Kingbright

2.0x1.25mm SMD CHIP LED LAMP

PRELIMINARY SPEC

Part Number: KPHBM-2012PBACGKC BLUE
GREEN

ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE
SENSITIVE
DEVICES

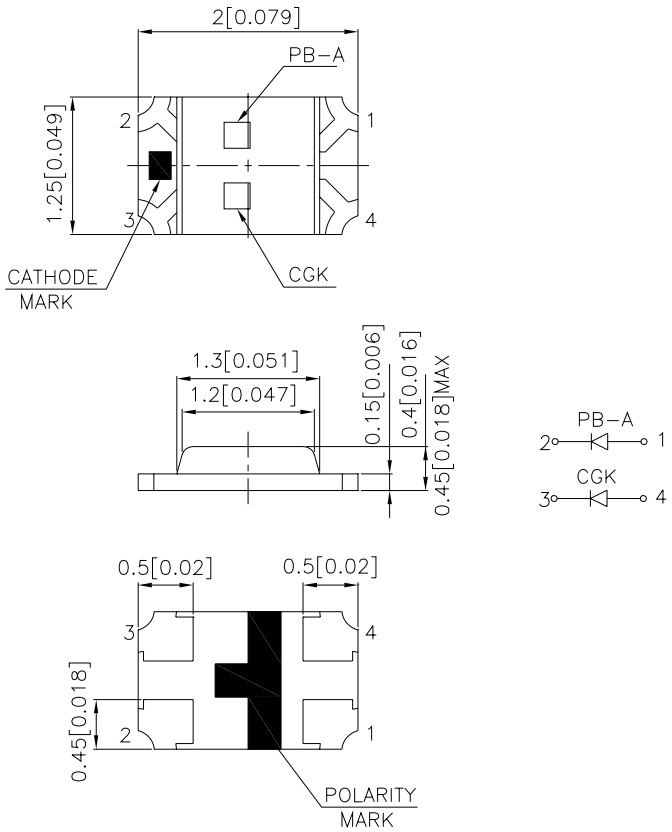
Features

- ●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 ±0.1(0.004") unless otherwise noted.
3. Specifications are subject to change without notice.

Selection Guide

Part No.	Dice	Lens Type	Iv (mcd) [2] @ 20mA		Viewing Angle[1]
			Min.	Typ.	2θ1/2
KPHBM-2012PBACGKC	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 T_A=25°C

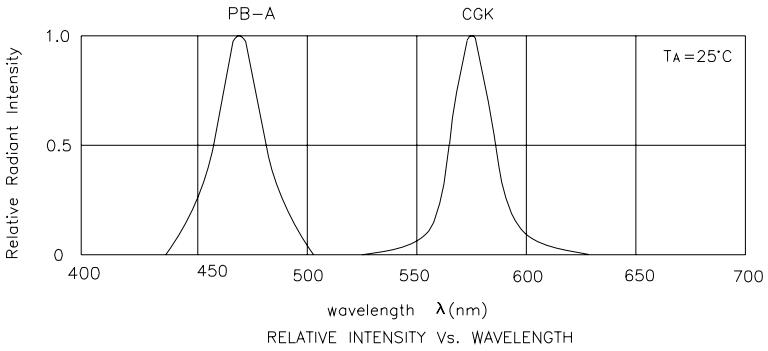
Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λpeak	Peak Wavelength	Blue Green	468 574		nm	I_F=20mA
λD [1]	Dominant Wavelength	Blue Green	470 570		nm	I_F=20mA
Δλ1/2	Spectral Line Half-width	Blue Green	21 20		nm	I_F=20mA
C	Capacitance	Blue Green	100 15		pF	V_F=0V;f=1MHz
V_F [2]	Forward Voltage	Blue Green	3.3 2.1	3.8 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 T_A=25°C

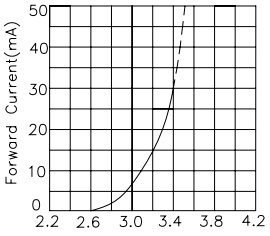
Parameter	Blue	Green	Units
Power dissipation	114	75	mW
DC Forward Current	30	30	mA
Peak Forward Current [1]	100	150	mA
Reverse Voltage	5	5	V
Operating / Storage Temperature	-40°C To +85°C		

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

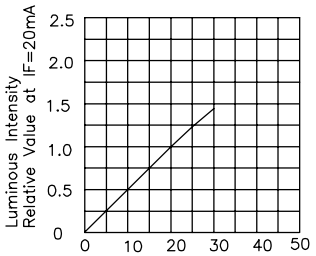


RELATIVE INTENSITY Vs. WAVELENGTH

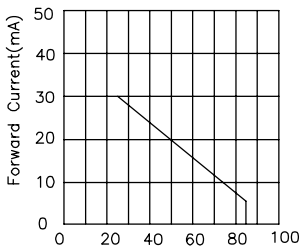
KPHBM-2012PBACGKC
Blue



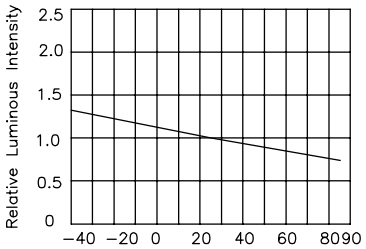
FORWARD CURRENT Vs
FORWARD VOLTAGE



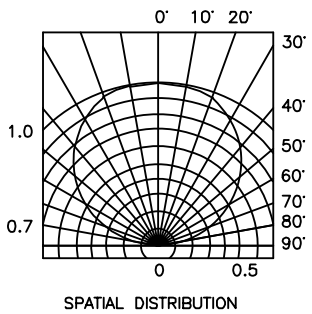
LUMINOUS INTENSITY Vs.
FORWARD CURRENT



FORWARD CURRENT
DERATING CURVE

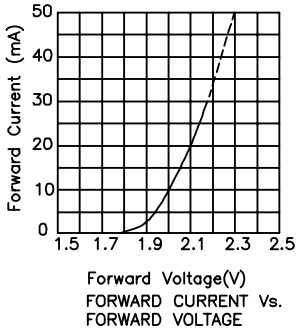


LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE

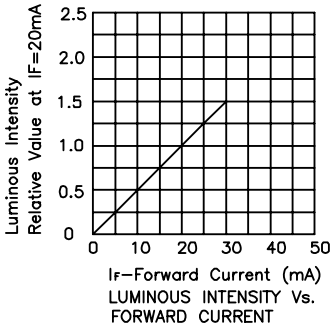


SPATIAL DISTRIBUTION

Green



FORWARD CURRENT Vs.
FORWARD VOLTAGE



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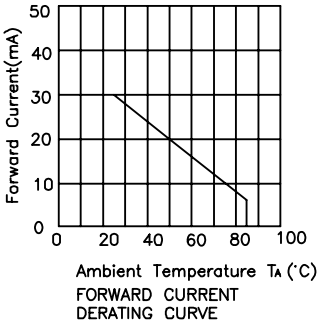
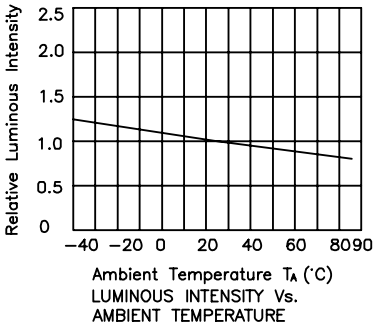
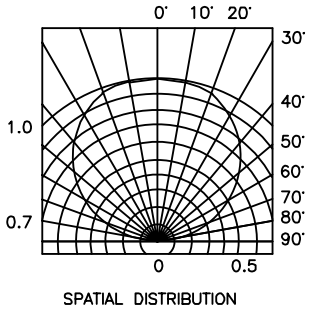
FORWARD CURRENT



FORWARD CURRENT
DERATING CURVE



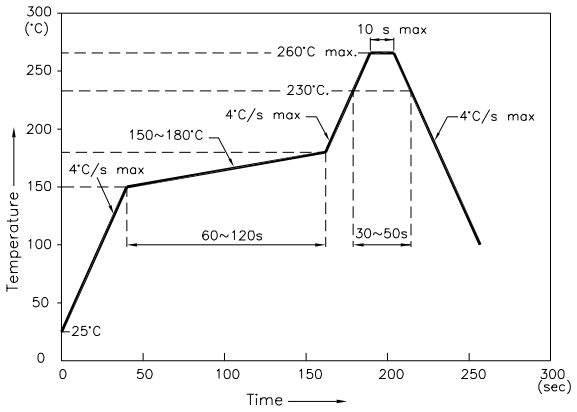
LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE



SPATIAL DISTRIBUTION

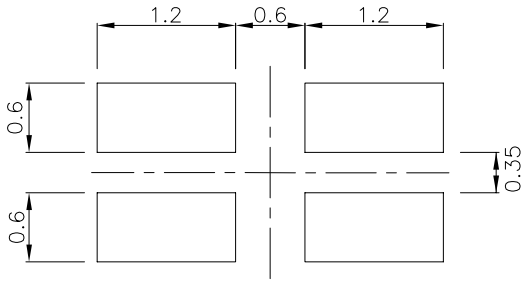
KPHBM-2012PBACGKC

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)