



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

Part Number: APHB1608ZGSURKC

Green  
Hyper Red

### 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.
- RoHS compliant.

### Description

The Green source color devices are made with InGaN on Sapphire Light Emitting Diode.

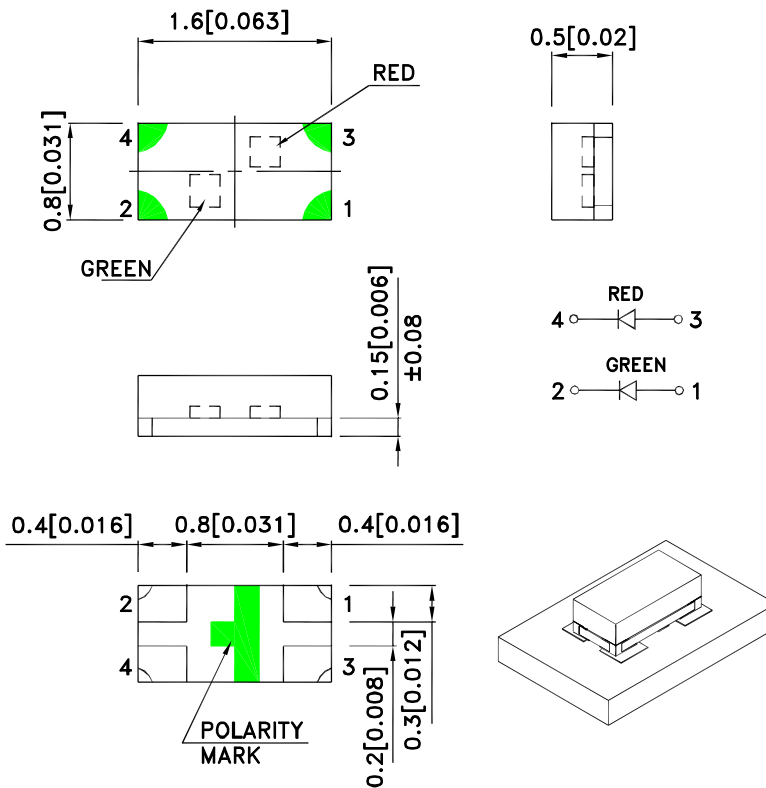
The Hyper Red source color devices are made with Al-GaN on GaAs substrate Light Emitting Diode.

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  $\pm 0.15(0.006)$  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
APHB1608ZGSURKC	Green (InGaN)	WATER CLEAR	180	350	130°
	Hyper Red (AlGaInP)		110	230	

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%.

## Electrical / Optical Characteristics at TA=25°C

Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
$\lambda_{peak}$	Peak Wavelength	Green Hyper Red	515 650		nm	I <sub>F</sub> =20mA
$\lambda_D$ [1]	Dominant Wavelength	Green Hyper Red	525 630		nm	I <sub>F</sub> =20mA
$\Delta\lambda_{1/2}$	Spectral Line Half-width	Green Hyper Red	30 28		nm	I <sub>F</sub> =20mA
C	Capacitance	Green Hyper Red	45 35		pF	V <sub>F</sub> =0V;f=1MHz
V <sub>F</sub> [2]	Forward Voltage	Green Hyper Red	3.3 1.95	4.1 2.5	V	I <sub>F</sub> =20mA
I <sub>R</sub>	Reverse Current	Green Hyper Red		50 10	uA	V <sub>R</sub> = 5V

Notes:

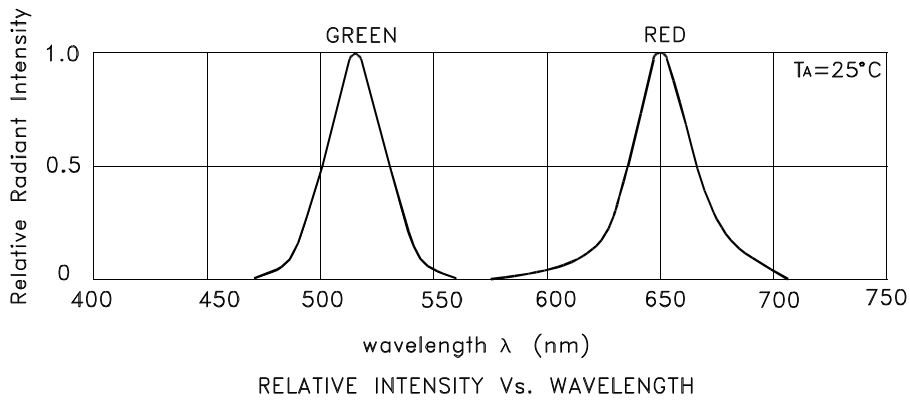
1. Wavelength: +/-1nm.
2. Forward Voltage: +/-0.1V.

## Absolute Maximum Ratings at TA=25°C

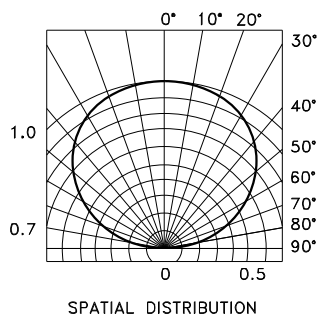
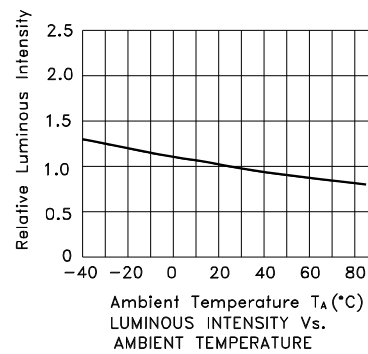
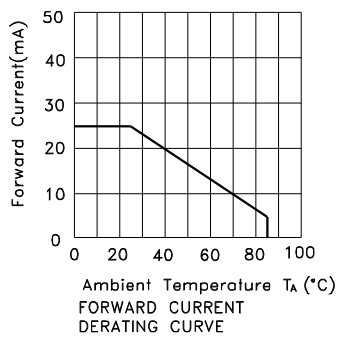
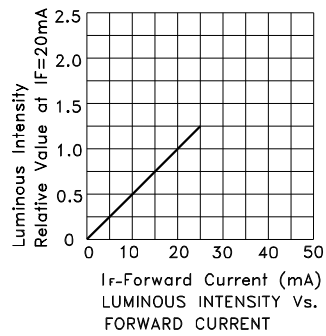
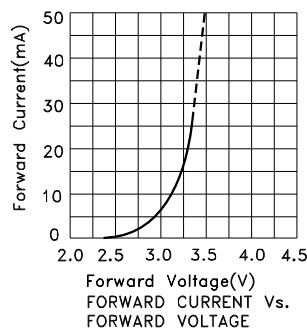
Parameter	Green	Hyper Red	Units
Power dissipation	102.5	75	mW
DC Forward Current	25	30	mA
Peak Forward Current [1]	150	185	mA
Reverse Voltage	5		V
Operating Temperature	-40°C To +85°C		
Storage Temperature	-40°C To +85°C		

Note:

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

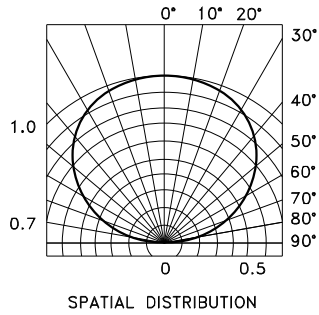
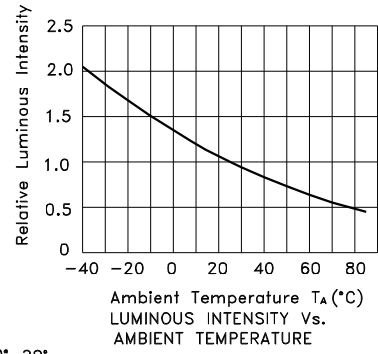
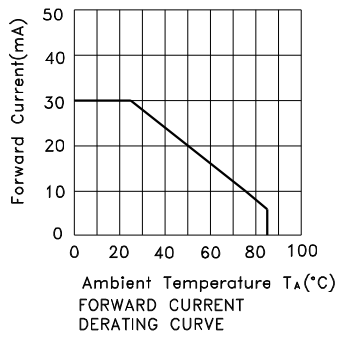
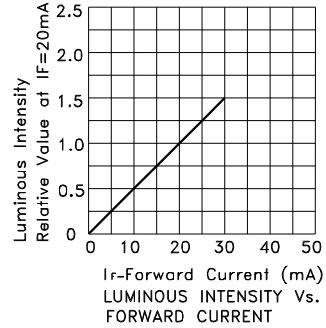
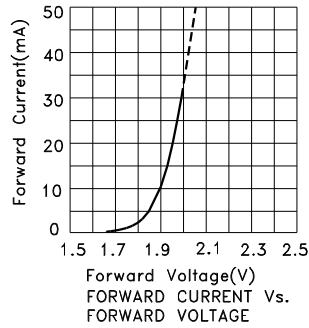


## APHB1608ZGSURKC Green



# Kingbright

## Hyper Red



## APHB1608ZGSURKC

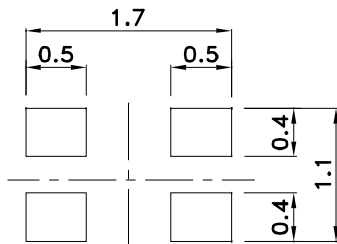
Reflow soldering is recommended and the soldering profile is shown below.  
Other soldering methods are not recommended as they might cause damage to the product.

Reflow Soldering Profile For Lead-free SMT Process.

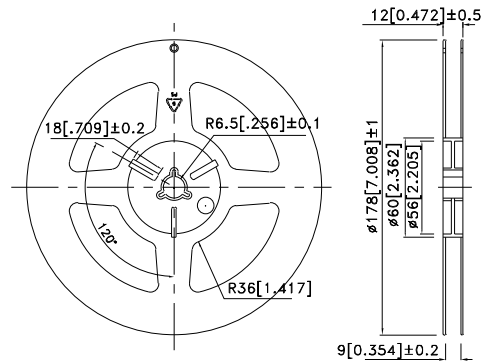


- NOTES:
1. We recommend the reflow temperature 245°C (+/-5°C). The maximum soldering temperature should be limited to 260°C.
  2. Don't cause stress to the epoxy resin while it is exposed to high temperature.
  3. Number of reflow process shall be 2 times or less.

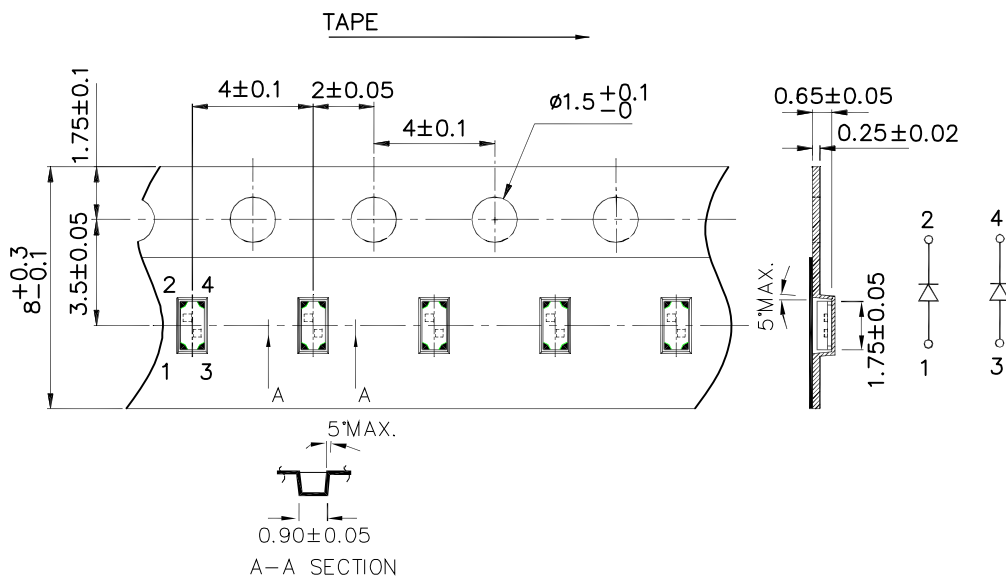
### Recommended Soldering Pattern (Units : mm; Tolerance: ± 0.1)



### Reel Dimension

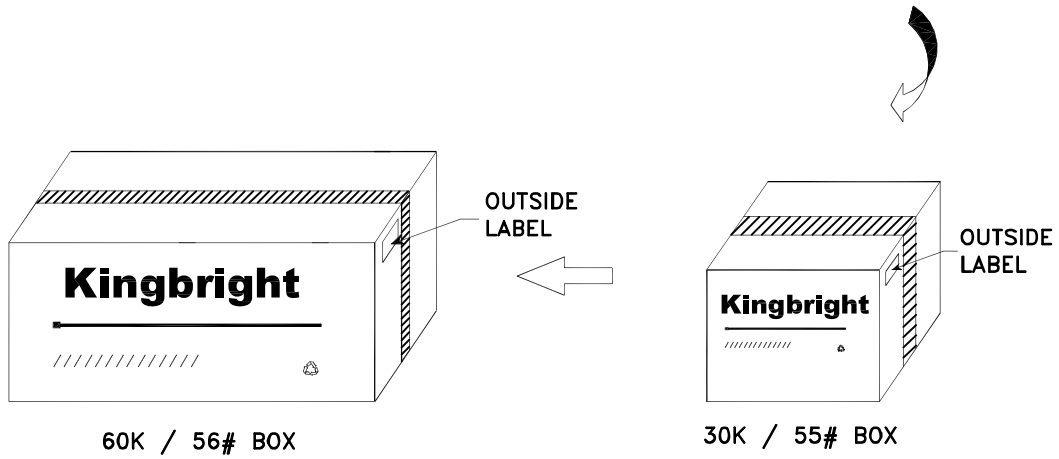
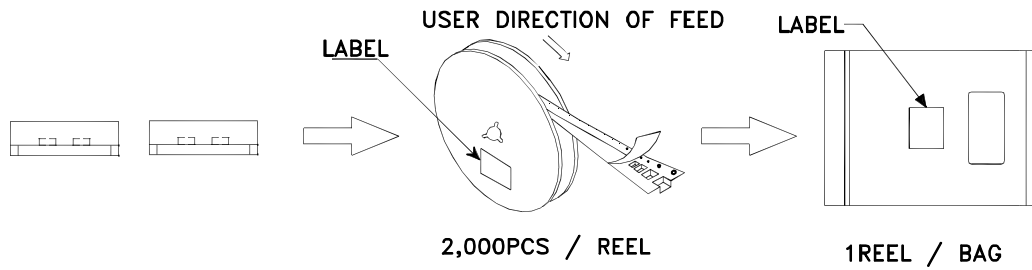


### Tape Dimensions (Units : mm)



**PACKING & LABEL SPECIFICATIONS**

**APHB1608ZGSURKC**



<h1>Kingbright</h1>					
P/NO: APHB1608xxx					
QTY: 2,000 pcs	Q.C.	<table border="1" style="margin: auto;"> <tr><td style="text-align: center;">Q C</td></tr> <tr><td style="text-align: center;">XX XX XXXX</td></tr> <tr><td style="text-align: center;">PASSED</td></tr> </table>	Q C	XX XX XXXX	PASSED
Q C					
XX XX XXXX					
PASSED					
S/N: XXXX					
CODE: XXX					
LOT NO:					
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RoHS Compliant					