

2.0x1.25mm SMD CHIP LED LAMP

Part Number: APHBM2012SURKCGKC

Hyper Red Green

Features

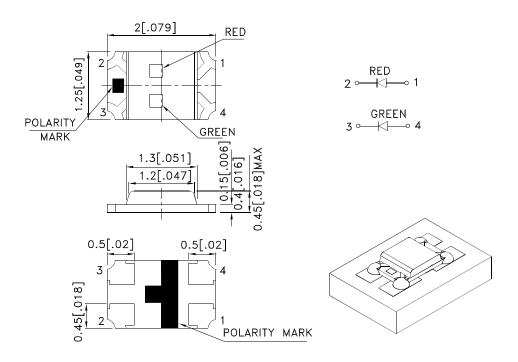
- 2.0mmx1.25mm SMT LED, 0.45mm max. thickness.
- Bi -color, low power consumption.
- Wide viewing angle.
- Ideal for backlight and indicator.
- Package: 2000pcs / reel.
- Moisture sensitivity level : level 3.
- RoHS compliant.

Description

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

The Green source color devices are made with AlGaInP on GaAs substrate Light Emitting Diode.

Package Dimensions



- 1. All dimensions are in millimeters (inches).
- 2. Tolerance is $\pm 0.1 (0.004")$ unless otherwise noted.
- The specifications, characteristics and technical data described in the datasheet are subject to change without prior notice.
 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	lv (mcd) [2] @ 20mA		Viewing Angle [1]
			Min.	Тур.	201/2
APHBM2012SURKCGKC	Hyper Red (AlGaInP)	Water Clear	120	250	120°
			*40	*80	
	Green (AlGaInP)		20	50	
			*20	*50	

- 1. θ 1/2 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	Тур.	Max.	Units	Test Conditions	
λpeak	Peak Wavelength	Hyper Red Green	645 574		nm	IF=20mA	
λD [1]	Dominant Wavelength	Hyper Red Green	630 570		nm	IF=20mA	
Δλ1/2	Spectral Line Half-width	Hyper Red Green	28 20		nm		
С	Capacitance	Hyper Red Green	35 15		pF	VF=0V;f=1MHz	
VF [2]	Forward Voltage	Hyper Red Green	1.95 2.1	2.5 2.5	V	IF=20mA	
lR	Reverse Current	Hyper Red Green		10 10	uA	V _R = 5V	

Notes:

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

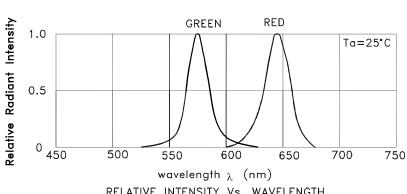
 3. Wavelength value is traceable to the CIE127-2007 compliant national standards.

Absolute Maximum Ratings at TA=25°C

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

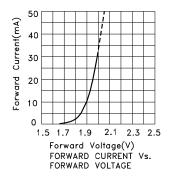
Note: 1. 1/10 Duty Cycle, 0.1ms Pulse Width.

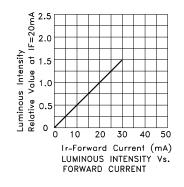
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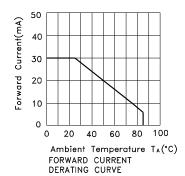


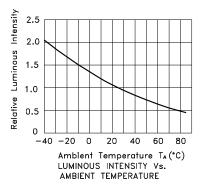
RELATIVE INTENSITY Vs. WAVELENGTH

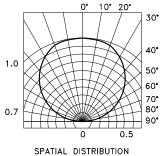
APHBM2012SURKCGKC **Hyper Red**





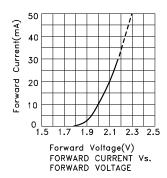


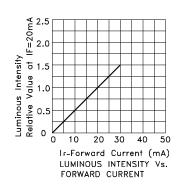


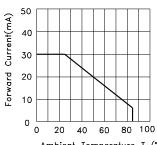


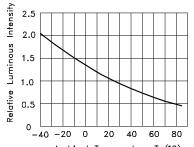
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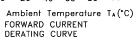
Green



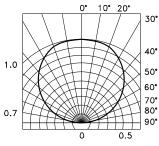








Ambient Temperature T_A (°C) LUMINOUS INTENSITY Vs. AMBIENT TEMPERATURE



SPATIAL DISTRIBUTION

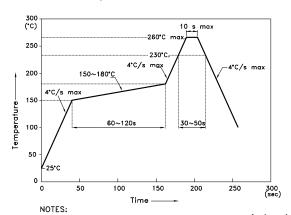
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Reflow soldering is recommended and the soldering profile is shown below. Other soldering methods are not recommended as they might cause damage to the product.

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.

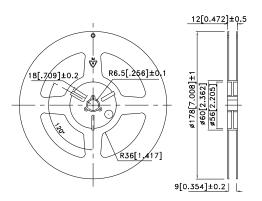
 2.Don't cause stress to the epoxy resin while it is exposed to high temperature.
 - to high temperature.

 3.Number of reflow process shall be 2 times or less.

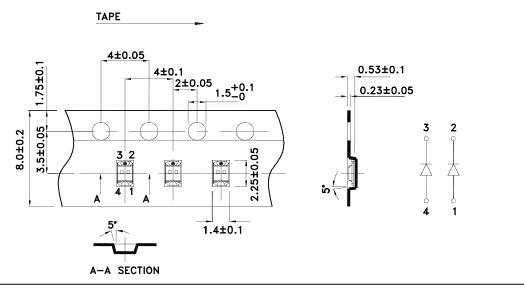
Recommended Soldering Pattern (Units: mm; Tolerance: ± 0.1)

90

Reel Dimension



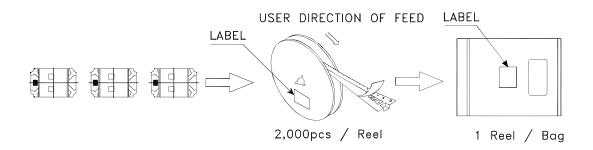
Tape Dimensions (Units : mm)

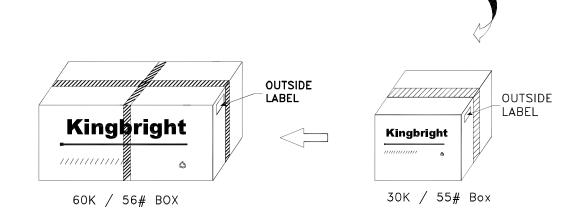


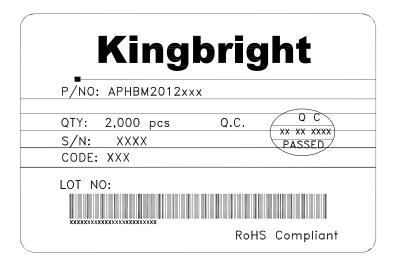
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PACKING & LABEL SPECIFICATIONS

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

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