

### 3.0x1.0mm RIGHT ANGLE SMD CHIP LED **LAMP**



#### **ATTENTION**

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

Part Number: APFA3010SURKCGKQBDC

Hyper Red Green Blue

#### **Features**

- 3.0mmx1.0mm right angle SMT LED, 1.5mm thickness.
- Low power consumption.
- Wide viewing angle.
- Ideal for backlight and indicator.
- Package: 2000pcs / reel.
- Moisture sensitivity level : level 3.
- Tinned pads for improved solderability.
- 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.

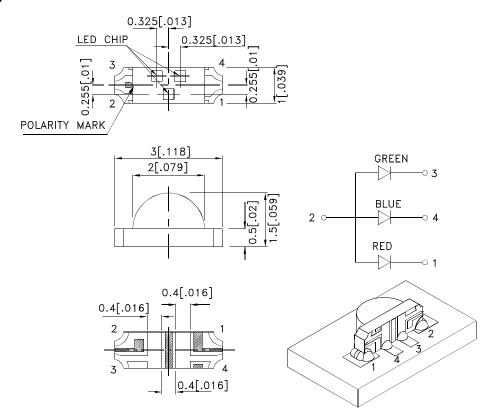
The Blue source color devices are made with InGaN Light Emitting Diode.

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**



- 1. All dimensions are in millimeters (inches).
- 2. Tolerance is ±0.2(0.008") 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
APFA3010SURKCGKQBDC	Hyper Red (AlGaInP)		120	220	120°
	Green (AlGalnP)	Water Clear	30	50	
	Blue (InGaN)		55	100	

#### Notes:

- 1.  $\theta$ 1/2 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	Тур.	Max.	Units	Test Conditions
λpeak	Peak Wavelength	Hyper Red Green Blue	650 574 468		nm	IF=20mA
λD [1]	Dominant Wavelength	Hyper Red Green Blue	630 570 470		nm	IF=20mA
Δλ1/2	Spectral Line Half-width	Hyper Red Green Blue	28 20 25		nm	IF=20mA
С	Capacitance	Hyper Red Green Blue	35 15 100		pF	VF=0V;f=1MHz
VF [2]	Forward Voltage	Hyper Red Green Blue	1.95 2.1 3.3	2.5 2.5 4	V	IF=20mA
lR	Reverse Current	Hyper Red Green Blue		10 10 50	uA	V <sub>R</sub> =5V

### Notes:

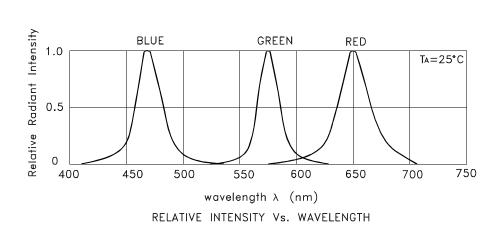
- 1.Wavelength: +/-1nm. 2. Forward Voltage: +/-0.1V.

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

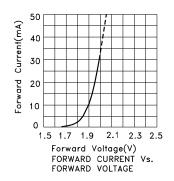
Parameter	Hyper Red	Green	Blue	Units			
Power dissipation	75	75	120	mW			
DC Forward Current	30	30	30	mA			
Peak Forward Current [1]	185	150	150	mA			
Reverse Voltage	5 V						
Operating Temperature	-40°C To +85°C						
Storage Temperature	-40°C To +85°C						

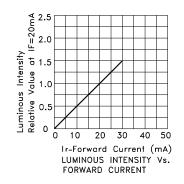
Notes: 1. 1/10 Duty Cycle, 0.1ms Pulse Width.

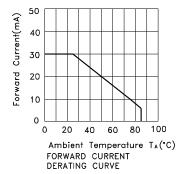
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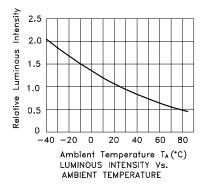


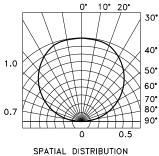
### APFA3010SURKCGKQBDC Hyper Red







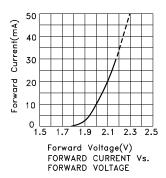


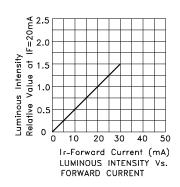


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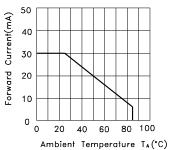
### Green



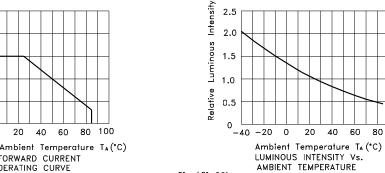


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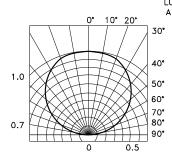


FORWARD CURRENT DERATING CURVE



2.5

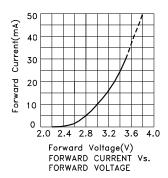
2.0

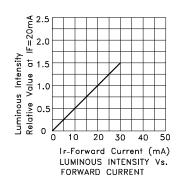


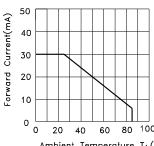
SPATIAL DISTRIBUTION

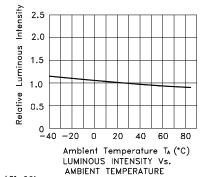
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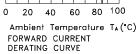
### Blue

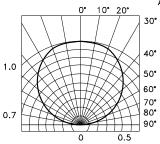












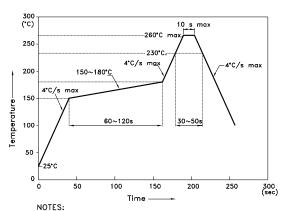
SPATIAL DISTRIBUTION

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#### APFA3010SURKCGKQBDC

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.



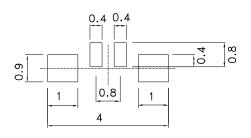
- NOTES:

  1.We recommend the reflow temperature 245°C(+/-5°C). The maximum soldering temperature should be limited to 260°C.

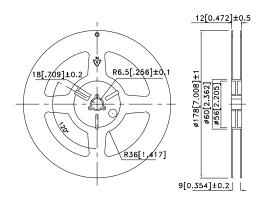
  2.Don't cause stress to the epoxy resin while it is exposed to high temperature.

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

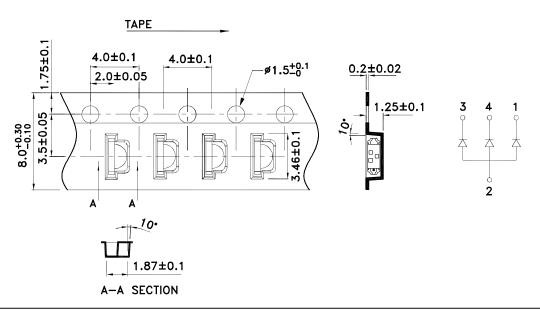
### **Recommended Soldering Pattern** (Units: mm; Tolerance: ± 0.1)



### **Reel Dimension**



### **Tape Dimensions** (Units: mm)

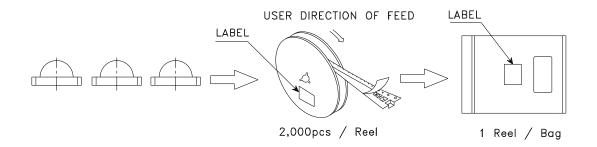


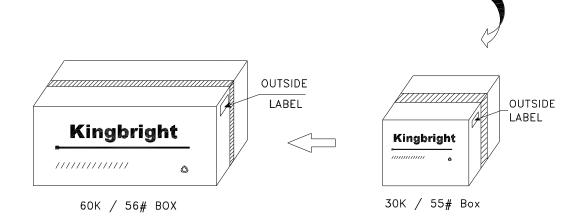
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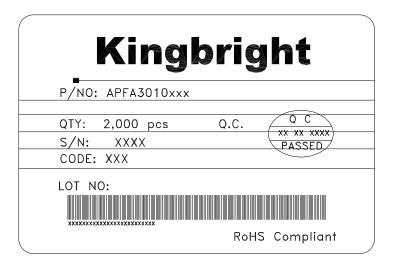
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### **PACKING & LABEL SPECIFICATIONS**

### APFA3010SURKCGKQBDC







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