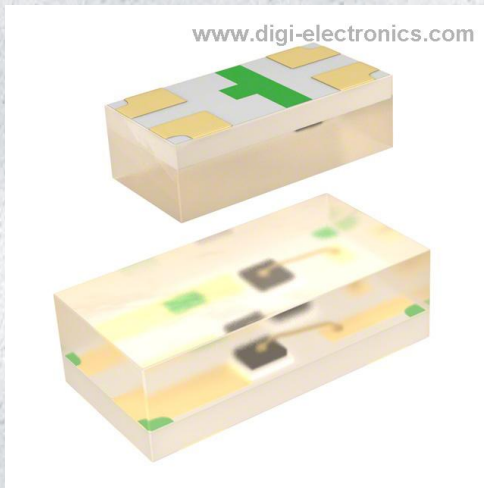


# APHB1608ZGSYKJ3C Datasheet



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DiGi Electronics Part Number	APHB1608ZGSYKJ3C-DG
Manufacturer	<a href="#">Kingbright</a>
Manufacturer Product Number	APHB1608ZGSYKJ3C
Description	LED GRN/YLW CLEAR 4SMD
Detailed Description	Green, Yellow 525nm Green, 590nm Yellow LED Indication - Discrete 3.3V Green, 2V Yellow 0603 (1608 Metric)

This model APHB1608ZGSYKJ3C is available at DiGi Electronics.

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## Purchase and inquiry

Manufacturer Product Number:

APHB1608ZGSYKJ3C

Series:

-

Color:

Green, Yellow

Lens Color:

Colorless

Millicandela Rating:

350mcd Green, 300mcd Yellow

Lens Size:

1.60mm x 0.80mm

Current - Test:

20mA Green, 20mA Yellow

Mounting Type:

Surface Mount

Wavelength - Peak:

515nm Green, 590nm Yellow

Package / Case:

0603 (1608 Metric)

Size / Dimension:

1.60mm L x 0.80mm W

Base Product Number:

APHB1608

Manufacturer:

Kingbright

Product Status:

Active

Configuration:

Independent

Lens Transparency:

Clear

Lens Style:

Rectangle with Flat Top

Voltage - Forward (Vf) (Typ):

3.3V Green, 2V Yellow

Viewing Angle:

130°

Wavelength - Dominant:

525nm Green, 590nm Yellow

Features:

-

Supplier Device Package:

4-SMD

Height (Max):

0.52mm

## Environmental & Export classification

RoHS Status:

ROHS3 Compliant

REACH Status:

REACH Unaffected

HTSUS:

8541.41.0000

Moisture Sensitivity Level (MSL):

3 (168 Hours)

ECCN:

EAR99



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



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

Part Number: APHB1608ZGSYKJ3C

Green  
Super Bright Yellow

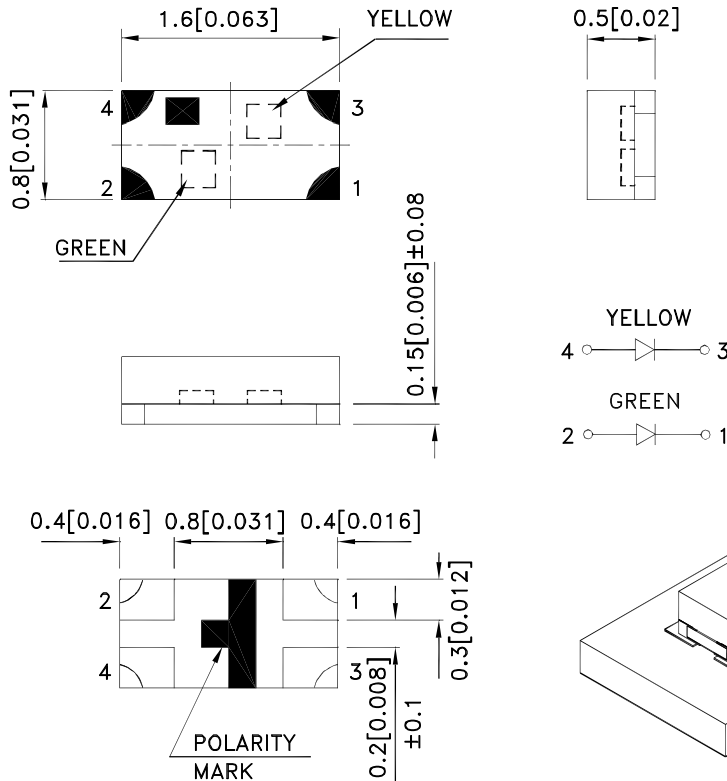
**Features**

- 1.6mmX0.8mm SMT 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 InGaN on Sapphire Light Emitting Diode.
- The Super Bright Yellow device is based on light emitting diode chip made from AlGaInP.
- 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, equipments and machineries must be electrically grounded.

**Package Dimensions**



Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is  $\pm 0.15(0.006)$  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.	Dice	Lens Type	Iv (mcd) [2] @ 20mA		Viewing Angle [1]
			Min.	Typ.	2θ1/2
APHB1608ZGSYKJ3C	Green (InGaN)	Water Clear	200	350	130°
	Super Bright Yellow (AlGaInP)		200	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	Green Super Bright Yellow	515 590		nm	If=20mA
λD [1]	Dominant Wavelength	Green Super Bright Yellow	525 590		nm	If=20mA
Δλ1/2	Spectral Line Half-width	Green Super Bright Yellow	30 20		nm	If=20mA
C	Capacitance	Green Super Bright Yellow	45 45		pF	Vf=0V;f=1MHz
Vf [2]	Forward Voltage	Green Super Bright Yellow	3.3 2	4.1 2.5	V	If=20mA
IR	Reverse Current	Green Super Bright Yellow		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.

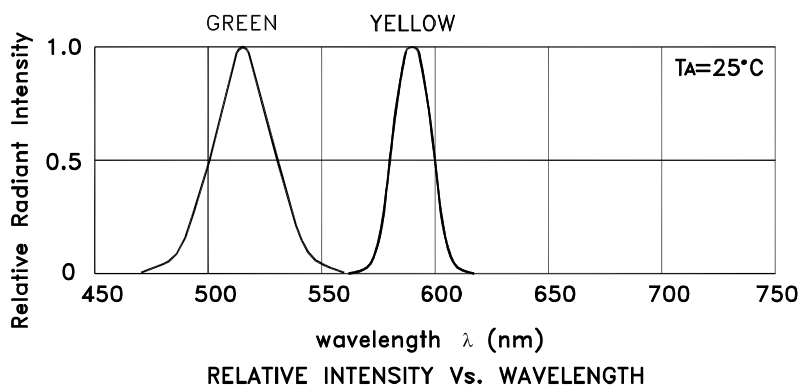
**Absolute Maximum Ratings at TA=25°C**

Parameter	Green	Super Bright Yellow	Units
Power dissipation	102.5	75	mW
DC Forward Current	25	30	mA
Peak Forward Current [1]	150	140	mA
Reverse Voltage	5		V
Operating Temperature	-40°C To +85°C		
Storage Temperature	-40°C To +85°C		

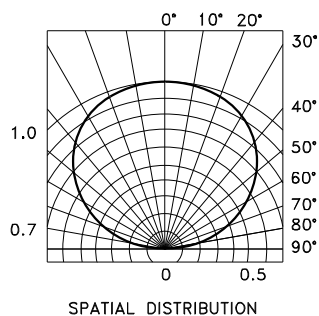
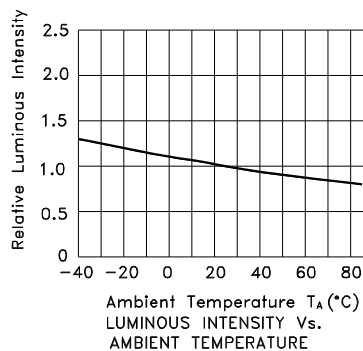
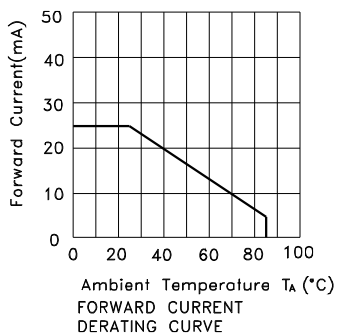
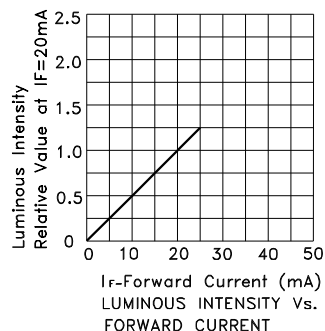
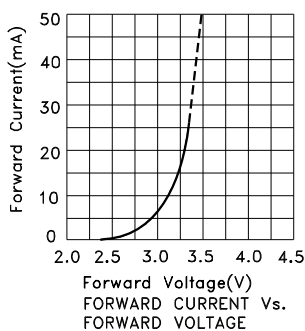
Note:

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

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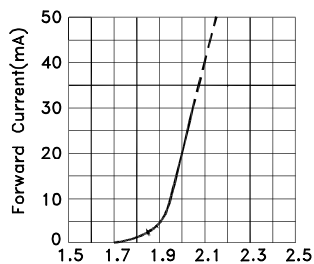


## APHB1608ZGSYKJ3C Green

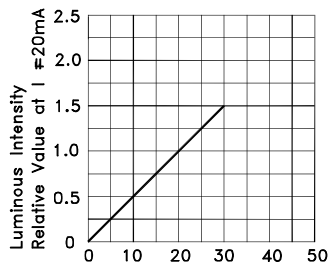


# Kingbright

## Super Bright Yellow



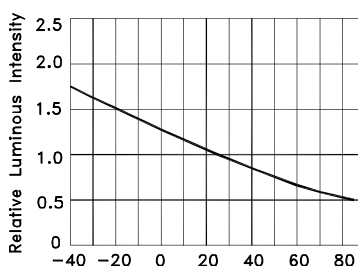
Forward Voltage(V)  
FORWARD CURRENT Vs.  
FORWARD VOLTAGE



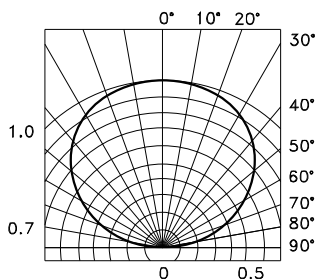
$I_F$  - Forward Current (mA)  
LUMINOUS INTENSITY VS.  
FORWARD CURRENT



Ambient Temperature  $T_a$ (°C)  
FORWARD CURRENT  
DERATING CURVE



Ambient Temperature  $T_a$ (°C)  
LUMINOUS INTENSITY VS.  
AMBIENT TEMPERATURE



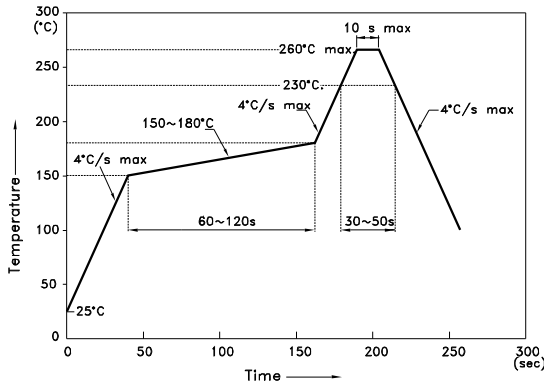
SPATIAL DISTRIBUTION

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## APHB1608ZGSYKJ3C

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.

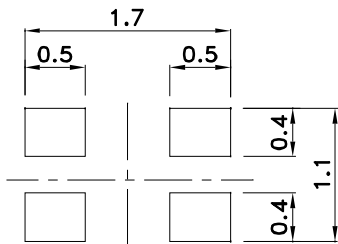
Reflow Soldering Profile For Lead-free SMT Process.



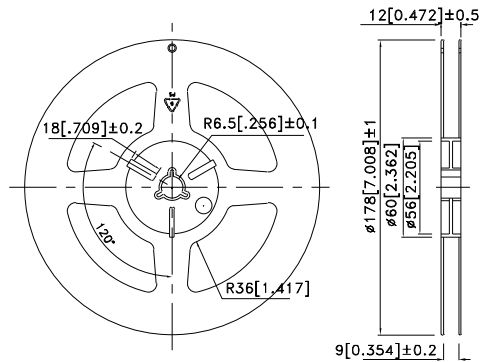
NOTES:

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.

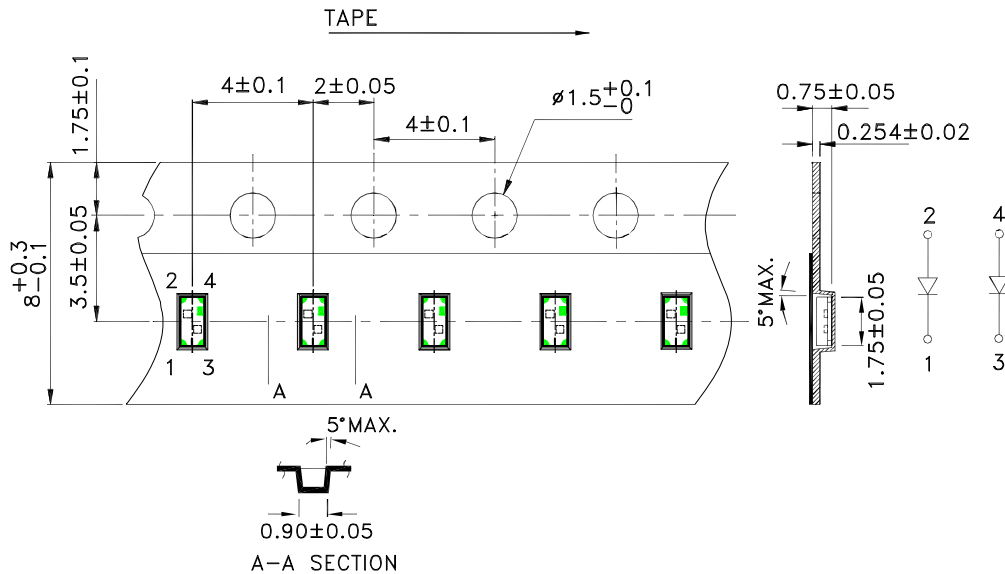
### Recommended Soldering Pattern (Units : mm; Tolerance: ± 0.1)



### Reel Dimension



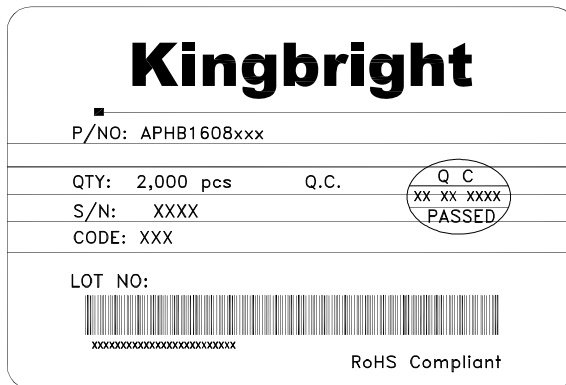
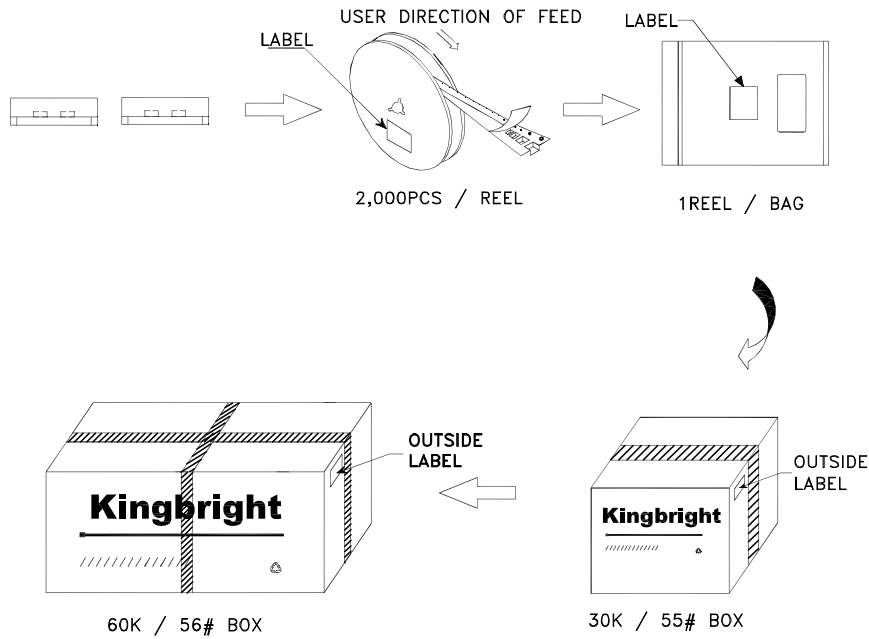
### Tape Dimensions (Units : mm)





**PACKING & LABEL SPECIFICATIONS**

**APHB1608ZGSYKJ3C**



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