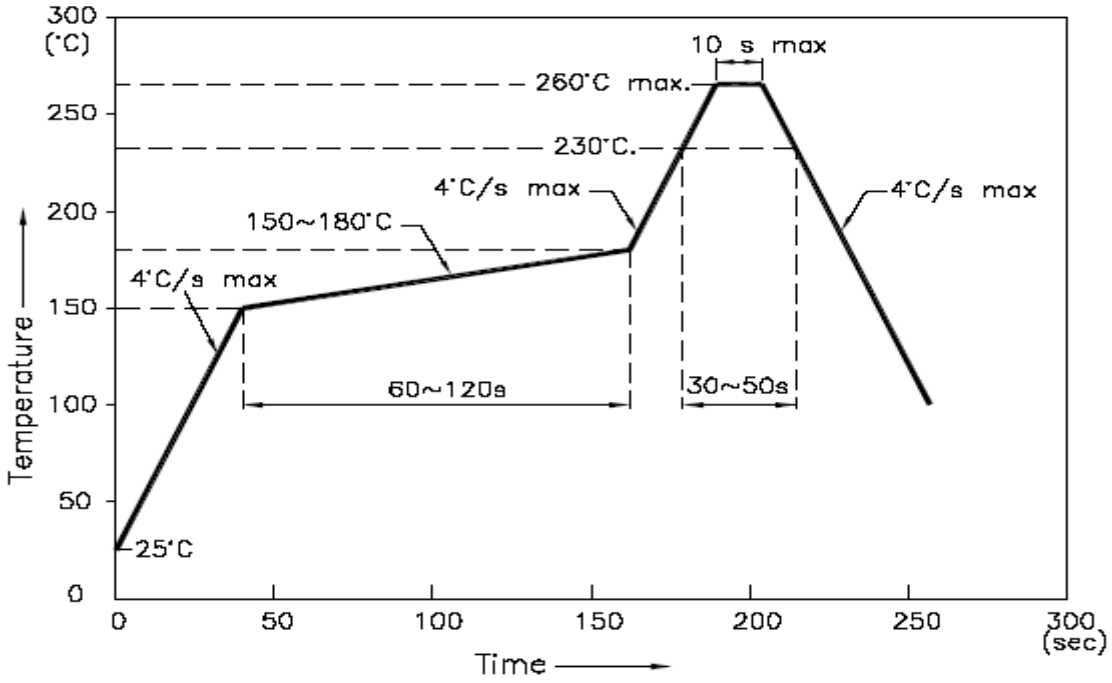


Electrical Characteristics(Ta=25)

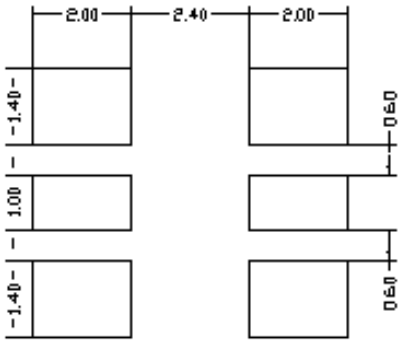


Solder Profile & Footprint

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



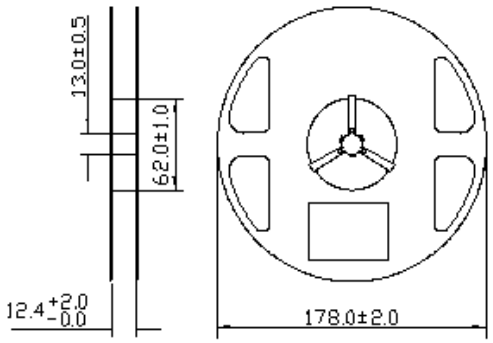
Recommend Pad Layout



Units: mm

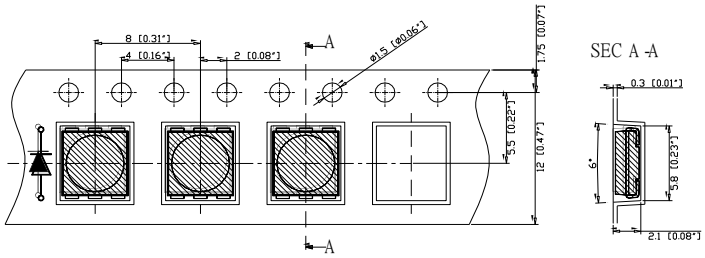
Packing

Reel Dimension:



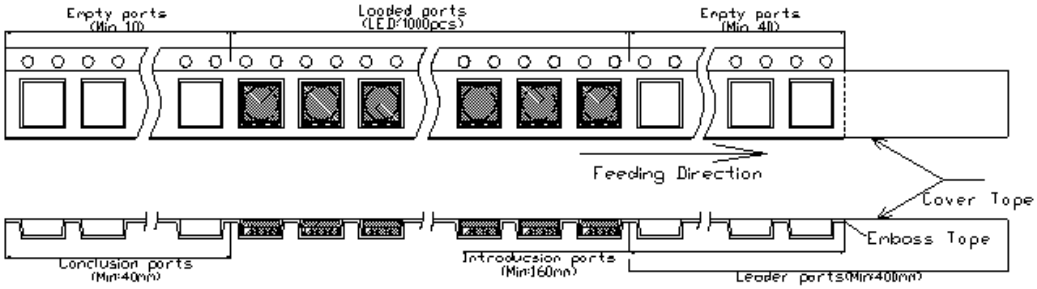
Unit: mm

Tape Dimension:

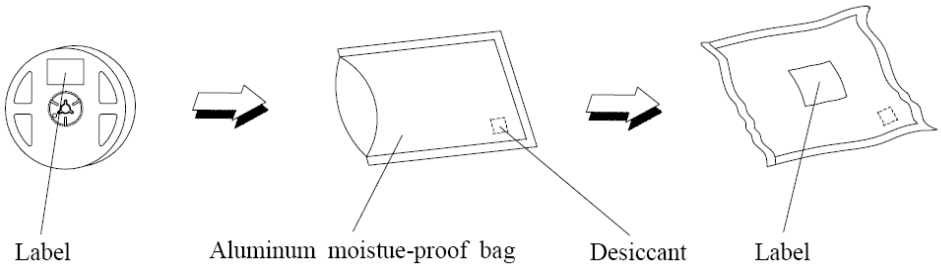


Unit: mm

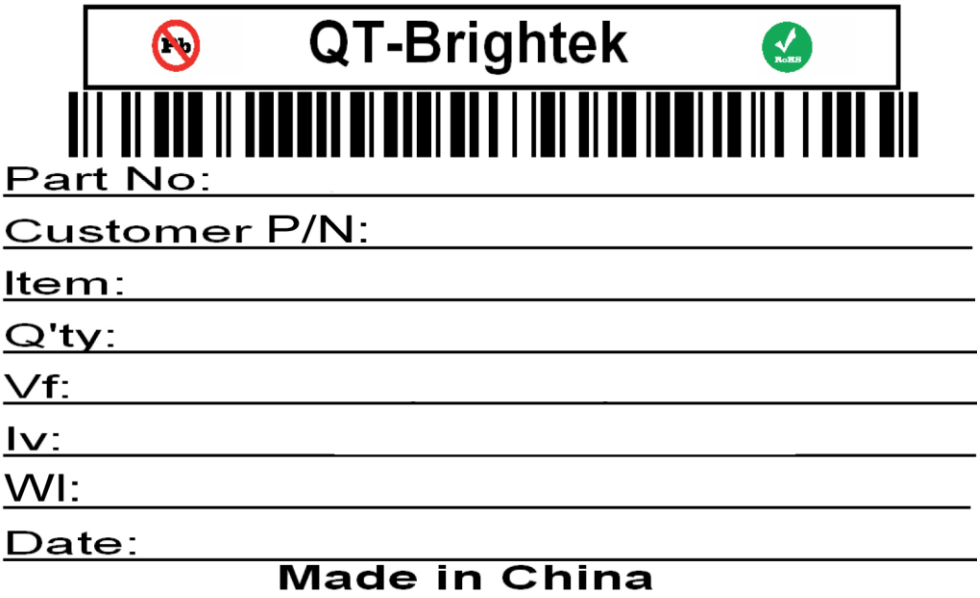
Arrangement of Tape:



Packaging Specification:



Labeling



Ordering Information

Orderable Part #	Spec Range	Quantity per reel
QBLP679E-RGB5-3053	Red: 615 to 630nm True Green: 520 to 530nm Blue: 465 to 475nm	1,000 units
	White (RGB Mixing): (X=0.295, Y=0.295) typ. @ Red I_F=20mA, True Green I_F=20mA, Blue I_F=20mA	

Revision History

Description:	Revision #	Revision Date
New Release of QBLP679E-RGB-3053	V1.0	07/30/2025

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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.