



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

Part Number: APFA3010SURKCGKSYKC

Hyper Red  
Green  
Super Bright Yellow

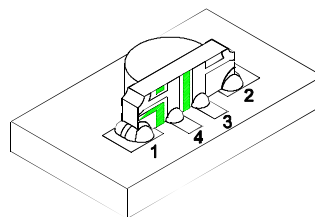
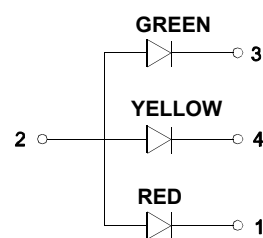
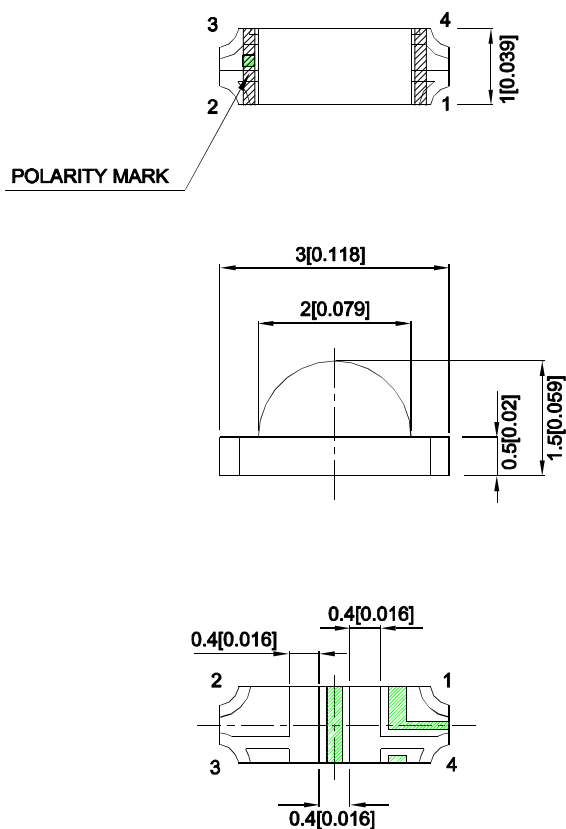
### Features

- 3.0 x 1.5 x 1.0 mm right angle SMD LED, 1.0 mm thickness
- Low power consumption
- Wide viewing angle
- Ideal for backlight and indicator
- Package: 2000 pcs / reel
- Moisture sensitivity level: 3
- Tinned pads for improved solderability
- RoHS compliant

### Descriptions

- The Hyper Red source color devices are made with AlGaInP on GaAs substrate Light Emitting Diode.
- The Green source color devices are made with AlGaInP on GaAs substrate Light Emitting Diode.
- The Super Bright Yellow device is made with AlGaInP (on GaAs substrate) light emitting diode chip.
- Electrostatic discharge and power surge could damage the LEDs.
- It is recommended to use a wrist band or anti-electrostatic glove when handling the LEDs.
- All devices, equipments and machineries must be electrically grounded.

### Package Dimensions



#### Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is  $\pm 0.2$  (0.008") 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.	Emitting Color (Material)	Lens Type	Iv (mcd) [2] @ 20mA		Viewing Angle [1]
			Min.	Typ.	2θ1/2
APFA3010SURKCGKSYKC	Hyper Red (AlGaInP)	Water Clear	120	220	150°
			*55	*80	
	Green (AlGaInP)		20	45	
			*20	*45	
	Super Bright Yellow (AlGaInP)		120	180	
			*120	*180	

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 CIE127-2007 standards.

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

Symbol	Parameter	Emitting Color	Typ.	Max.	Units	Test Conditions
λpeak	Peak Wavelength	Hyper Red Green Super Bright Yellow	645 574 590		nm	IF=20mA
λD [1]	Dominant Wavelength	Hyper Red Green Super Bright Yellow	630 570 590		nm	IF=20mA
Δλ1/2	Spectral Line Half-width	Hyper Red Green Super Bright Yellow	28 20 20		nm	IF=20mA
C	Capacitance	Hyper Red Green Super Bright Yellow	35 15 20		pF	VF=0V;f=1MHz
VF [2]	Forward Voltage	Hyper Red Green Super Bright Yellow	1.95 2.1 2	2.5 2.5 2.5	V	IF=20mA
IR	Reverse Current	Hyper Red Green Super Bright Yellow		10 10 10	uA	VR=5V

Notes:

1. Wavelength: +/-1nm.

2. Forward Voltage: +/-0.1V.

3. Wavelength value is traceable to CIE127-2007 standards.

4. Excess driving current and / or operating temperature higher than recommended conditions may result in severe light degradation or premature failure.

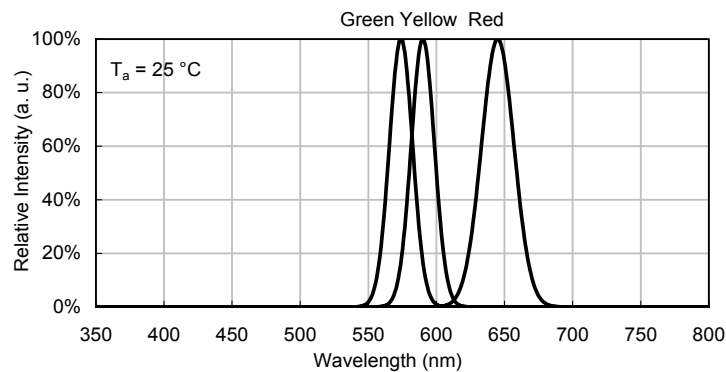
## Absolute Maximum Ratings at TA=25°C

Parameter	Hyper Red	Green	Super Bright Yellow	Units
Power dissipation	75	75	75	mW
DC Forward Current	30	30	30	mA
Peak Forward Current [1]	185	150	175	mA
Reverse Voltage	5			V
Operating Temperature	-40°C To +85°C			
Storage Temperature	-40°C To +85°C			

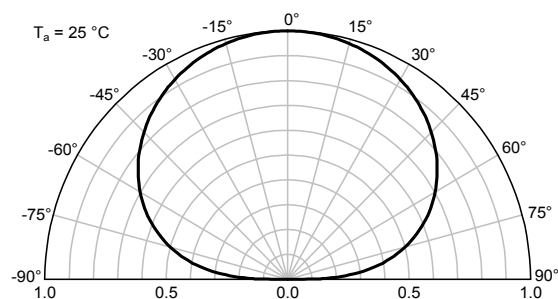
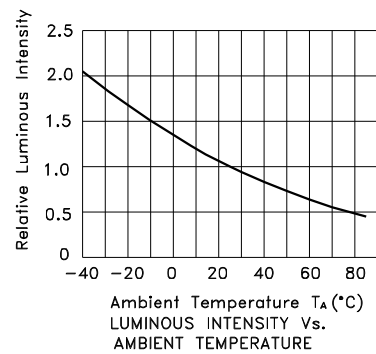
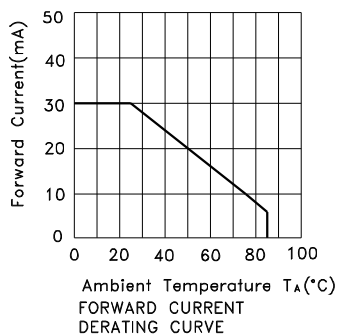
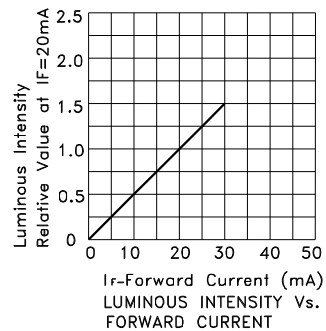
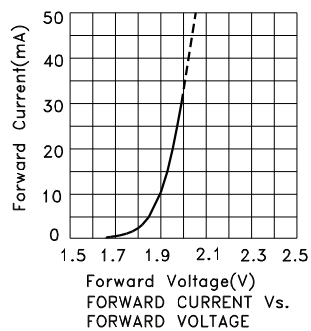
Notes:

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

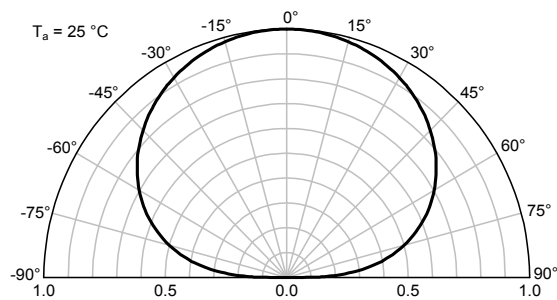
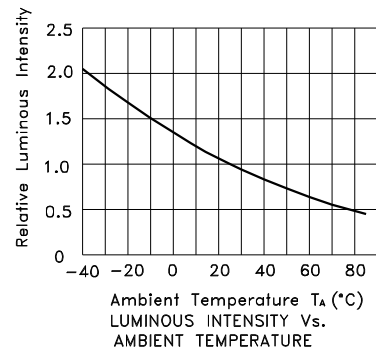
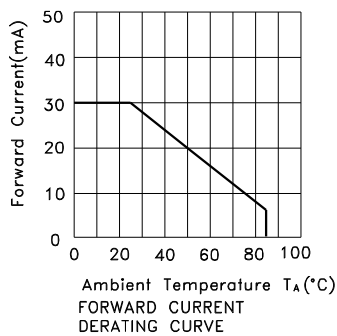
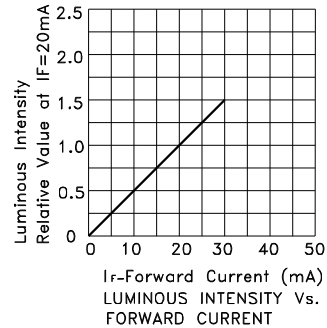
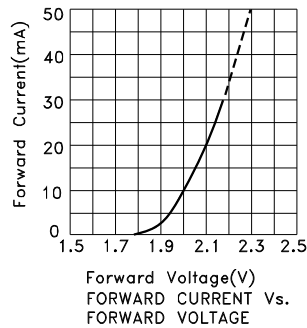
2. Relative humidity levels maintained between 40% and 60% in production area are recommended to avoid the build-up of static electricity – Ref JEDEC/JESD625-A and JEDEC/J-STD-033.



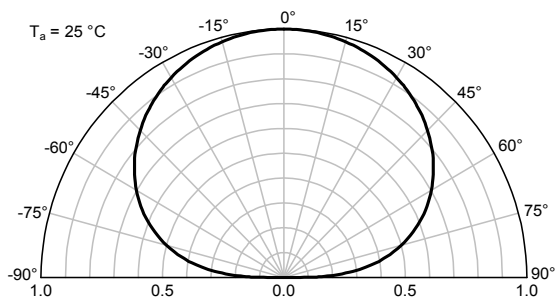
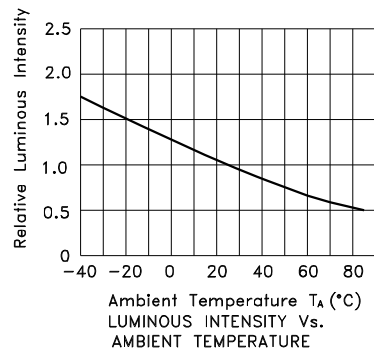
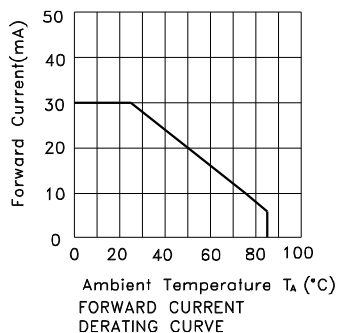
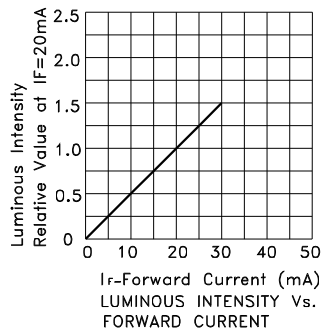
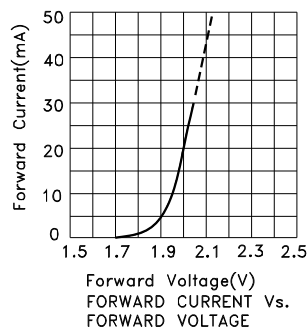
## APFA3010SURKCGKSYKC Hyper Red



## Green

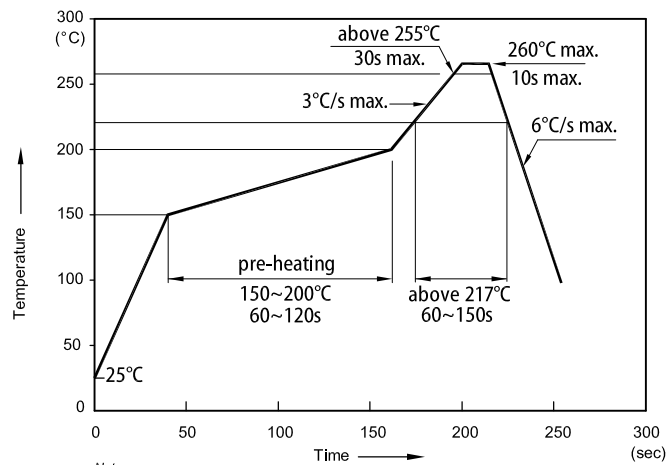


## Super Bright Yellow



## APFA3010SURKCGKSYKC

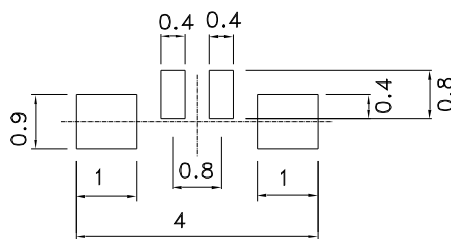
Reflow Soldering Profile for Lead-free SMD Process



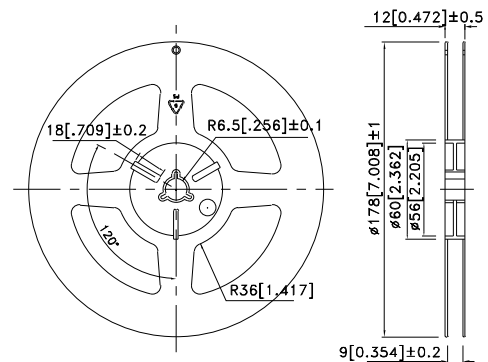
Notes:

1. Don't cause stress to the LEDs while it is exposed to high temperature.
2. The maximum number of reflow soldering passes is 2 times.
3. Reflow soldering is recommended. Other soldering methods are not recommended as they might cause damage to the product.

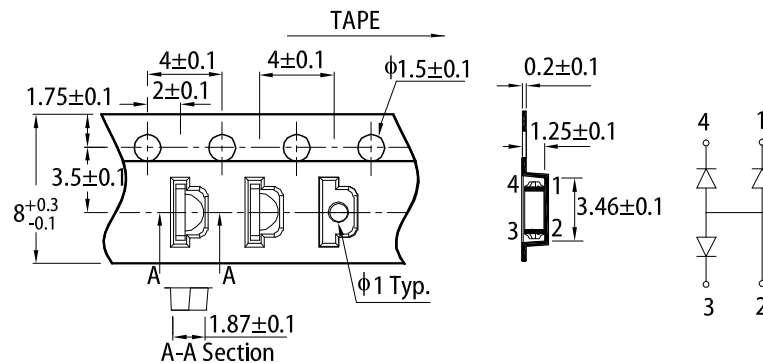
### Recommended Soldering Pattern (Units : mm; Tolerance: $\pm 0.1$ )



### Reel Dimension

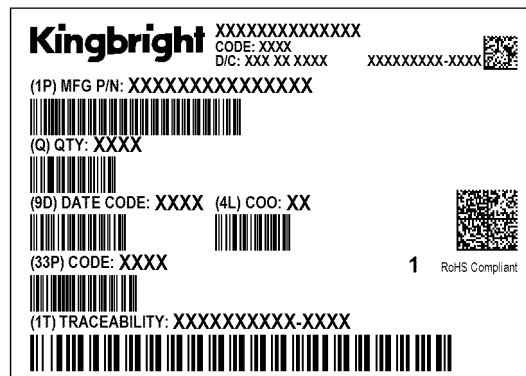
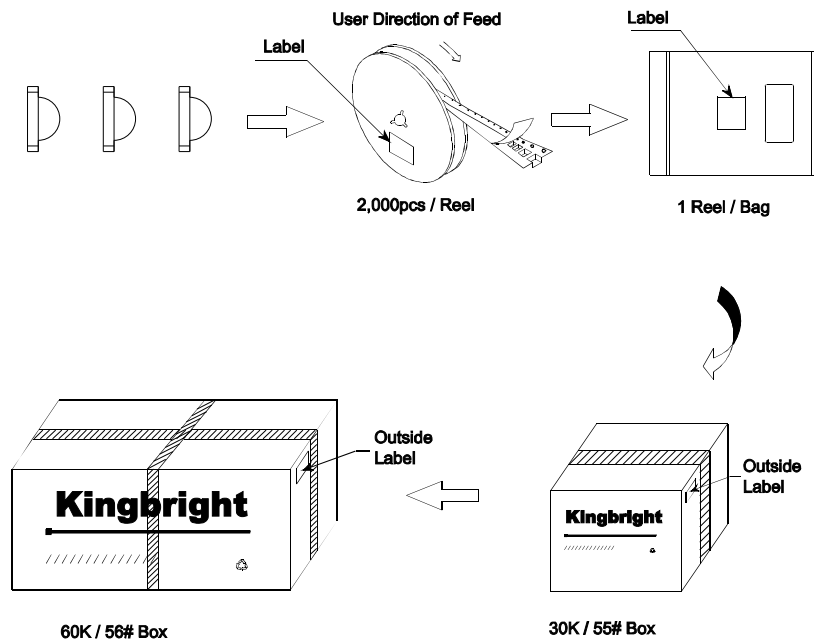


### Tape Dimensions (Units : mm)



## PACKING & LABEL SPECIFICATIONS

APFA3010SURKCGKSYKC



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