

Kingbright

2.0x1.25mm SMD CHIP LED LAMP

PRELIMINARY SPEC

Part Number: APHBM2012PBACGKC



ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE
SENSITIVE
DEVICES

Blue
Green

Features

- 2.0mmx1.25mm SMT LED, 0.45mm MAX. THICKNESS.
- BI -COLOR, LOW POWER CONSUMPTION.
- WIDE VIEWING ANGLE.
- IDEAL FOR BACKLIGHT AND INDICATOR.
- PACKAGE : 2000PCS / REEL.
- MOISTURE SENSITIVITY LEVEL : LEVEL 3.
- RoHS COMPLIANT.

Description

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

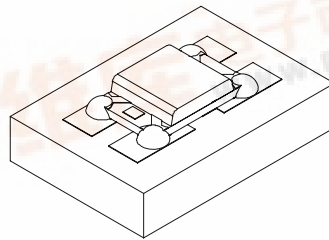
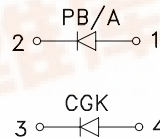
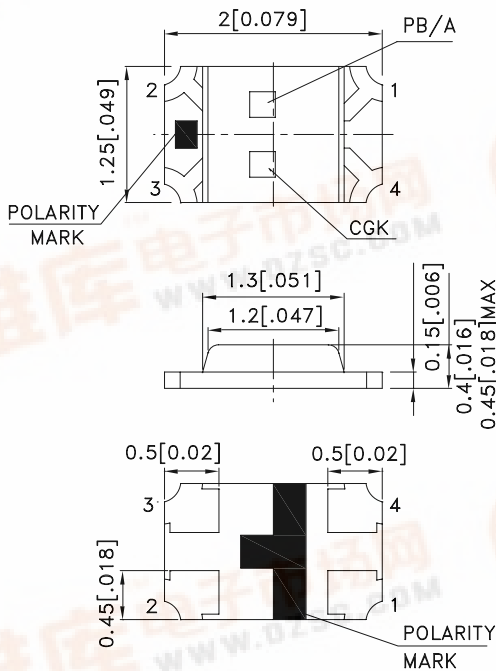
The Green source color devices are made with InGaAlP on GaAs substrate Light Emitting Diode.

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 $\pm 0.1(0.004)$ unless otherwise noted.
3. Specifications are subject to change without 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	Iv (mcd) [2] @ 20mA		Viewing Angle [1]
			Min.	Typ.	2θ1/2
APHBM2012PBACGKC	Blue (InGaN)	WATER CLEAR	18	50	120°
	Green (InGaAlP)		36	80	

Notes:

1. θ1/2 is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.
2. Luminous intensity/ luminous Flux: +/-15%.

Electrical / Optical Characteristics at TA=25°C

Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λ_{peak}	Peak Wavelength	Blue Green	468 574		nm	I _F =20mA
λ_D [1]	Dominant Wavelength	Blue Green	470 570		nm	I _F =20mA
$\Delta\lambda_{1/2}$	Spectral Line Half-width	Blue Green	21 20		nm	I _F =20mA
C	Capacitance	Blue Green	100 15		pF	V _F =0V;f=1MHz
V _F [2]	Forward Voltage	Blue Green	3.2 2.1	4 2.5	V	I _F =20mA
I _R	Reverse Current	Blue Green		10 10	uA	V _R = 5V

Notes:

1. Wavelength: +/-1nm.
2. Forward Voltage: +/-0.1V.

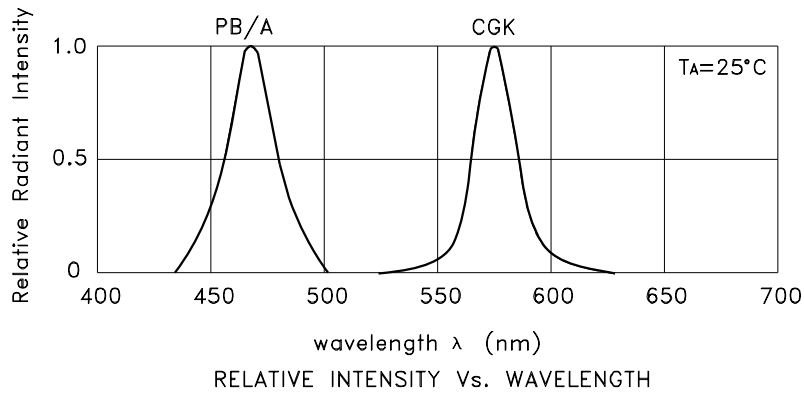
Absolute Maximum Ratings at TA=25°C

Parameter	Blue	Green	Units
Power dissipation	120	75	mW
DC Forward Current	30	30	mA
Peak Forward Current [1]	100	150	mA
Reverse Voltage	5		V
Operating Temperature	-40°C To +85°C		
Storage Temperature	-40°C To +85°C		

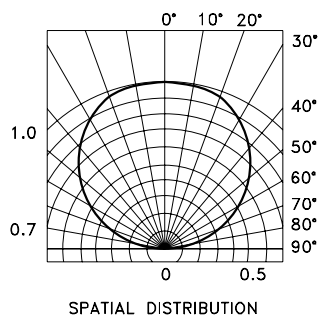
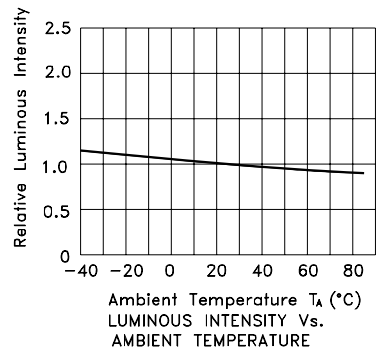
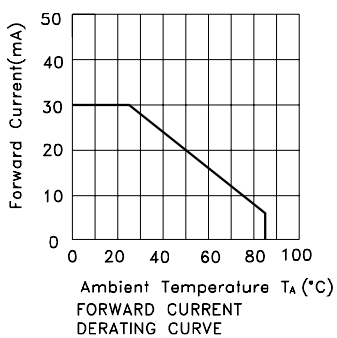
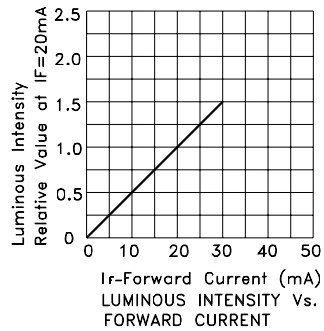
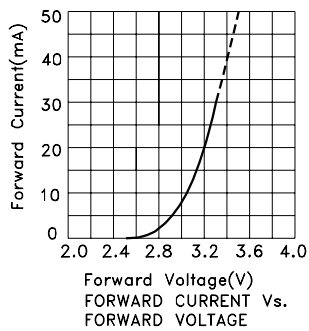
Note:

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

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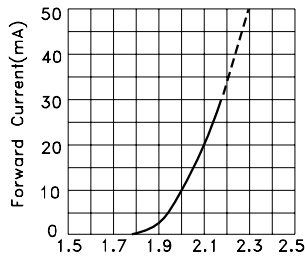


APHBM2012PBACGKC Blue

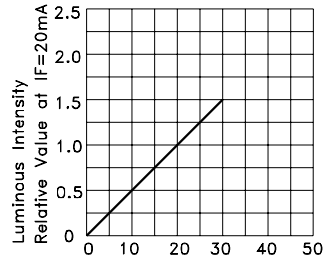


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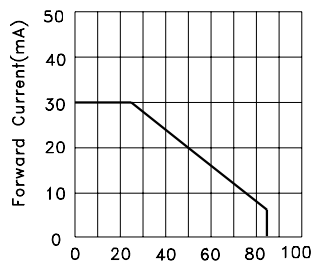
Green



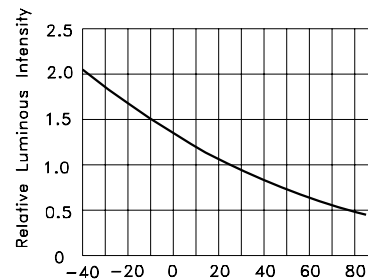
Forward Voltage(V)
FORWARD CURRENT Vs.
FORWARD VOLTAGE



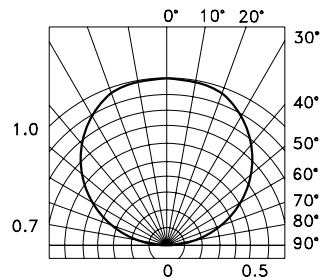
I_f-Forward Current (mA)
LUMINOUS INTENSITY Vs.
FORWARD CURRENT



Ambient Temperature T_A(°C)
FORWARD CURRENT
DERATING CURVE



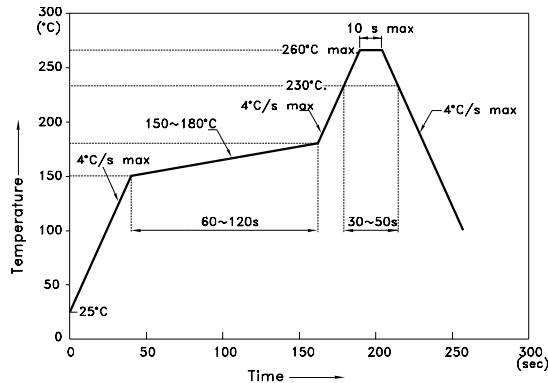
Ambient Temperature T_A(°C)
LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE



SPATIAL DISTRIBUTION

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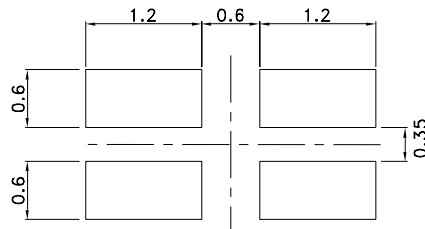
Reflow Soldering Profile For Lead-free SMT Process.



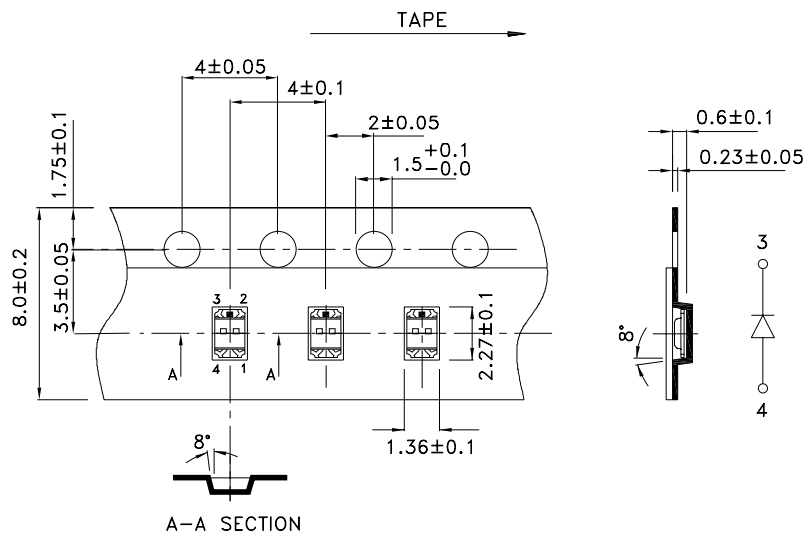
NOTES:

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)



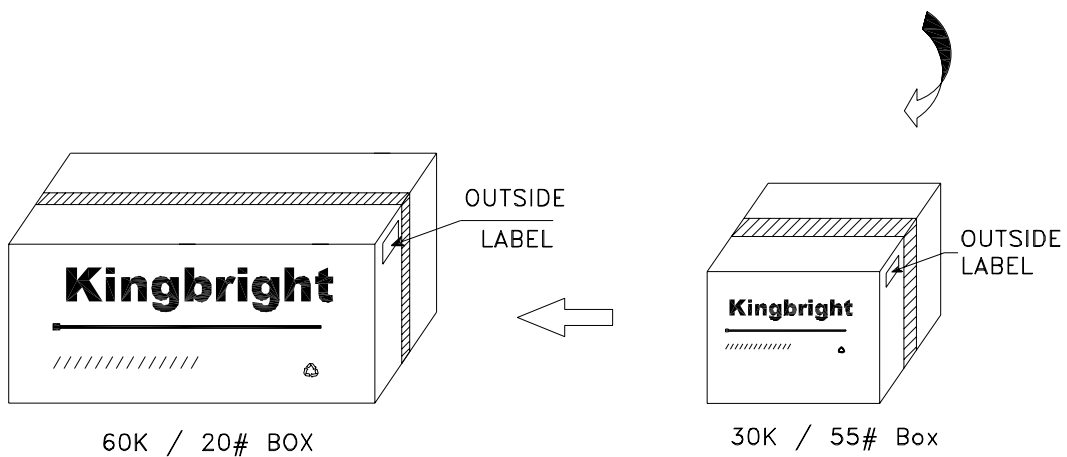
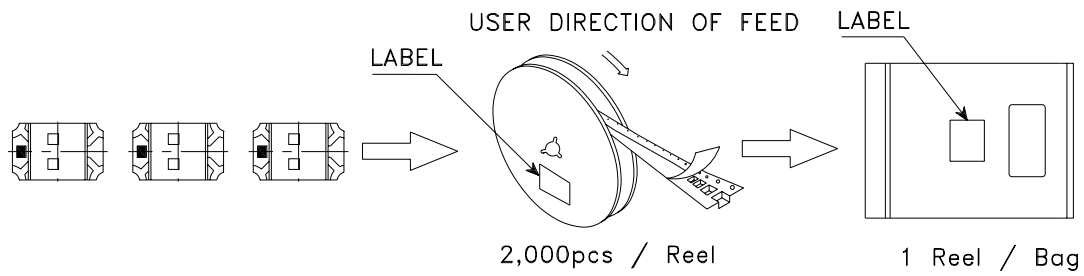
Tape Specifications (Units : mm)




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PACKING & LABEL SPECIFICATIONS

APHBM2012PBACGKC



<h1>Kingbright</h1>	
P/NO: APHBM2012xxx	
QTY: 2,000 pcs	Q.C. Q C XX XX XXXX PASSED
S/N: XXXX	
CODE: XXX	
LOT NO:	
 <small>XXXXXXXXXXXXXXXXXXXXXXXXXXXX</small>	
RoHS Compliant	