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[Kingbright](#)
[APHB1608ZGSURKC](#)

For any questions, you can email us directly:
sales@integrated-circuit.com

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



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.
- Tinned pads for improved solderability.
- RoHS compliant.

Description

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

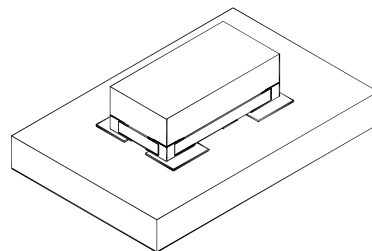
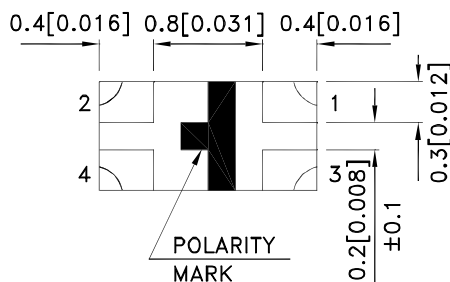
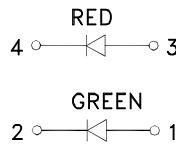
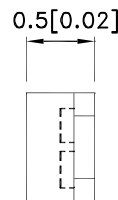
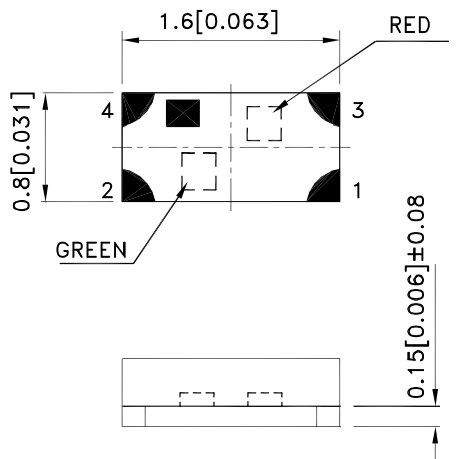
The Hyper Red source color devices are made with Al-GaNp on GaAs substrate Light Emitting Diode.

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.



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Selection Guide

Part No.	Dice	Lens Type	Iv (mcd) [2] @ 20mA			Viewing Angle [1]
			Min.	Typ.	Max.	2θ1/2
APHB1608ZGSURKC	Green (InGaN)	Water Clear	200	-	500	130°
			*200	-	*500	
	Hyper Red (AlGaInP)		120	250	-	
			*40	*90	-	

Notes:

- θ1/2 is the angle from optical centerline where the luminous intensity is 1/2 of the optical peak value.
- Luminous intensity/ luminous Flux: +/-15%.
- * 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 Hyper Red	515 645		nm	IF=20mA
λD [1]	Dominant Wavelength	Green Hyper Red	525 630		nm	IF=20mA
Δλ1/2	Spectral Line Half-width	Green Hyper Red	30 28		nm	IF=20mA
C	Capacitance	Green Hyper Red	45 35		pF	VF=0V;f=1MHz
VF [2]	Forward Voltage	Green Hyper Red	3.3 1.95	4.1 2.5	V	IF=20mA
IR	Reverse Current	Green Hyper Red		50 10	uA	VR = 5V

Notes:

- Wavelength: +/-1nm.
- Forward Voltage: +/-0.1V.
- Wavelength value is traceable to the CIE127-2007 compliant national standards.

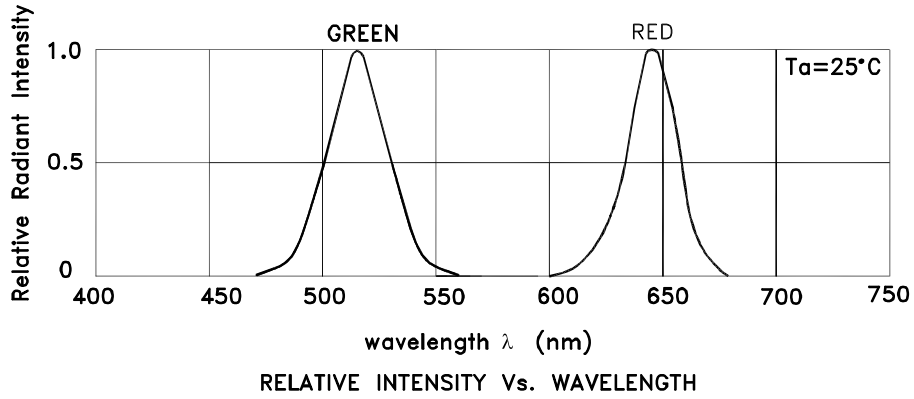
Absolute Maximum Ratings at TA=25°C

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		

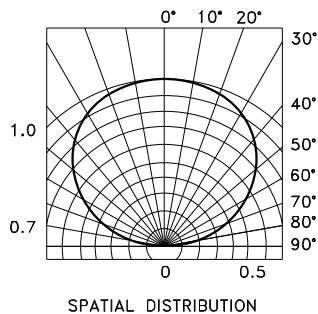
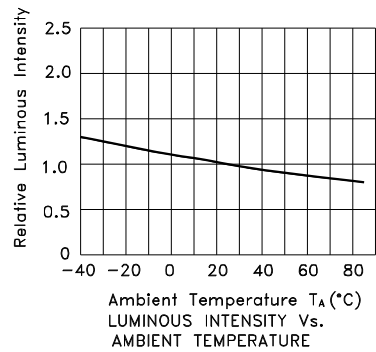
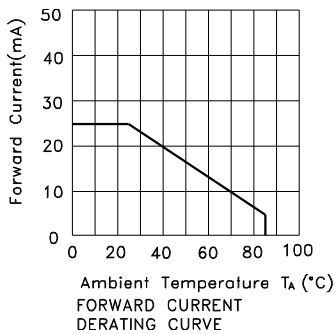
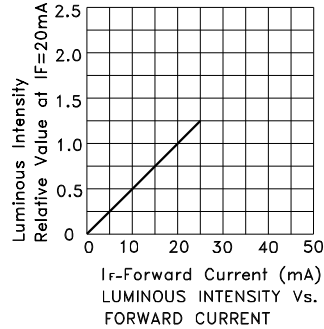
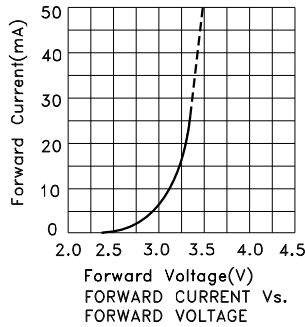
Note:

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

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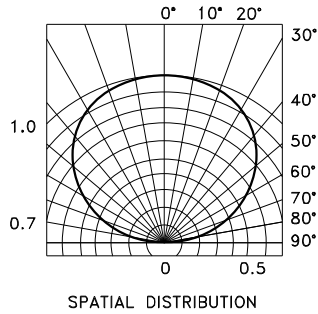
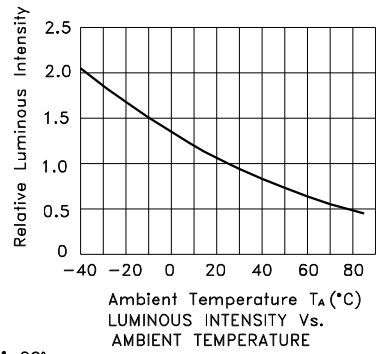
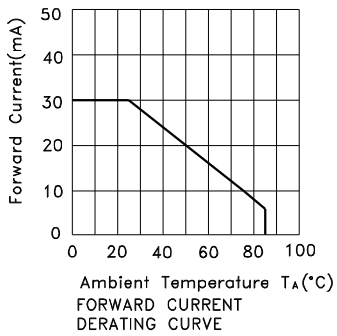
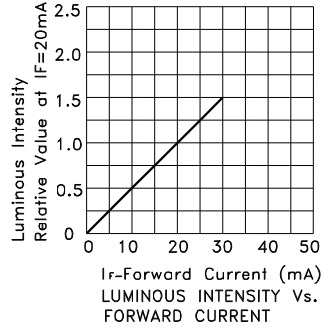
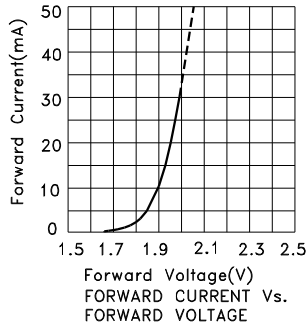


APHB1608ZGSURKC Green



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Hyper Red

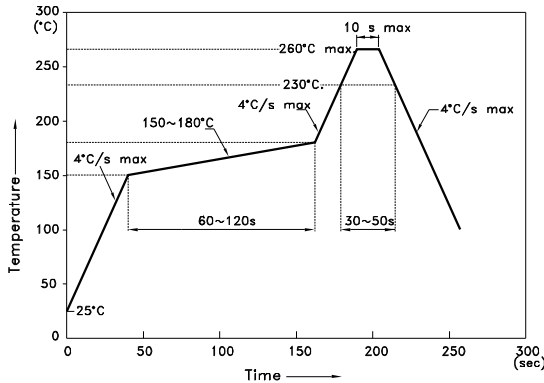


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Reflow soldering is recommended and the soldering profile is shown below.
 Other soldering methods are not recommended as they might cause damage to the product.

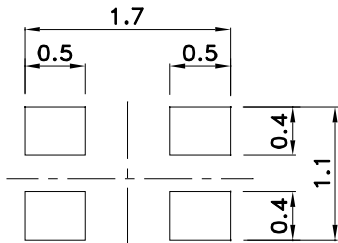
Reflow Soldering Profile For Lead-free SMT Process.



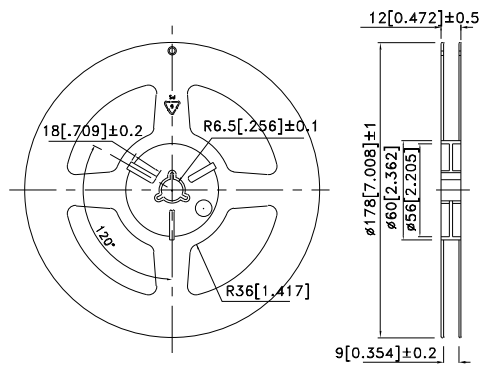
NOTES:

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.

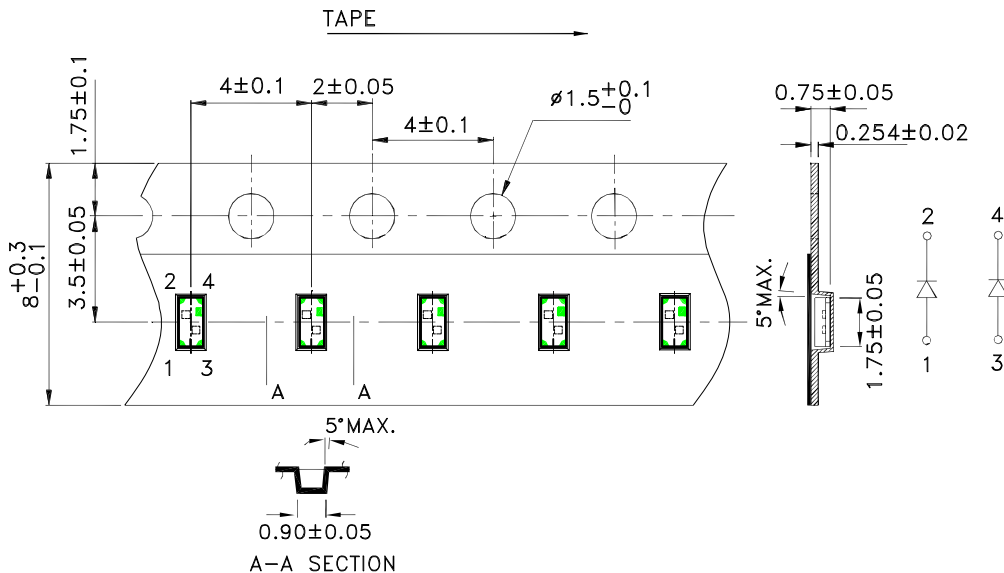
Recommended Soldering Pattern (Units : mm; Tolerance: ± 0.1)



Reel Dimension



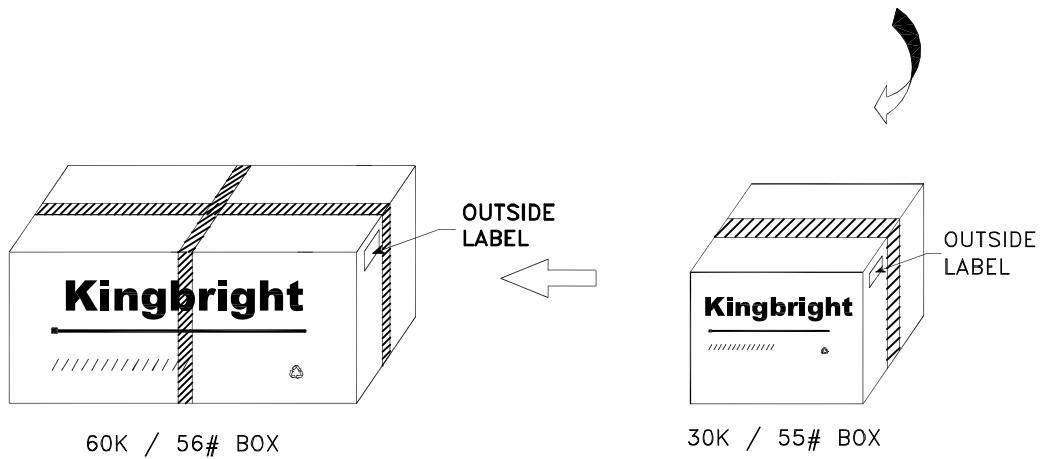
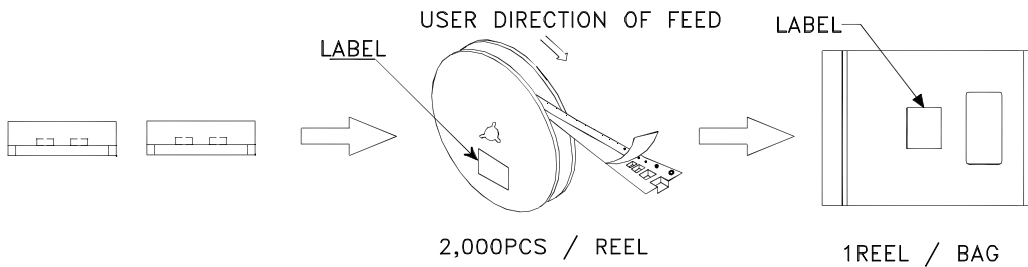
Tape Dimensions (Units : mm)



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PACKING & LABEL SPECIFICATIONS

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P/NO: APHB1608xxx

QTY: 2,000 pcs	Q.C.
S/N: XXXX	<div style="border: 1px solid black; border-radius: 50%; padding: 5px; display: inline-block;"> Q C XX XX XXXX PASSED </div>
CODE: XXX	

LOT NO:



xxxxxxxxxxxxxxxxxxxxxxxx

RoHS Compliant

All design applications should refer to Kingbright application notes available at <http://www.KingbrightUSA.com/ApplicationNotes>