



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



Part Number: APB2012SURKSYKC

Hyper Red  
Super Bright Yellow

### Features

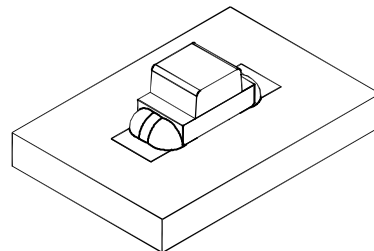
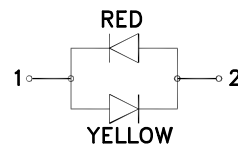
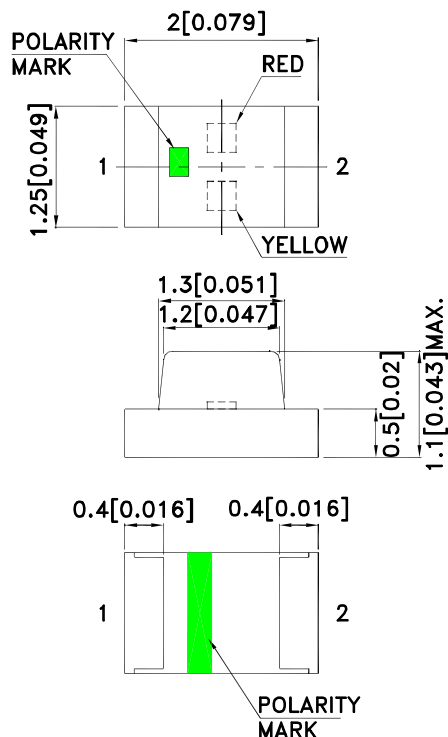
- 2.0mmx1.25mm SMT LED, 1.1mm thickness.
- Bi -color, Low power consumption.
- Wide viewing angle.
- Ideal for backlight and indicator.
- Package : 2000pcs / reel.
- Moisture sensitivity level : level 3.
- RoHS compliant.

### Description

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

The Super Bright Yellow device is made with AlGaInP (on GaAs substrate) light emitting diode chip.

### 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
APB2012SURKSYKC	Hyper Red (AlGaInP)	Water Clear	120	200	150°
			*40	*80	
	Super Bright Yellow (AlGaInP)		80	120	
			*80	*120	

### 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%.
- \* 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	Hyper Red Super Bright Yellow	645 590		nm	If=20mA
λD [1]	Dominant Wavelength	Hyper Red Super Bright Yellow	630 590		nm	If=20mA
Δλ1/2	Spectral Line Half-width	Hyper Red Super Bright Yellow	28 20		nm	If=20mA
C	Capacitance	Hyper Red Super Bright Yellow	35 20		pF	V <sub>F</sub> =0V;f=1MHz
V <sub>F</sub> [2]	Forward Voltage	Hyper Red Super Bright Yellow	1.95 2	2.5 2.5	V	If=20mA

### Notes:

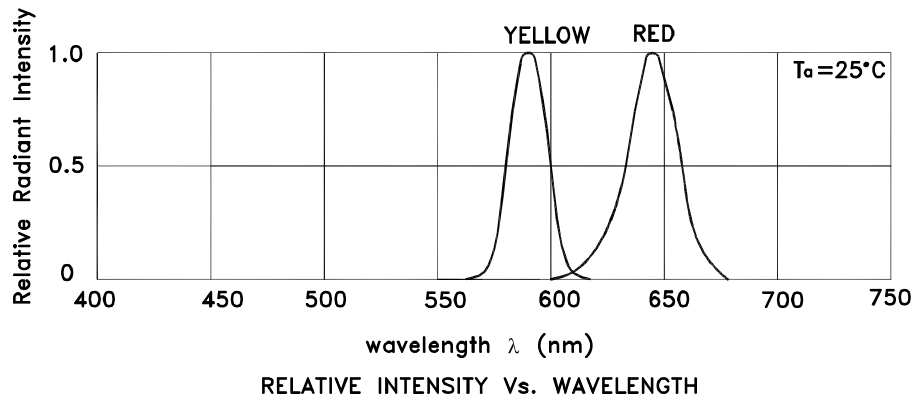
1. Wavelength: +/-1nm.
2. Forward Voltage: +/-0.1V.
3. Wavelength value is traceable to the CIE127-2007 compliant national standards.

## Absolute Maximum Ratings at TA=25°C

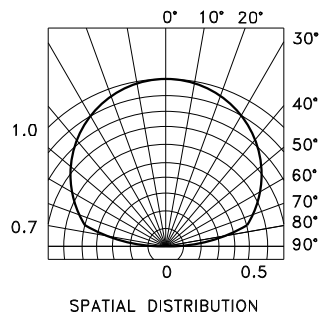
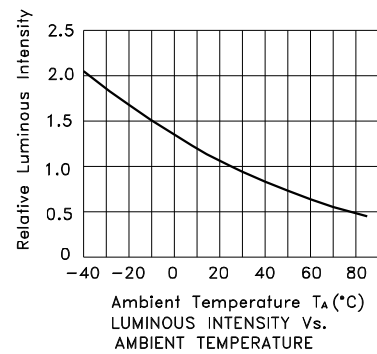
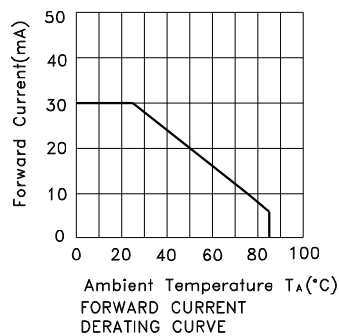
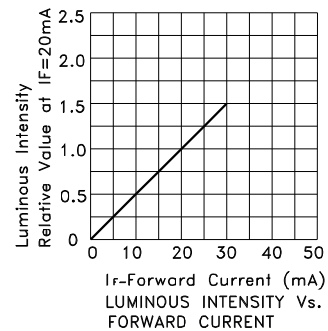
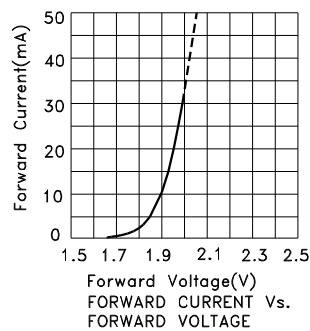
Parameter	Hyper Red	Super Bright Yellow	Units
Power dissipation	75	75	mW
DC Forward Current	30	30	mA
Peak Forward Current [1]	185	175	mA
Operating Temperature	-40°C To +85°C		
Storage Temperature	-40°C To +85°C		

### Note:

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

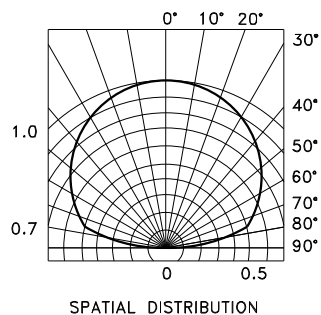
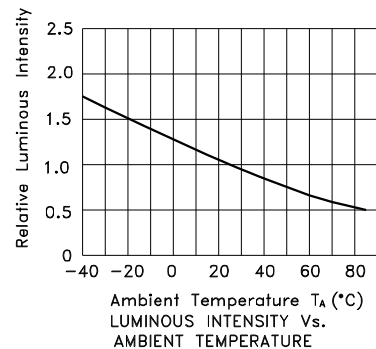
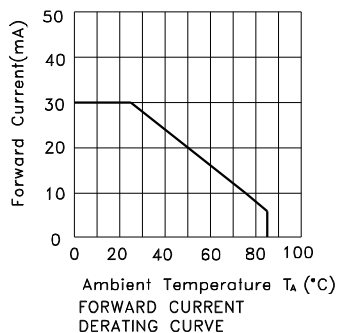
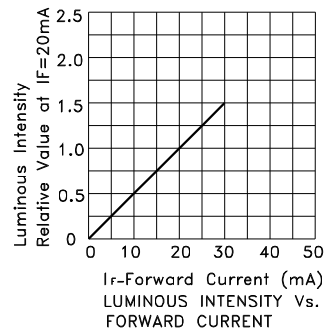
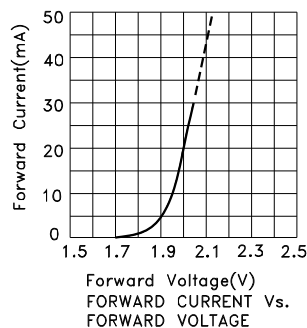


## APB2012SURKSYKC Hyper Red





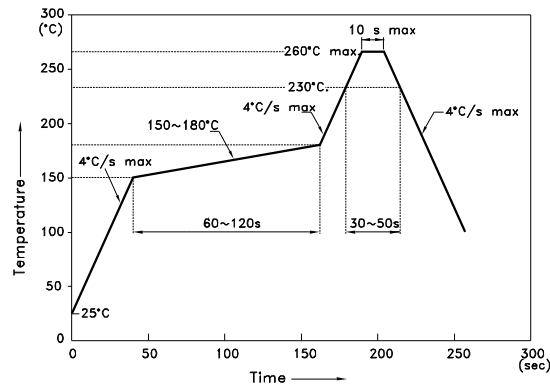
## Super Bright Yellow



## APB2012SURKSYKC

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.

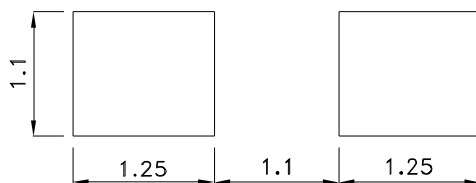
Reflow Soldering Profile For Lead-free SMT Process.



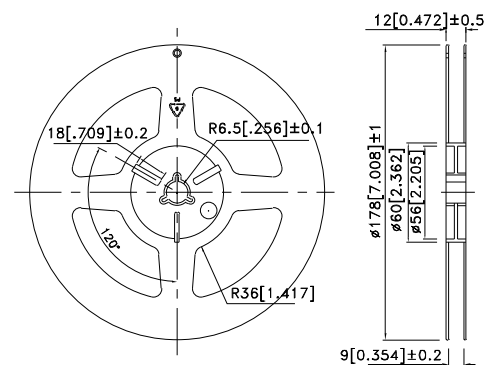
NOTES:

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.

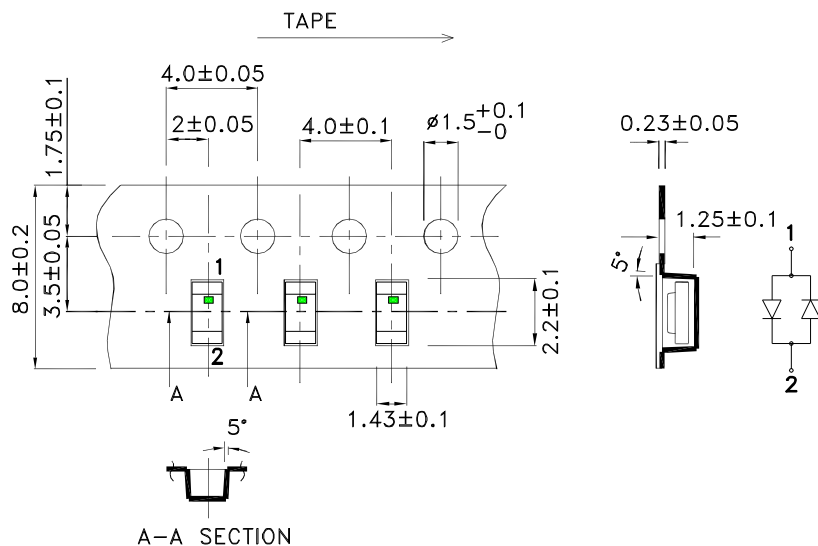
### Recommended Soldering Pattern (Units : mm; Tolerance: $\pm 0.1$ )



### Reel Dimension

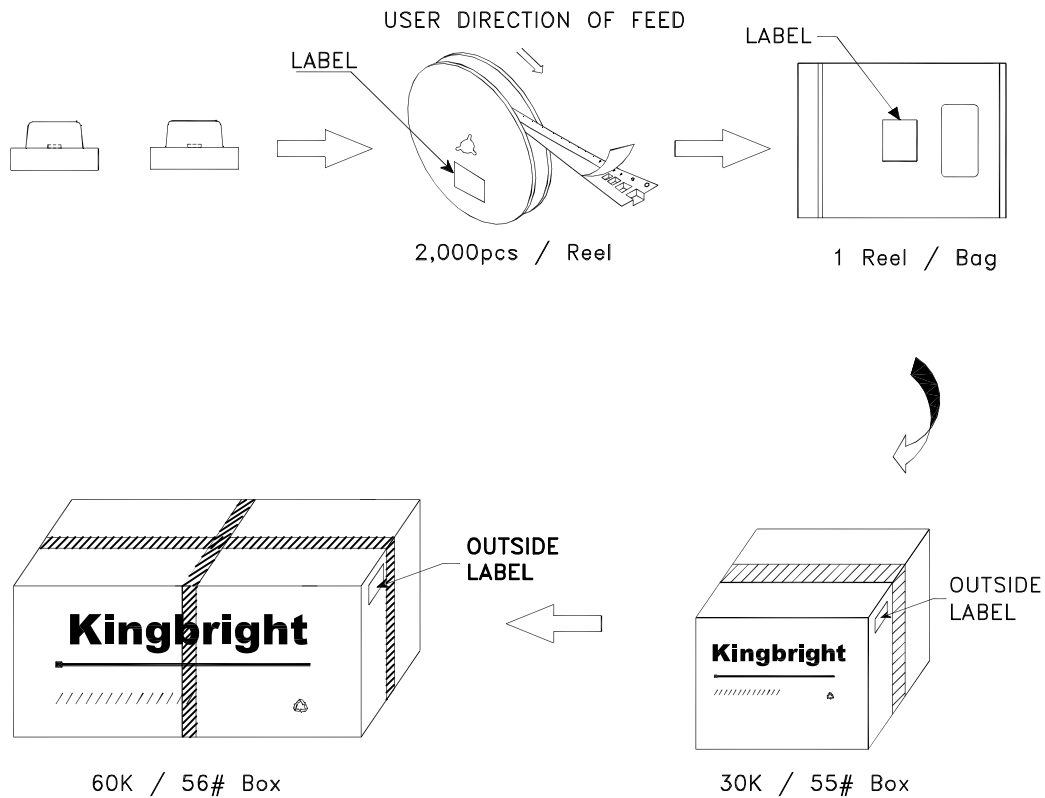



### Tape Dimensions (Units : mm)



## PACKING & LABEL SPECIFICATIONS

APB2012SURKSYKC



<h1>Kingbright</h1>	
P/NO: APB2012xxx	
QTY: 2,000 pcs	Q.C. <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">xx xx xxxx PASSED</span>
S/N: XXXX	
CODE: XXX	
LOT NO:	
	
RoHS Compliant	

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