



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

Part Number: KPBDA-3020QBDCGKC-PF

Blue  
Green

### Features

- 3.0mmx2.0mm SMT LED, 2.8mm thickness.
- Low power consumption.
- Various colors and lens types available.
- Ideal for back light and indicator
- Package : 2000pcs / reel.
- When soldered in the sideview configuration, the maximum shear tolerance of the epoxy lens is 300g.
- Tinned pads for improved solderability.
- Moisture sensitivity level : level 3.
- RoHS compliant.

### Description

The Blue source color devices are made with InGaN Light Emitting Diode.

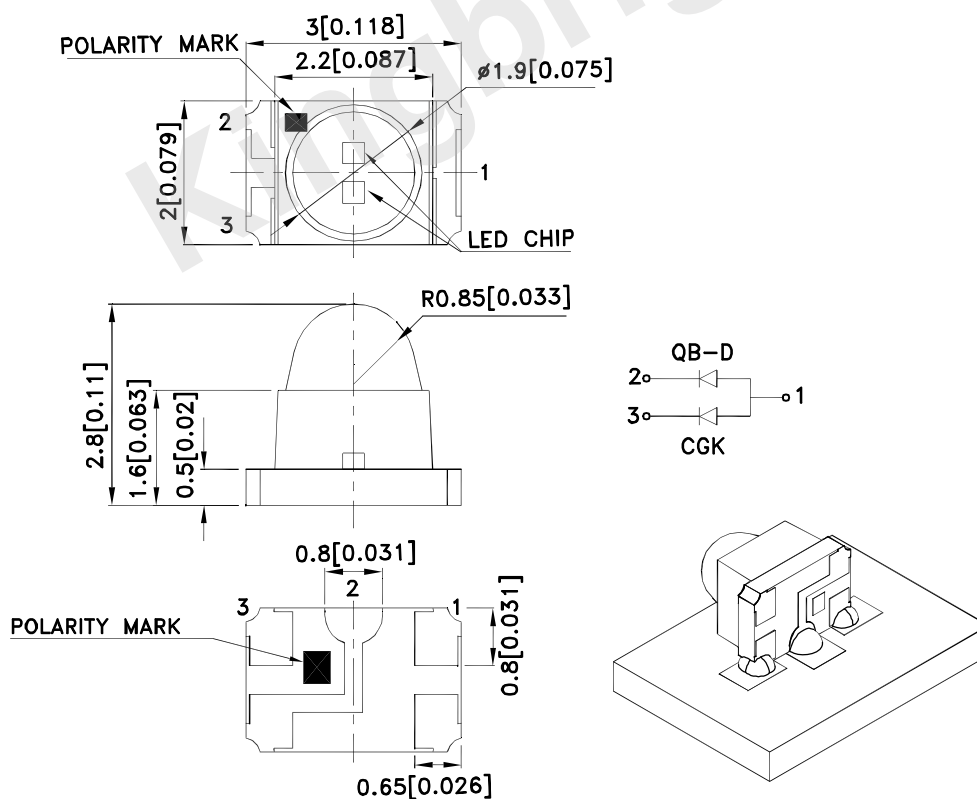
The Green source color devices are made with AlGaInP on GaAs substrate Light Emitting Diode.

Static electricity and surge damage the LEDs.

It is recommended to use a wrist band or anti-electrostatic glove when handling the LEDs.

All devices, equipment and machinery must be electrically grounded.

### Package Dimensions



#### Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is  $\pm 0.2$  (0.008") 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.



## Selection Guide

Part No.	Dice	Lens Type	Iv (mcd) [2] @ 20mA		Viewing Angle [1]
			Min.	Typ.	2θ1/2
KPBDA-3020QBDCGKC-PF	Blue (InGaN)	Water Clear	120	300	15°
	Green (AlGaInP)		120	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	460 574		nm	IF=20mA
λD [1]	Dominant Wavelength	Blue Green	465 570		nm	IF=20mA
Δλ1/2	Spectral Line Half-width	Blue Green	25 20		nm	IF=20mA
C	Capacitance	Blue Green	100 15		pF	VF=0V;f=1MHz
VF [2]	Forward Voltage	Blue Green	3.3 2.1	4 2.5	V	IF=20mA
IR	Reverse Current	Blue Green		50 10	uA	VR = 5V

### Notes:

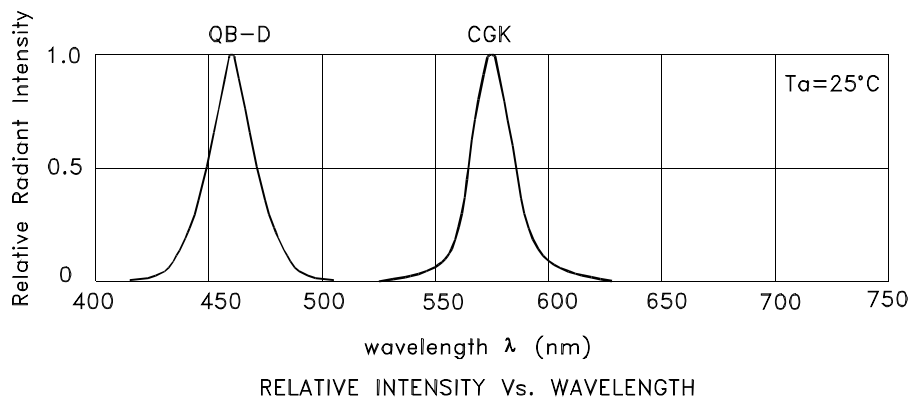
1. Wavelength: +/-1nm.
2. Forward Voltage: +/-0.1V.
3. Wavelength value is traceable to the CIE127-2007 compliant national standards.

## Absolute Maximum Ratings at TA=25°C

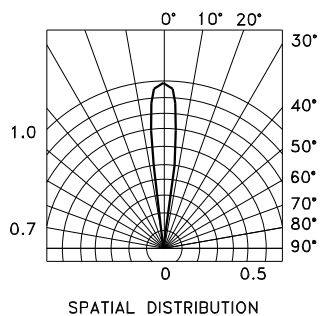
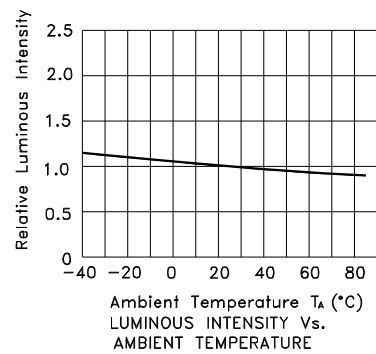
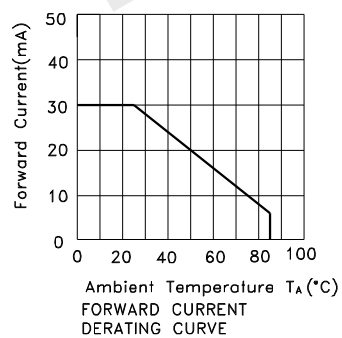
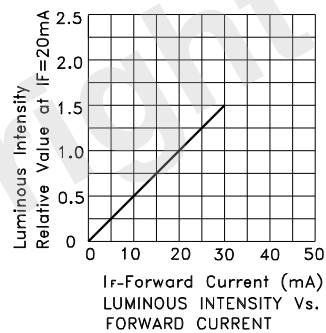
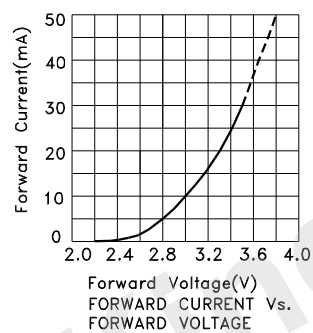
Parameter	Blue	Green	Units
Power dissipation	120	75	mW
DC Forward Current	30	30	mA
Peak Forward Current [1]	150	150	mA
Reverse Voltage	5		V
Operating Temperature	-40°C To +85°C		
Storage Temperature	-40°C To +85°C		

### Note:

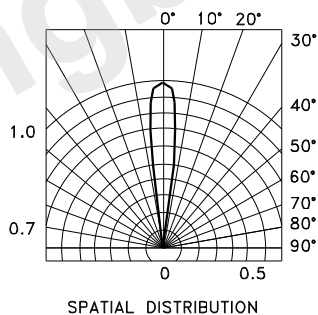
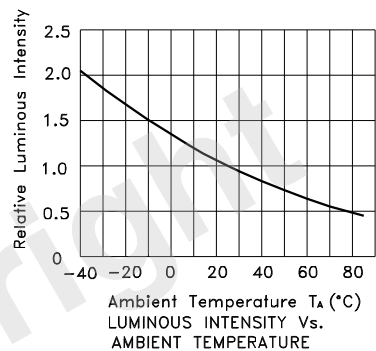
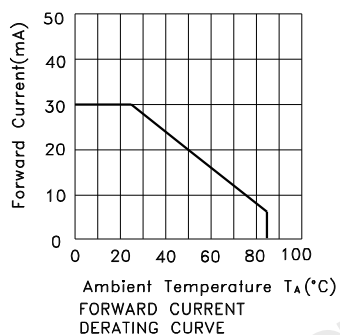
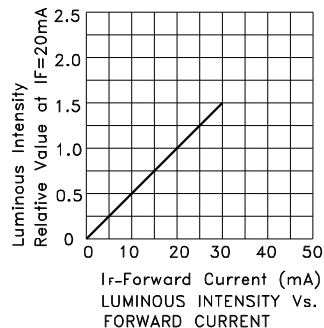
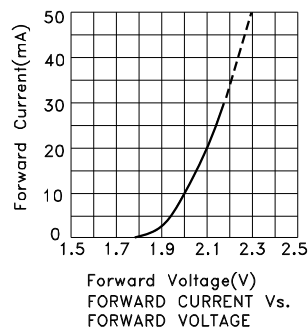
1. 1/10 Duty Cycle, 0.1ms Pulse Width.



## KPBDA-3020QBDCGKC-PF Blue



## Green



## KPBDA-3020QBDCGKC-PF

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.

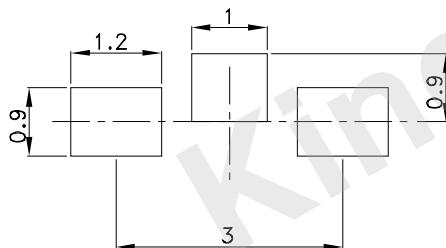
Reflow Soldering Profile For Lead-free SMT Process.



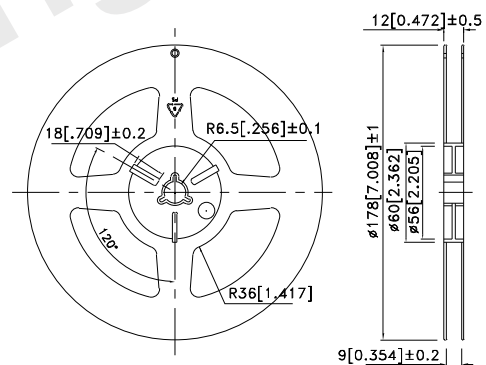
### NOTES:

1. We recommend the reflow temperature 245°C(+/-5°C). The maximum soldering temperature should be limited to 260°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.

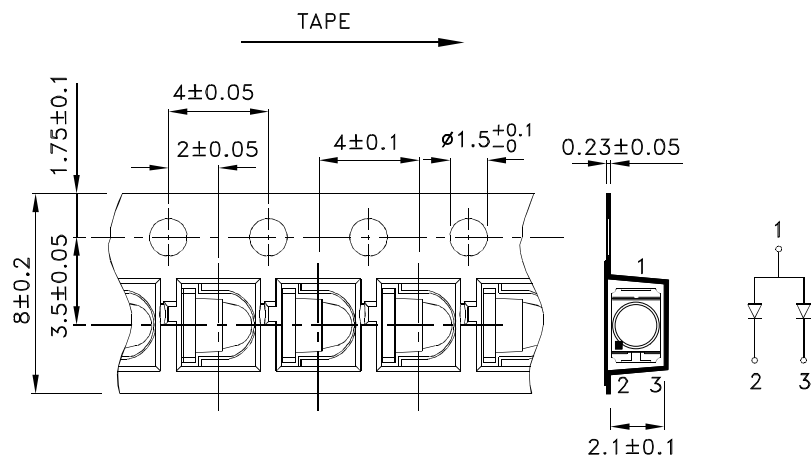
### Recommended Soldering Pattern (Units : mm; Tolerance: ± 0.1)



### Reel Dimension

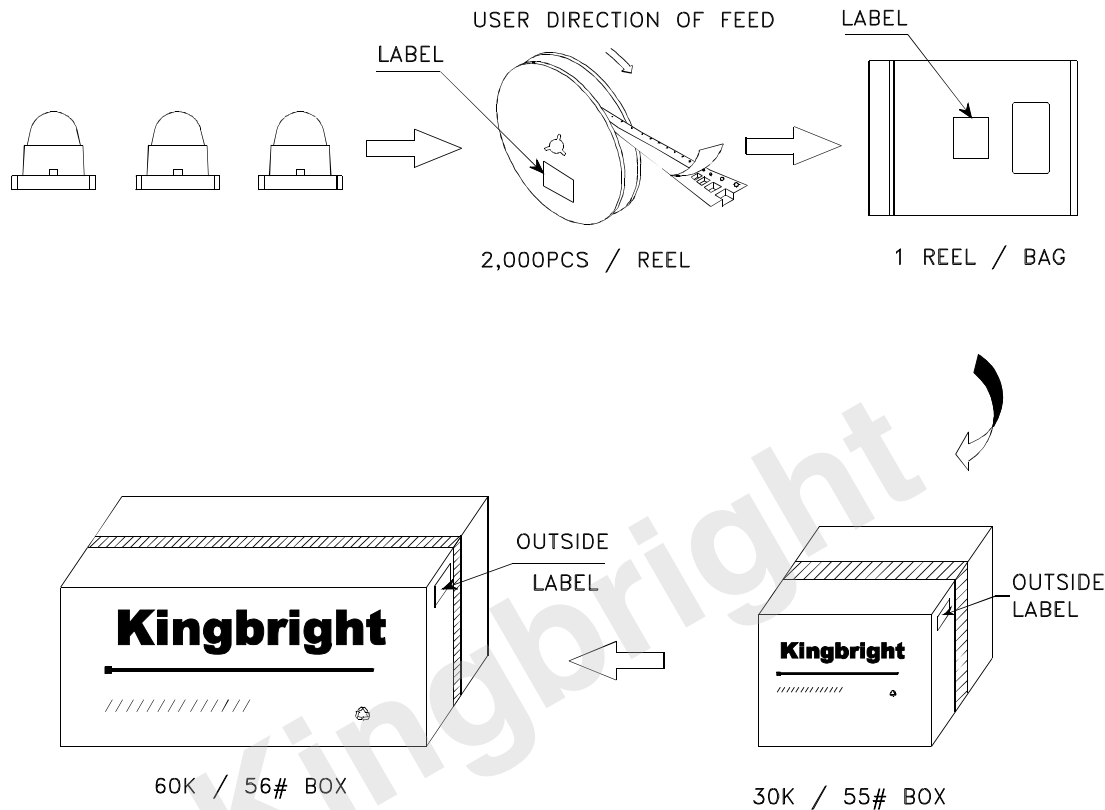



### Tape Dimensions (Units : mm)



## PACKING & LABEL SPECIFICATIONS

KPBDA-3020QBDCGKC-PF



<b>Kingbright</b>	
P/NO: KPBDA-3020xxx	
QTY: 2,000 pcs	Q.C.
S/N: XXXX	XX XX XXXX PASSED
CODE: XXX	
LOT NO:	
	
RoHS Compliant	

Detailed application notes are listed on our website.  
[http://www.kingbright.com/application\\_notes](http://www.kingbright.com/application_notes)