



**ATTENTION**  
OBSERVE PRECAUTIONS  
FOR HANDLING  
ELECTROSTATIC  
DISCHARGE  
SENSITIVE  
DEVICES

Part Number: APB2012QBDZGC

Blue  
Green

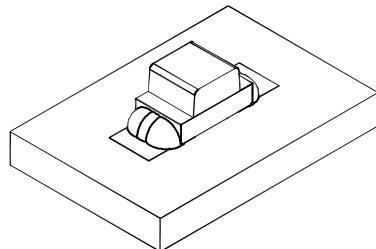
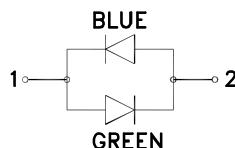
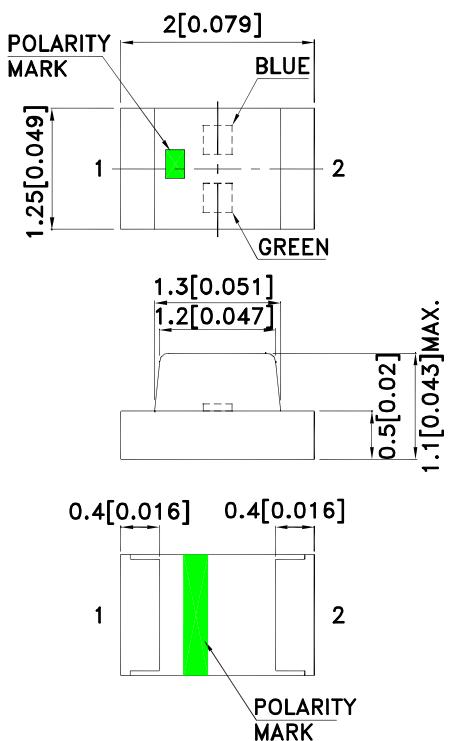
### Features

- 2.0mmx1.25mm SMT LED, 1.1mm thickness.
- Bi -color, Low power consumption.
- Wide viewing angle.
- Ideal for backlight and indicator.
- Package : 2000pcs / reel.
- Moisture sensitivity level : level 3.
- RoHS compliant.

### Descriptions

- The Blue source color devices are made with InGaN Light Emitting Diode.
- The Green source color devices are made with InGaN on Sapphire Light Emitting Diode.
- Electrostatic discharge and power surge could damage the LEDs.
- It is recommended to use a wrist band or anti-electrostatic glove when handling the LEDs.
- All devices, equipments and machineries must be electrically grounded.

### Package Dimensions



#### Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is  $\pm 0.15(0.006")$  unless otherwise noted.
3. The specifications, characteristics and technical data described in the datasheet are subject to change without prior notice.
4. The device has a single mounting surface. The device must be mounted according to the specifications.



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## Selection Guide

Part No.	Dice	Lens Type	I <sub>v</sub> (mcd) [2] @ 20mA		Viewing Angle [1]
			Min.	Typ.	
APB2012QBDZGC	Blue (InGaN)	Water Clear	40	80	150°
	Green (InGaN)		200	300	

Notes:

1. θ1/2 is the angle from optical centerline where the luminous intensity is 1/2 of the optical peak value.
2. Luminous intensity/ luminous Flux: +/-15%.
3. Luminous intensity value is traceable to the CIE127-2007 compliant national standards.

## Electrical / Optical Characteristics at TA=25°C

Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λpeak	Peak Wavelength	Blue Green	460 515		nm	I <sub>F</sub> =20mA
λD [1]	Dominant Wavelength	Blue Green	465 525		nm	I <sub>F</sub> =20mA
Δλ1/2	Spectral Line Half-width	Blue Green	25 30		nm	I <sub>F</sub> =20mA
C	Capacitance	Blue Green	100 45		pF	V <sub>F</sub> =0V;f=1MHz
V <sub>F</sub> [2]	Forward Voltage	Blue Green	3.3 3.3	4 4.1	V	I <sub>F</sub> =20mA

Notes:

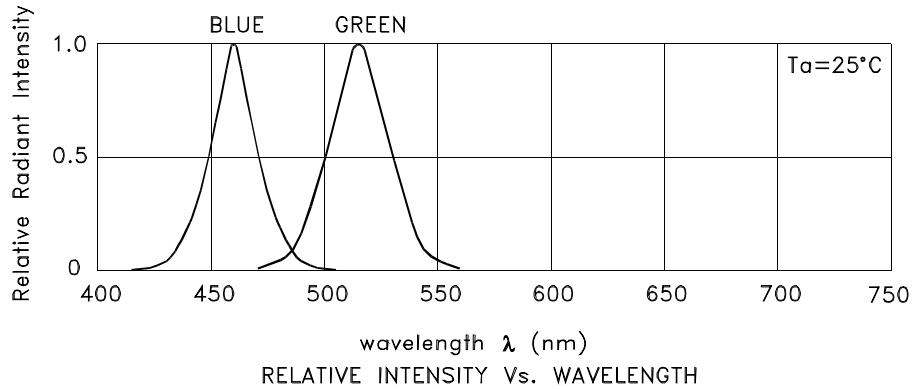
- 1.Wavelength: +/-1nm.
- 2.Forward Voltage: +/-0.1V.
- 3.Wavelength value is traceable to the CIE127-2007 compliant national standards.
- 4.Excess driving current and/or operating temperature higher than recommended conditions may result in severe light degradation or premature failure.

## Absolute Maximum Ratings at TA=25°C

Parameter	Blue	Green	Units
Power dissipation	120	102.5	mW
DC Forward Current	30	25	mA
Peak Forward Current [1]	150	150	mA
Operating Temperature	-40°C To +85°C		
Storage Temperature	-40°C To +85°C		

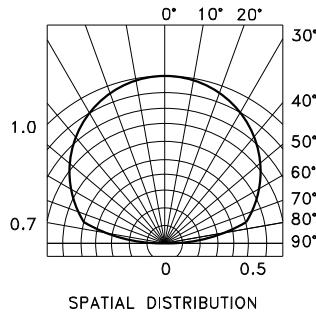
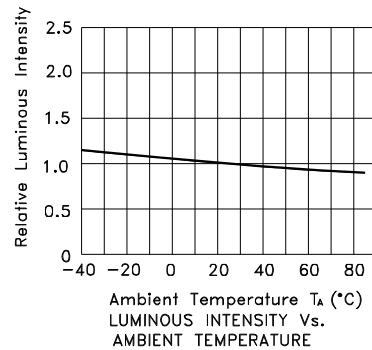
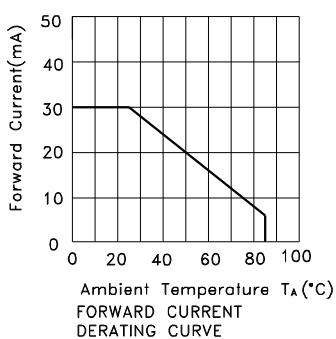
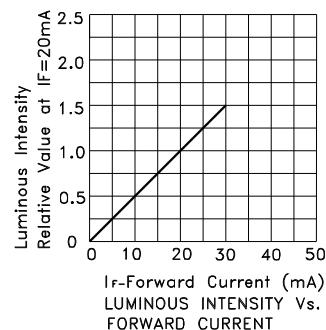
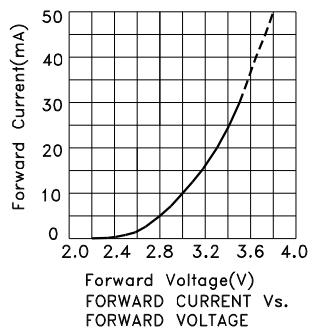
Note:

1. 1/10 Duty Cycle, 0.1ms Pulse Width.

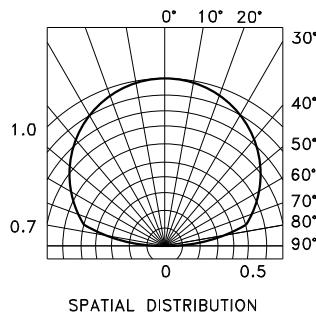
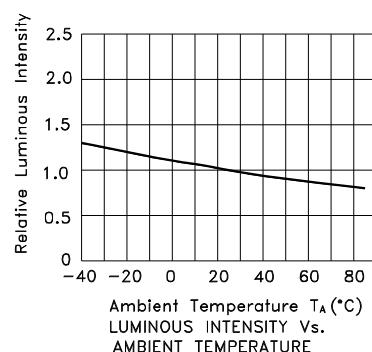
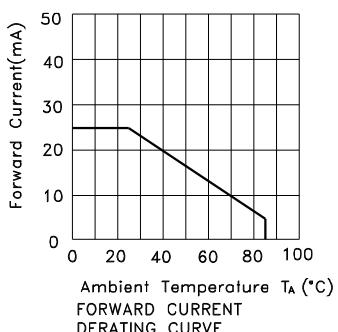
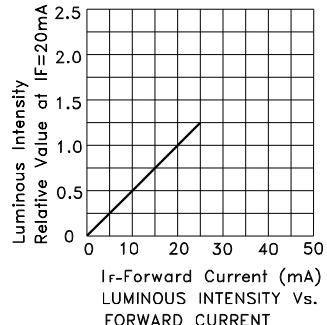
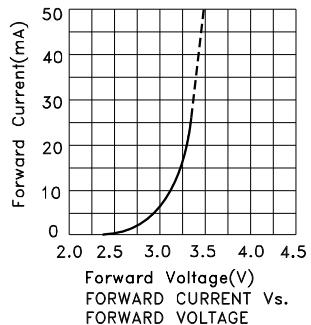


**APB2012QBDZGC**

**Blue**



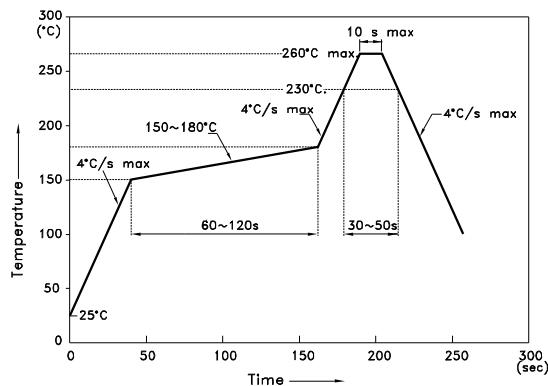
## Green



## APB2012QBDZGC

Reflow soldering is recommended and the soldering profile is shown below.  
Other soldering methods are not recommended as they might cause damage to the product.

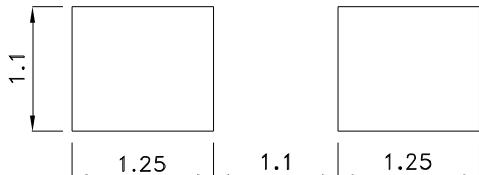
Reflow Soldering Profile For Lead-free SMT Process.



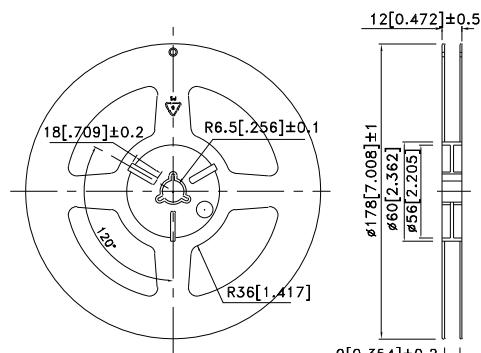
NOTES:

1. We recommend the reflow temperature  $245^{\circ}\text{C} (+/- 5^{\circ}\text{C})$ . The maximum soldering temperature should be limited to  $260^{\circ}\text{C}$ .
2. Don't cause stress to the epoxy resin while it is exposed to high temperature.
3. Number of reflow process shall be 2 times or less.

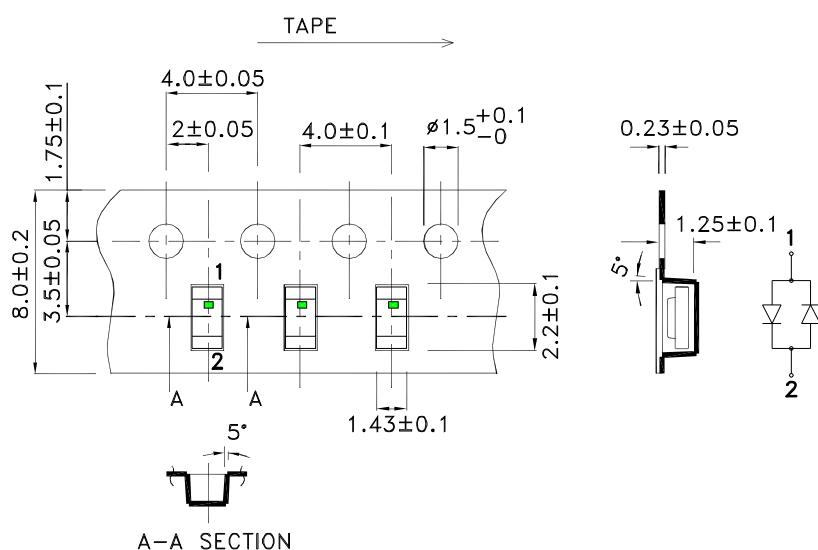
### Recommended Soldering Pattern (Units : mm; Tolerance: $\pm 0.1$ )



### Reel Dimension



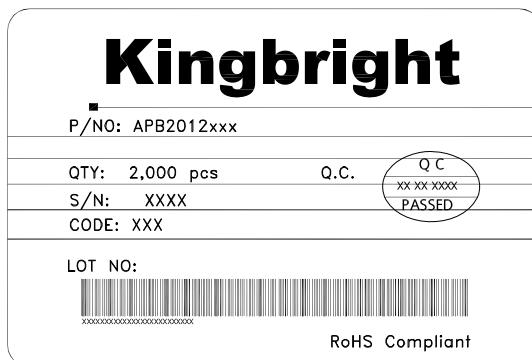
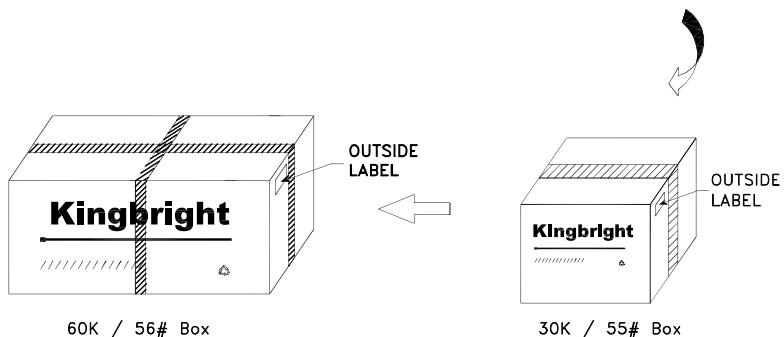
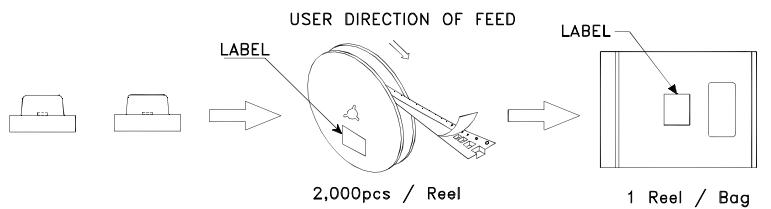
### Tape Dimensions (Units : mm)



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## PACKING & LABEL SPECIFICATIONS

APB2012QBDZGC



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