

QT-Brightek PLCC Series

Dome Type PLCC4 LED

Part No.: QBLP677AD-XXD

**A = Common Anode
XX = Color Code
D = 50mA Sorting**

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Introduction

Feature:

- Water Clear lens
- Ultra bright PLCC4 LED
- Common anode
- AllInGaP technology
- Viewing Angle: 30° typ.
- MSL 3
- Height profile: 3.6mm

Application:

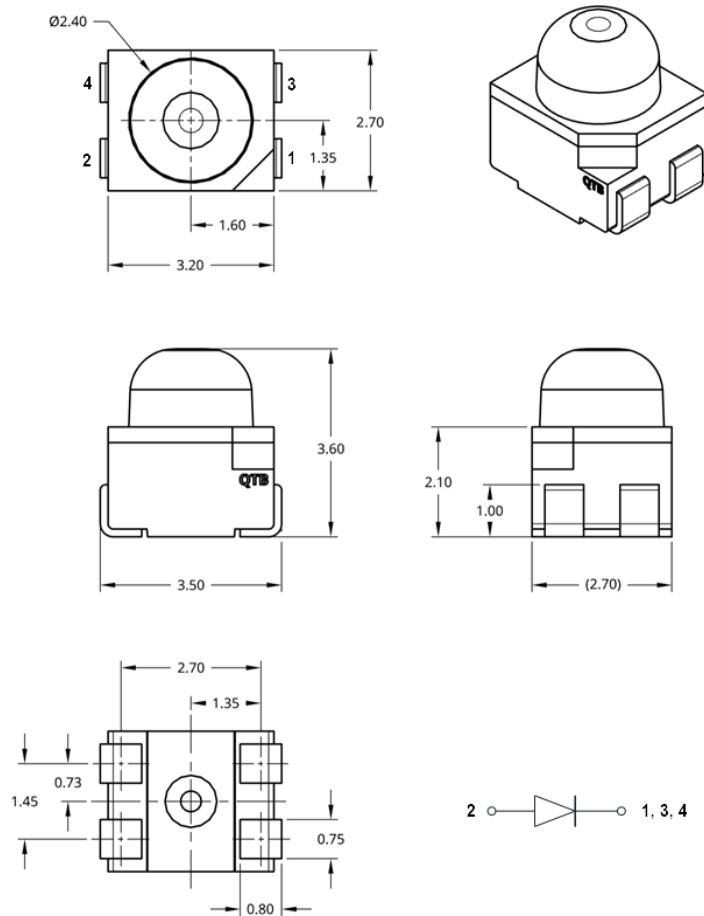
- Status indication
- Industrial equipment backlighting
- Architecture lighting

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)	
			Typ.	Max.	Min.	Typ.	Max.	Typ.	Min.	Typ.
QBLP677AD-RD	Red	50	2.0	2.6	615	620	630	632	6800	11000
QBLP677AD-OD	Orange	50	2.5	2.8	600	605	609	609	11200	22000
QBLP677AD-YD	Yellow	50	2.2	2.8	586	592	595	595	7000	13500

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)**
AllnGaP (R)	130	55	125	5	-40 ~ +90	-40 ~ +90	240
AllnGaP (O, Y)	196	70	125	5	-40 ~ +90	-40 ~ +90	240

*Duty 1/8 @ 1KHz

**IR Reflow for no more than 8 sec @ 240 °C

Forward Voltage V_F for Red @ I_F=50mA

Bin	Min.	Max.	Unit
1	1.7	2.0	V
2	2.0	2.3	
3	2.3	2.6	

Forward Voltage V_F for Orange and Yellow @ I_F=50mA

Bin	Min.	Max.	Unit
1	1.9	2.2	V
2	2.2	2.5	
3	2.5	2.8	

Luminous Intensity I_V for Red @ $I_F=50\text{mA}$

Bin	Min.	Max.	Unit
b	6800	8800	mcd
c	8800	11200	
d	11200	14200	
e	14200	18000	

Luminous Intensity I_V for Orange @ $I_F=50\text{mA}$

Bin	Min.	Max.	Unit
d	11200	14200	mcd
e	14200	18000	
f	18000	22500	
g	22500	28500	
h	28500	36000	

Luminous Intensity I_V for Yellow @ $I_F=50\text{mA}$

Bin	Min.	Max.	Unit
b	7000	9000	mcd
c	9000	11000	
d	11000	14000	
e	14000	18000	
f	18000	23500	

Dominant Wavelength λ_D for Red @ $I_F=50\text{mA}$

Bin	Min.	Max.	Unit
s	615	620	nm
t	620	625	
u	625	630	

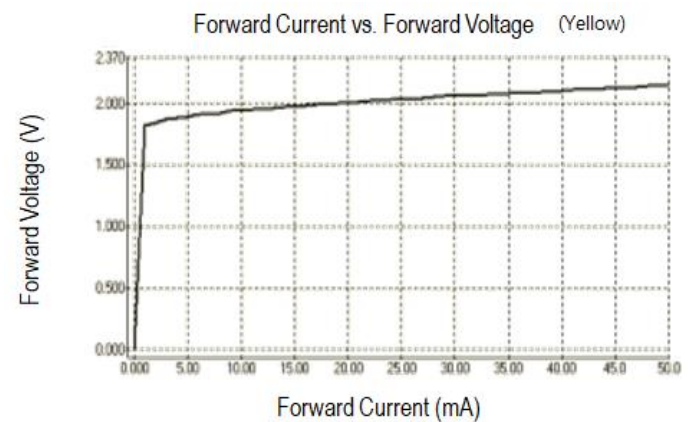
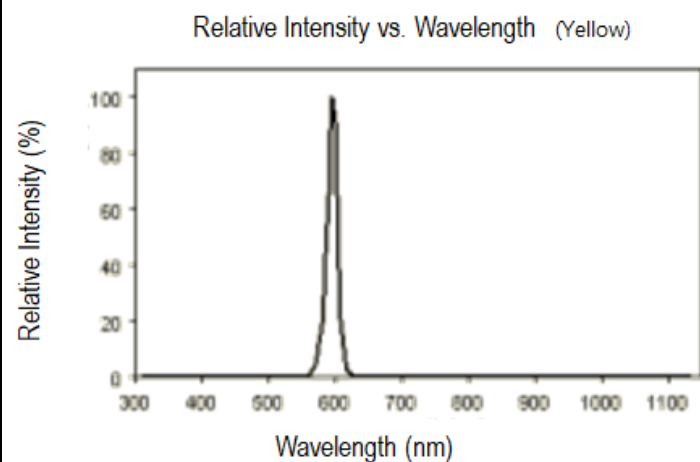
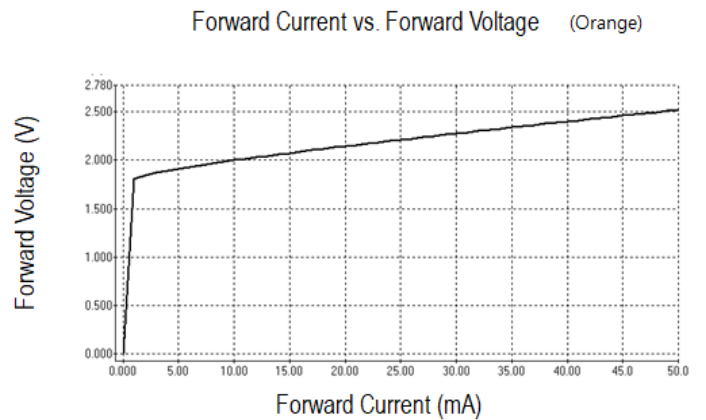
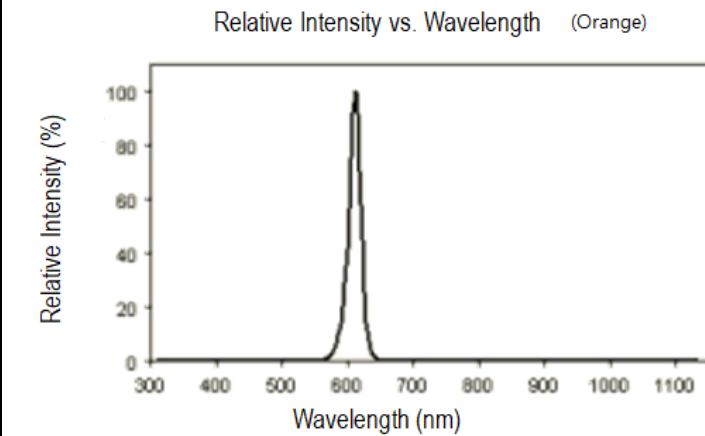
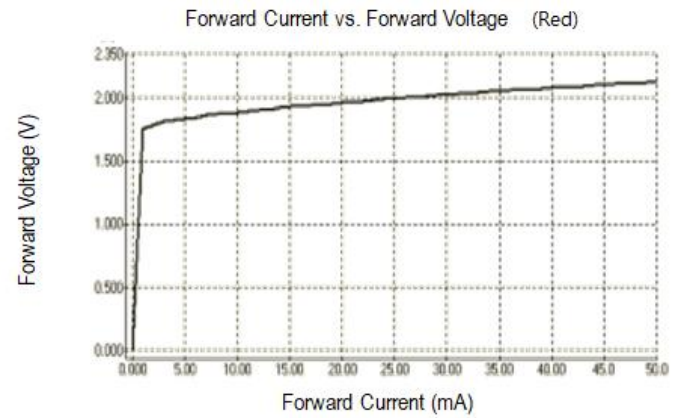
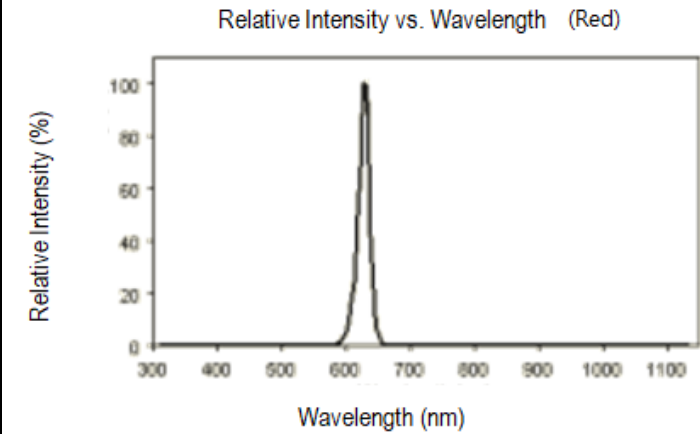
Dominant Wavelength λ_D for Orange @ $I_F=50\text{mA}$

Bin	Min.	Max.	Unit
A	600	603	nm
B	603	606	
C	606	609	

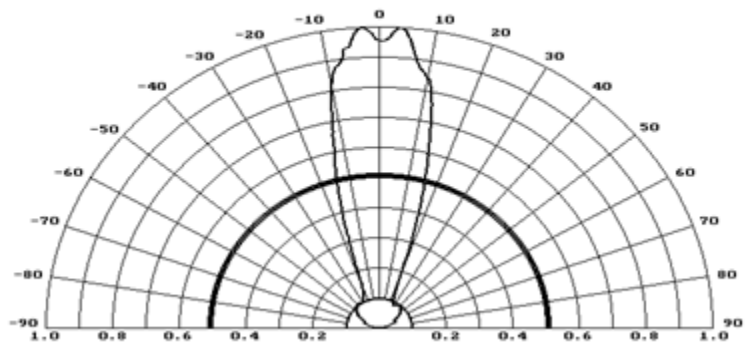
Dominant Wavelength λ_D for Yellow @ $I_F=50\text{mA}$

Bin	Min.	Max.	Unit
A	586	589	nm
B	589	592	
C	592	595	

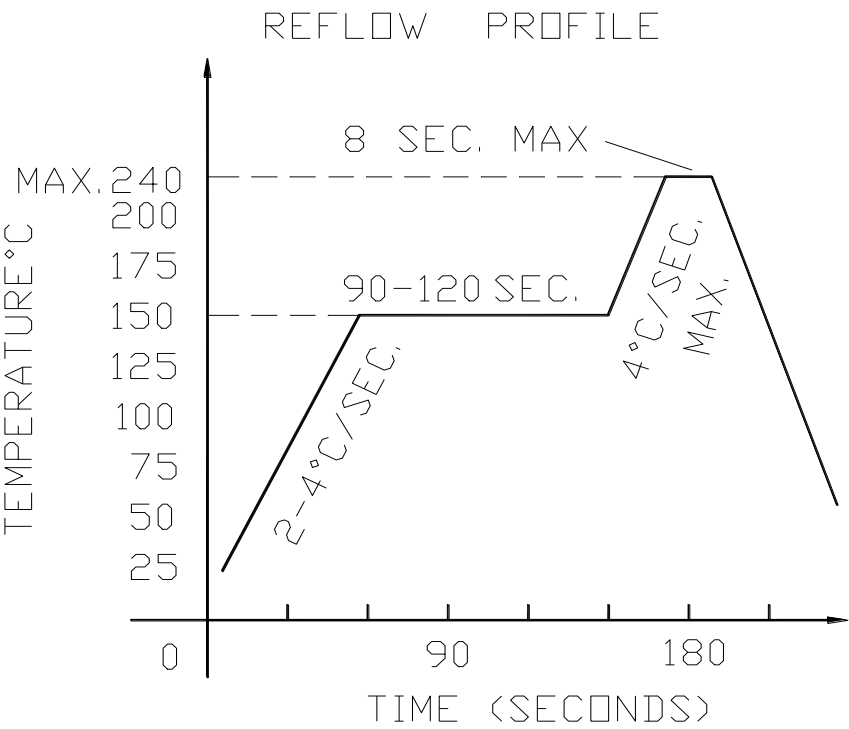
Characteristic Curves



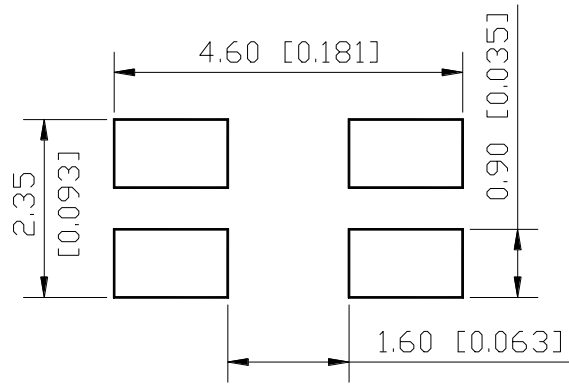
Directive Characteristics



Solder Profile & Footprint



Recommend Pad Layout



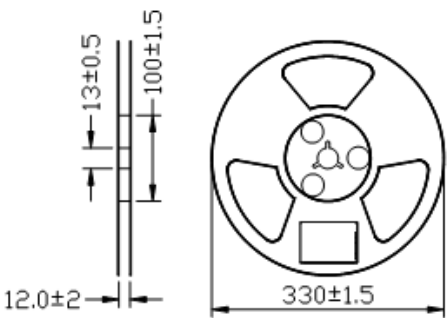
Units: mm

Handling Precautions

1. It is recommended to store the products in sealed and anti-static bags with desiccant inside at the following condition:
 - Humidity: <60% RH
 - Temperature: 5°C~30°C
2. Shelf life in sealed bag: 12 month at 5°C~30°C and < 60% R.H
3. After the package is opened:
 - 3.1 The products should be used within a week (168 hours)
 - 3.2 Or product should be stored at $\leq 20\%$ RH and (5°C~30°C) with zip-lock sealed bag
 - 3.3 It is recommended to bake before soldering when the package is unsealed after 72hrs;
 - 3.3.1 Baking condition (Tape and Reel Type): 60 $\pm$ 3°C (24~36 hrs) and < 5% RH
 - 3.4 Products require baking before soldering/mounting if **3.1** or **3.2** is not met. Baking condition refers to **3.3.1**
4. If the product is not used within 3 months since manufacturing date, it is recommended to bake for 24 hrs @ 60°C before use.
5. If the product is not used after 3 months since manufacturing date, it is recommended to bake for 36~48 hrs @ 60°C before use.

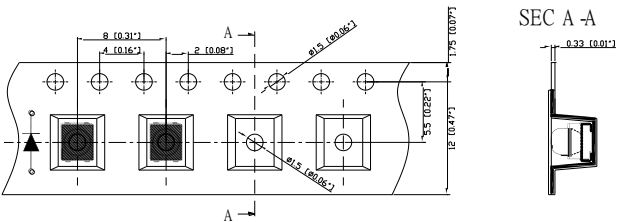
Packing

Reel Dimension:



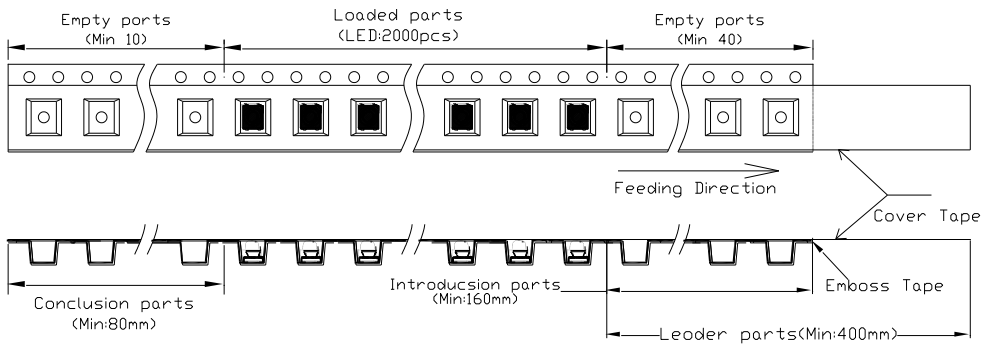
Unit: mm

Dimensions of Tape:

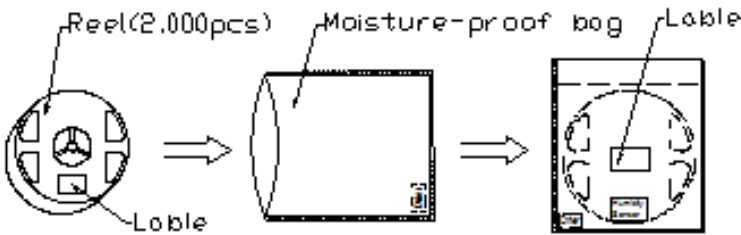


Unit: mm

Arrangement of Tape:



Packaging Specifications:



Labeling

QT-Brightek

Part No:

Customer P/N:

Item:

Q'ty:

Vf:

Iv:

WI:

Date:

Made in China

Ordering Information

Orderable Part #	Spec Range	Quantity per Reel
QBLP677AD-RD	Iv=11000mcd typ., λ_D =615nm to 630nm @ I _F =50mA	2000 units
QBLP677AD-OD	Iv=22000mcd typ., λ_D =600nm to 609nm @ I _F =50mA	2000 units
QBLP677AD-YD	Iv=13500mcd typ., λ_D =586nm to 595nm @ I _F =50mA	2000 units



Revision History

Description:	Revision #	Revision Date
New Release of QBLP677AD-RD	V1.0	10/20/2017
Add orange and yellow color options	V1.1	12/29/2022
Drawing presentation adjusted for improved readability; no changes made to dimensions or specifications.	V1.2	07/31/2025

Disclaimer

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1. Life support devices or systems are devices or systems which, (a) are intended for surgical implant into the body, or (b) support or sustain life, and (c) whose failure to perform when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in a significant injury of the user.
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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