ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE
SENSITIVE
DEVICES

KPTB-1612PBVGC BLUE / GREEN

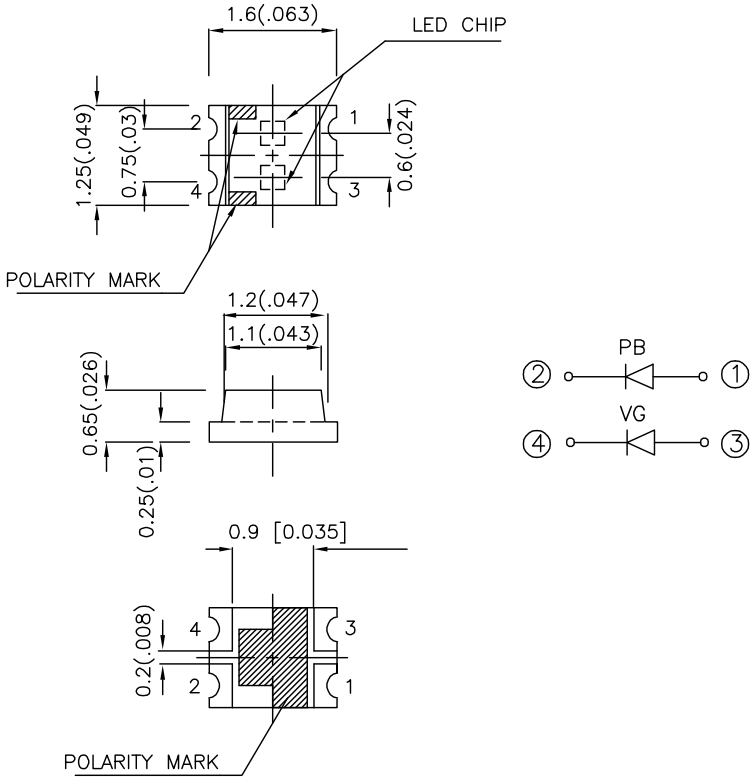
Features

- 1.6mmx1.25mm SMT LED, 0.65mm THICKNESS.
- BI-COLOR,LOW POWER CONSUMPTION.
- WIDE VIEWING ANGLE.
- IDEAL FOR BACKLIGHT AND INDICATOR.
- VARIOUS COLORS AND LENS TYPES AVAILABLE.
- PACKAGE : 2000PCS / REEL.

Description

The Blue source color devices are made with InGaN on SiC Light Emitting Diode.
The Green source color devices are made with InGaN on SiC 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 ±0.2(0.008") unless otherwise noted.
3. Specifications are subject to change without notice.

Kingbright

Selection Guide

Part No.	Dice	Lens Type	Iv (mcd) @ 20mA		Viewing Angle
			Min.	Typ.	2 θ 1/2
KPTB-1612PBVGC	BLUE (InGaN)	WATER CLEAR	18	60	120°
	GREEN (InGaN)		70	180	

Note:
1. θ1/2 is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.

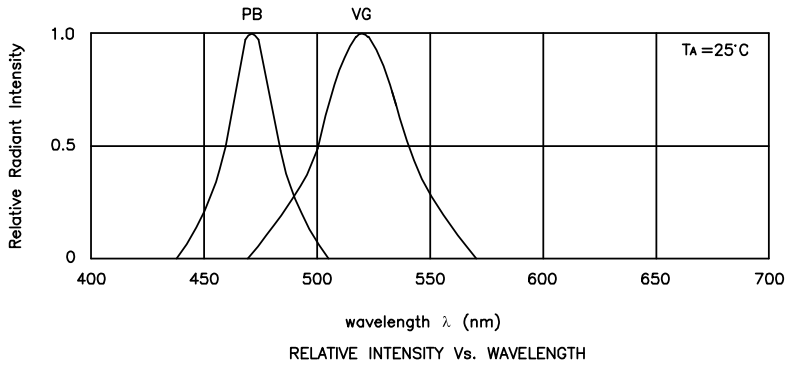
Electrical / Optical Characteristics at T_A=25°C

Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λpeak	Peak Wavelength	Blue Green	468 520		nm	I_F=20mA
λD	Dominant Wavelength	Blue Green	470 525		nm	I_F=20mA
Δλ1/2	Spectral Line Half-width	Blue Green	25 38		nm	I_F=20mA
C	Capacitance	Blue Green	65 45		pF	V_F=0V;f=1MHz
V_F	Forward Voltage	Blue Green	3.65 3.5	4.2 4.5	V	I_F=20mA
I_R	Reverse Current	All		10	uA	V_R = 5V

Absolute Maximum Ratings at T_A=25°C

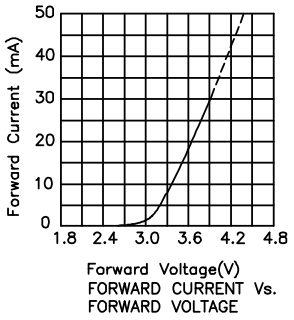
Parameter	Blue	Green	Units
Power dissipation	102	105	mW
DC Forward Current	30	30	mA
Peak Forward Current [1]	160	150	mA
Reverse Voltage	5	5	V
Operating/Storage Temperature	-40°C To +85°C		

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

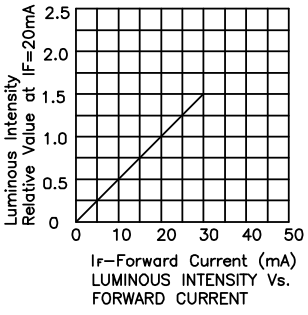


RELATIVE INTENSITY Vs. WAVELENGTH

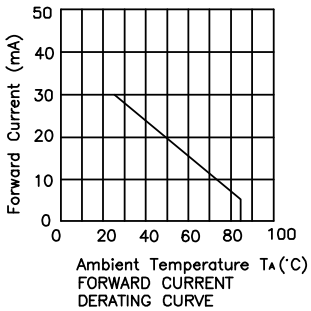
KPTB-1612PBVGC
Blue



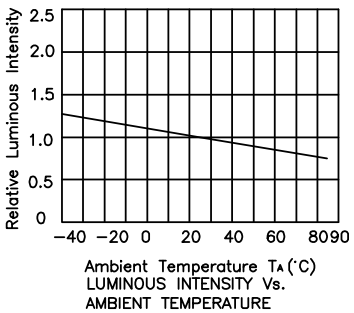
FORWARD CURRENT Vs.
FORWARD VOLTAGE



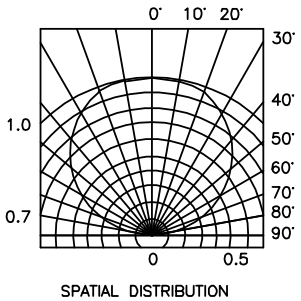
LUMINOUS INTENSITY Vs.
FORWARD CURRENT



FORWARD CURRENT
DERATING CURVE

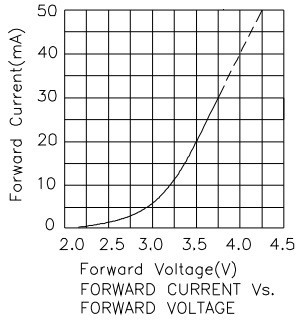


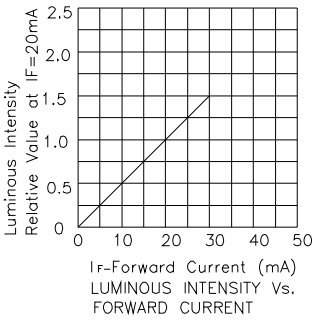
LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE

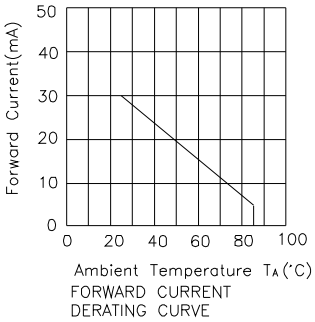


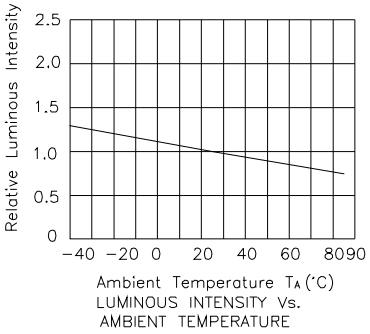
SPATIAL DISTRIBUTION

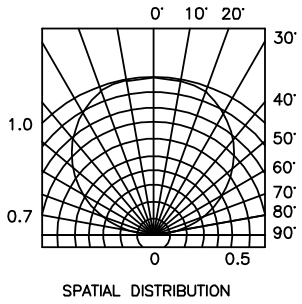
Green


Forward Current(mA)
50
40
30
20
10
0
2.0 2.5 3.0 3.5 4.0 4.5
Forward Voltage(V)
FORWARD CURRENT Vs.
FORWARD VOLTAGE


Luminous Intensity
Relative Value at IF=20mA
2.5
2.0
1.5
1.0
0.5
0
0 10 20 30 40 50
IF-Forward Current (mA)
LUMINOUS INTENSITY Vs.
FORWARD CURRENT


Forward Current(mA)
50
40
30
20
10
0
0 20 40 60 80 100
Ambient Temperature TA(°C)
FORWARD CURRENT
DERATING CURVE

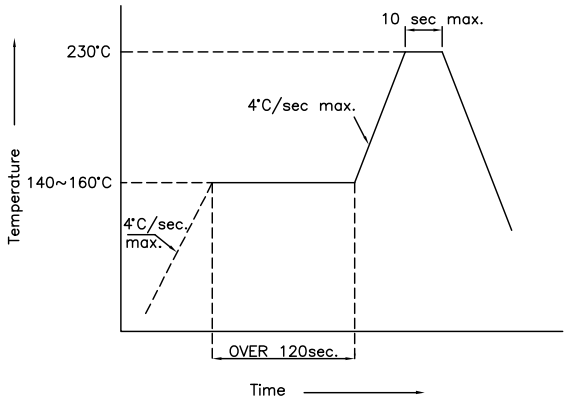

Relative Luminous Intensity
2.5
2.0
1.5
1.0
0.5
0
−40 −20 0 20 40 60 8090
Ambient Temperature TA(°C)
LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE


0° 10° 20°
30°
40°
50°
60°
70°
80°
90°
1.0
0.7
0
0.5
SPATIAL DISTRIBUTION

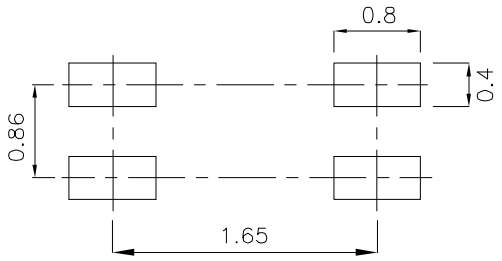
KPTB-1612PBVGC

SMT Reflow Soldering Instructions

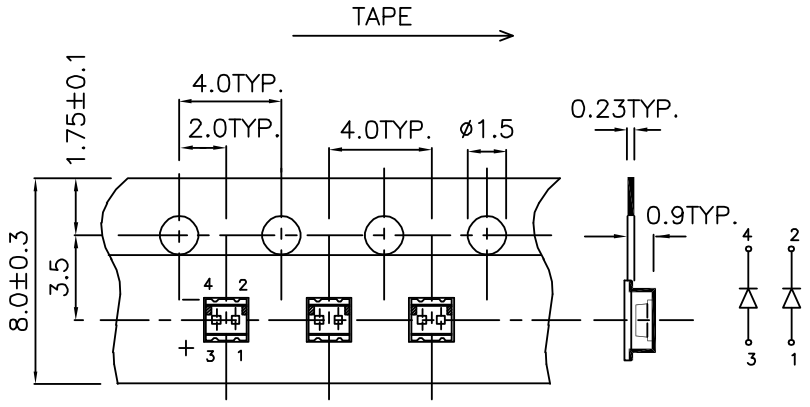
Number of reflow process shall be 2 times or less and cooling process to normal temperature is required between first and second soldering process.



Recommended Soldering Pattern (Units : mm)



Tape Specifications (Units : mm)



Remarks:
If special sorting is required (e.g. binning based on forward voltage,luminous intensity, or wavelength), the typical accuracy of the sorting process is as follows:
1. Wavelength: +/-1nm
2. Luminous Intensity: +/-15%
3. Forward Voltage: +/-0.1V
Note: Accuracy may depend on the sorting parameters.