Kingbright

1.6x0.8x0.5mm BI-COLOR SURFACE MOUNT LED

ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE
SENSITIVE
DEVICES

Part Number: APHB1608CGKSYKC

Green
Super Bright Yellow

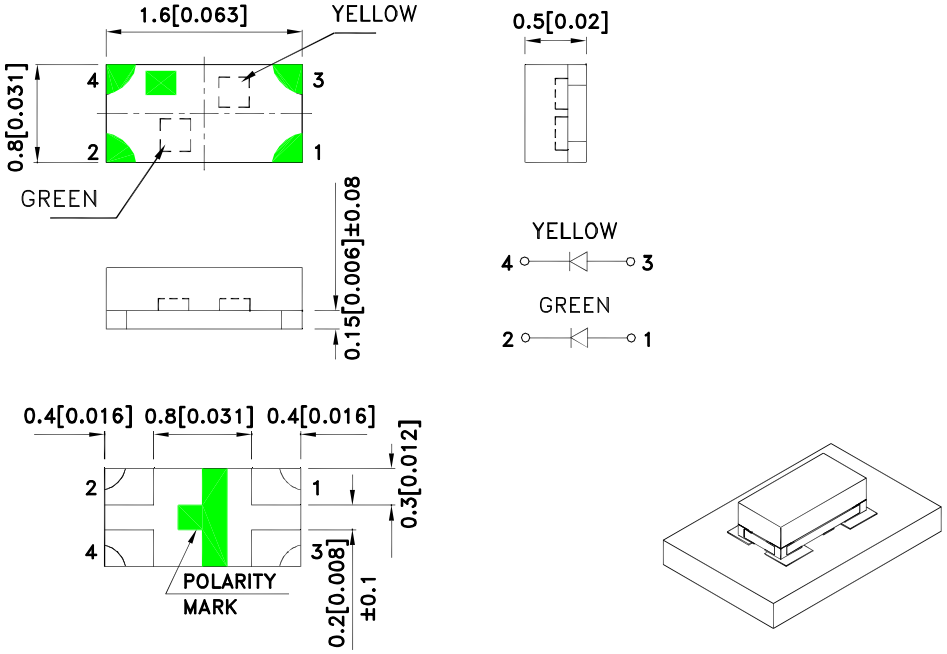
Features

- 1.6mmX0.8mm SMD LED, 0.5mm thickness.
- Compatible with reflow soldering.
- Available in various color combination.
- Package: 2000pcs / reel .
- Moisture sensitivity level : level 3.
- Tinned pads for improved solderability.
- RoHS compliant.

Descriptions

- The Green source color devices are made with AlGaInP on GaAs substrate Light Emitting Diode.
- The Super Bright Yellow device is made with AlGaInP (on GaAs substrate) light emitting diode chip.
- 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, equipment and machinery must be electri cally grounded.

Package Dimensions



Notes:
1. All dimensions are in millimeters (inches).
2. Tolerance is ±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.

Selection Guide

Part No.	Emitting Color (Material)	Lens Type	Iv (mcd) [2] @ 20mA		Viewing Angle [1]
			Min.	Typ.	2θ1/2
APHB1608CGKSYKC	Green (AlGaInP)	Water Clear	20	50	130°
	Super Bright Yellow (AlGaInP)		80	150	

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 CIE127-2007 standards.

Electrical / Optical Characteristics at TA=25°C

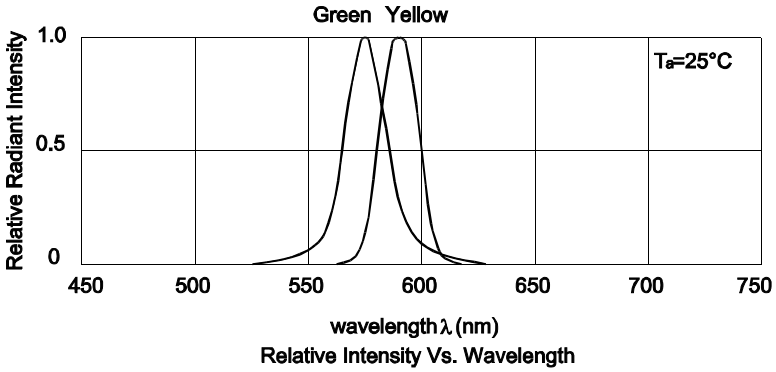
Symbol	Parameter	Emitting Color	Typ.	Max.	Units	Test Conditions
λpeak	Peak Wavelength	Green Super Bright Yellow	574 590		nm	I_F=20mA
λD [1]	Dominant Wavelength	Green Super Bright Yellow	570 590		nm	I_F=20mA
Δλ1/2	Spectral Line Half-width	Green Super Bright Yellow	20 20		nm	I_F=20mA
C	Capacitance	Green Super Bright Yellow	15 20		pF	V_F=0V;f=1MHz
V_F [2]	Forward Voltage	Green Super Bright Yellow	2.1 2	2.5 2.5	V	I_F=20mA
I_R	Reverse Current	Green Super Bright Yellow		10 10	uA	V_R = 5V

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

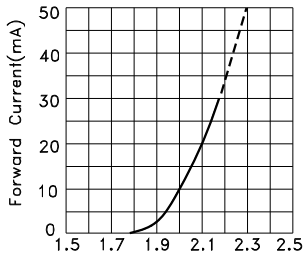
Parameter	Green	Super Bright Yellow	Units
Power dissipation	75	75	mW
DC Forward Current	30	30	mA
Peak Forward Current [1]	150	175	mA
Reverse Voltage	5		V
Operating Temperature	-40°C To +85°C		
Storage Temperature	-40°C To +85°C		

Notes:
1. 1/10 Duty Cycle, 0.1ms Pulse Width.
2. Relative humidity levels maintained between 40% and 60% in production area are recommended to avoid the build-up of static electricity – Ref JEDEC/JESD625-A and JEDEC/J-STD-033.

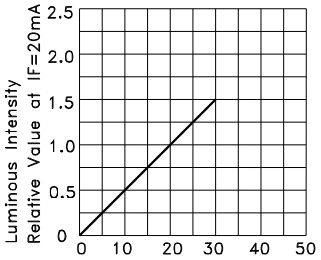


Relative Intensity Vs. Wavelength

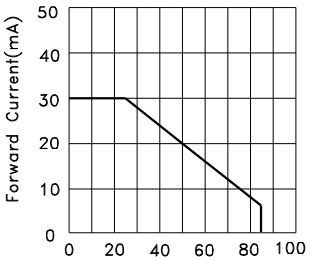
APHB1608CGKSYKC
Green



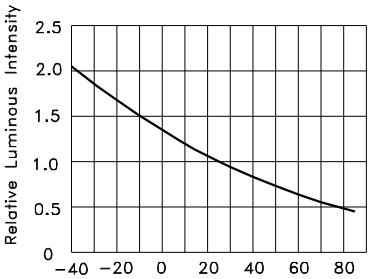
FORWARD CURRENT Vs.
FORWARD VOLTAGE



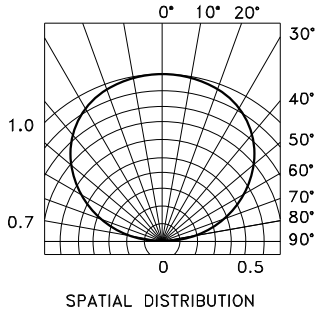
LUMINOUS INTENSITY Vs.
FORWARD CURRENT



FORWARD CURRENT
DERATING CURVE

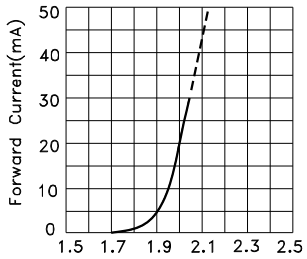


LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE

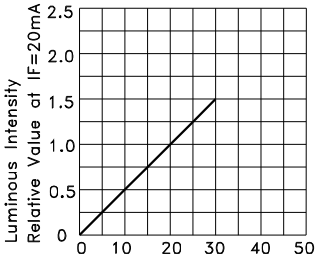


SPATIAL DISTRIBUTION

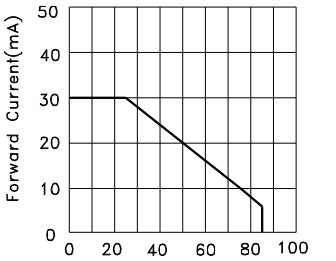
Super Bright Yellow



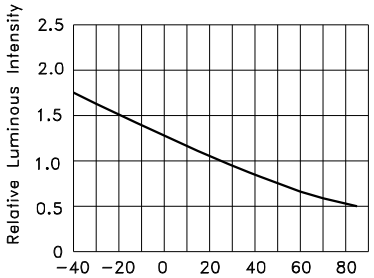
FORWARD CURRENT Vs.
FORWARD VOLTAGE



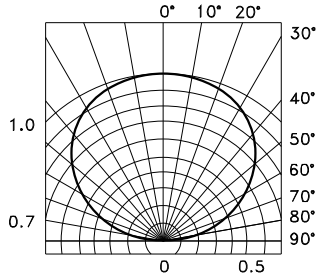
LUMINOUS INTENSITY Vs.
FORWARD CURRENT



FORWARD CURRENT
DERATING CURVE



LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE



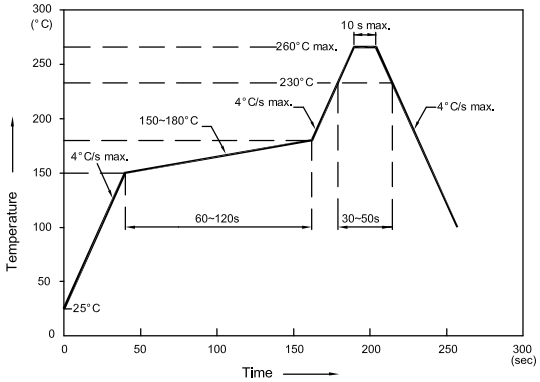
SPATIAL DISTRIBUTION

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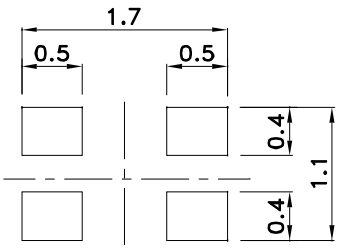
Reflow soldering is recommended and the soldering profile is shown below.
Other soldering methods are not recommended as they might cause damage to the product.

Reflow Soldering Profile For Lead-free SMT Process.

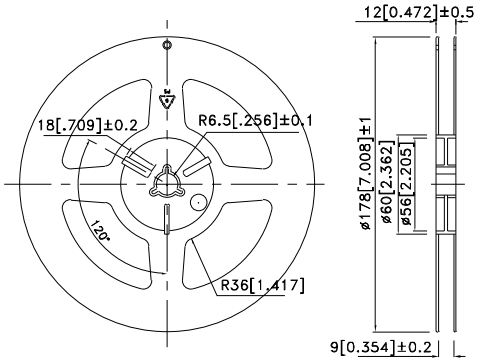


NOTES:
1. We recommend the reflow temperature 245°C(+/-5°C).The maximum soldering temperature should be limited to 260°C.
2. Don't cause stress to the epoxy resin while it is exposed to high temperature.
3. Number of reflow process shall be 2 times or less.

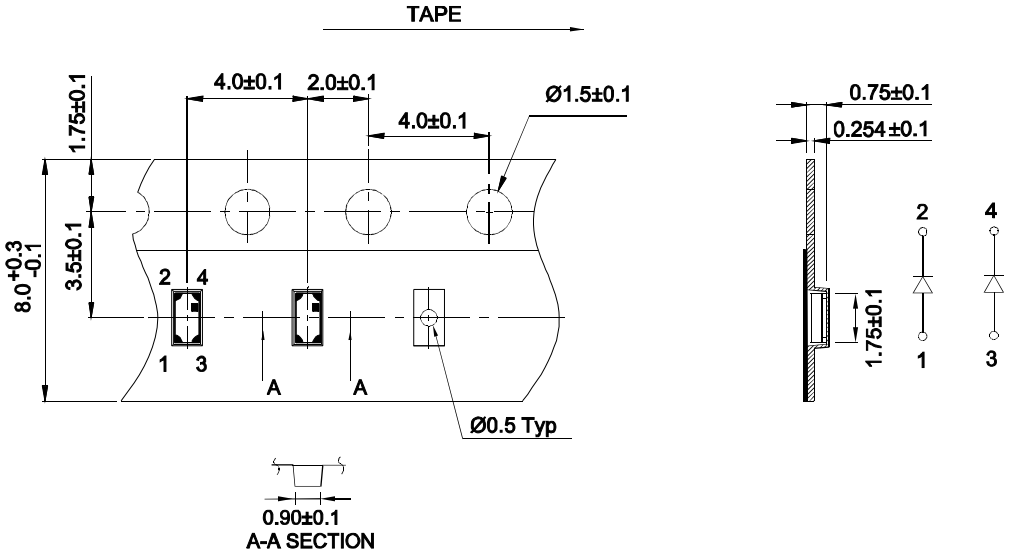
Recommended Soldering Pattern (Units : mm; Tolerance: ± 0.1)



Reel Dimension

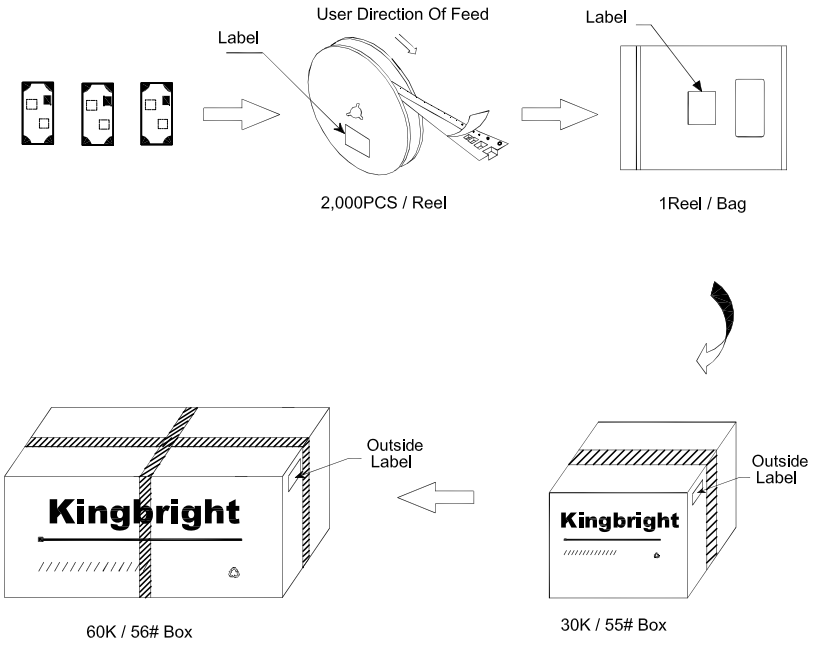


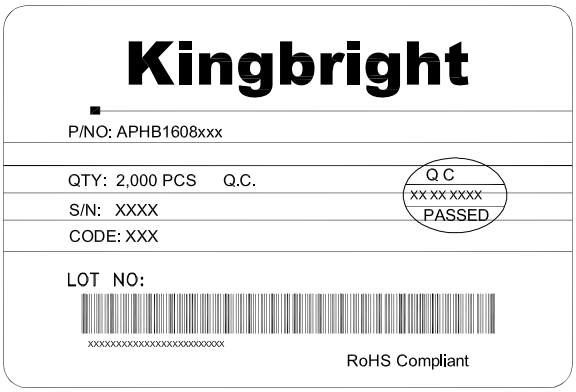
Tape Dimensions (Units : mm)



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PACKING & LABEL SPECIFICATIONS **APHB1608CGKSYKC**





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