Kingbright

2.5x0.7mm RIGHT ANGLE SMD CHIP LED LAMP

Part Number: APFA2507LSURKSYKZGKC

Hyper Red
Super Bright Yellow
Green

ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE
SENSITIVE
DEVICES

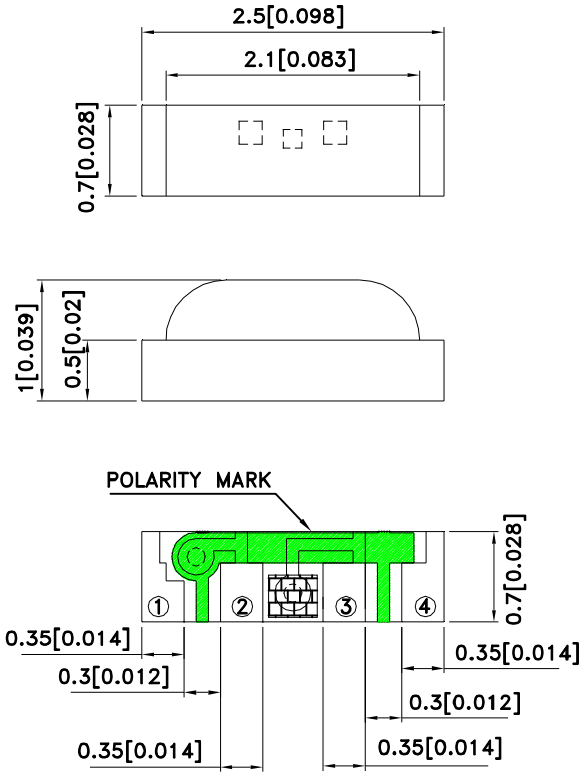
Features

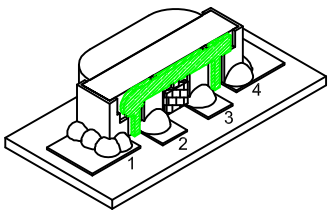
- 2.5x1.0x0.7mm right angle SMD LED, 0.7mm thickness.
- Low power consumption.
- Wide viewing angle.
- Ideal for backlight and indicator.
- Package : 3000pcs / reel.
- Moisture sensitivity level : level 3.
- Tinned pads for improved solderability.
- Low current IF=2mA operating.
- RoHS compliant.

Descriptions

- The Hyper Red 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.
- The Green source color devices are made with InGaN on Sapphire Light Emitting Diode.
- 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 ±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.	Emitting Color (Material)	Lens Type	Iv (mcd) [2] @ 2mA		Viewing Angle [1]
			Min.	Typ.	2θ1/2
APFA2507LSURKSYKZGKC	Hyper Red (AlGaInP)	Water Clear	20	30	130°
			*6	*10	
	Super Bright Yellow (AlGaInP)		6	15	115°
			*6	*15	
	Green (InGaN)		20	60	125°
			*20	*60	

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

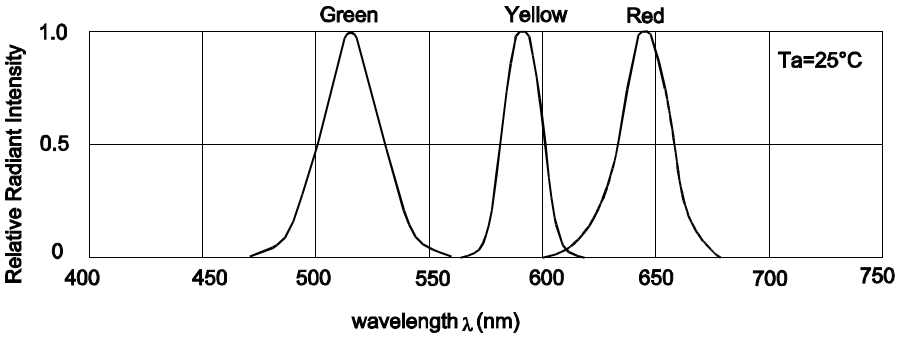
Symbol	Parameter	Emitting Color	Typ.	Max.	Units	Test Conditions
λpeak	Peak Wavelength	Hyper Red Super Bright Yellow Green	645 590 515		nm	I_F=2mA
λD [1]	Dominant Wavelength	Hyper Red Super Bright Yellow Green	630 590 525		nm	I_F=2mA
Δλ1/2	Spectral Line Half-width	Hyper Red Super Bright Yellow Green	28 20 35		nm	I_F=2mA
C	Capacitance	Hyper Red Super Bright Yellow Green	35 20 45		pF	V_F=0V;f=1MHz
V_F [2]	Forward Voltage	Hyper Red Super Bright Yellow Green	1.75 1.85 2.65	2.5 2.5 4.1	V	I_F=2mA
I_R	Reverse Current	Hyper Red Super Bright Yellow Green		10 10 50	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.
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

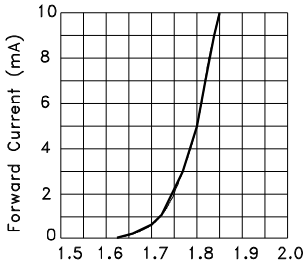
Parameter	Hyper Red	Super Bright Yellow	Green	Units
Power dissipation	75	75	102.5	mW
DC Forward Current	30	30	25	mA
Peak Forward Current [1]	185	175	150	mA
Electrostatic Discharge Threshold (HBM)	3000	3000	450	V
Reverse Voltage	5			V
Operating Temperature	-40°C To +85°C			
Storage Temperature	-40°C To +85°C			

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

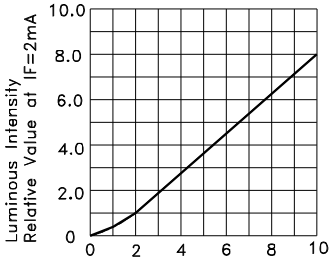


Relative Intensity Vs. Wavelength

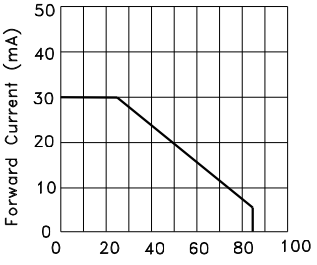
APFA2507LSURKSYKZGKC
Hyper Red



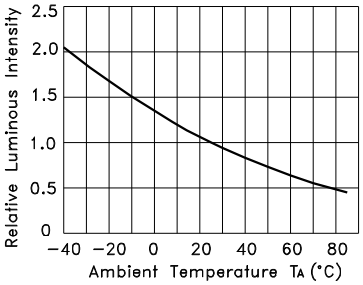
FORWARD CURRENT Vs.
FORWARD VOLTAGE



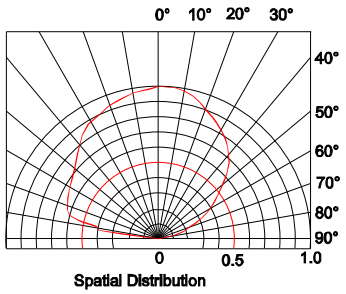
LUMINOUS INTENSITY Vs.
FORWARD CURRENT



FORWARD CURRENT
DERATING CURVE

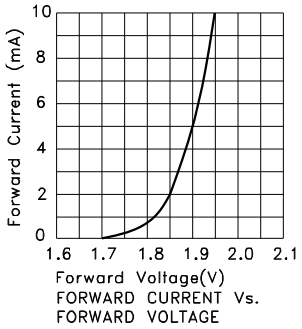


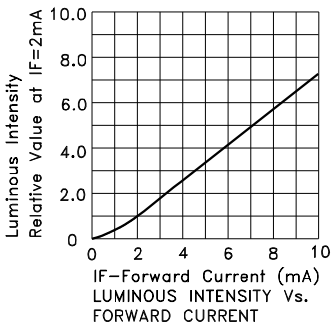
LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE

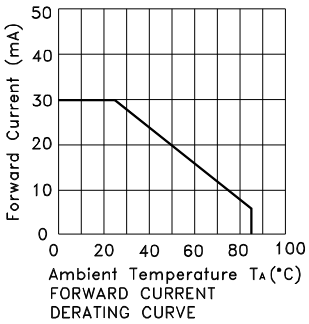


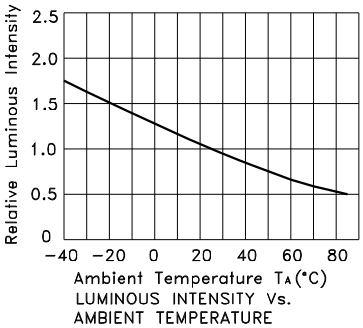
Spatial Distribution

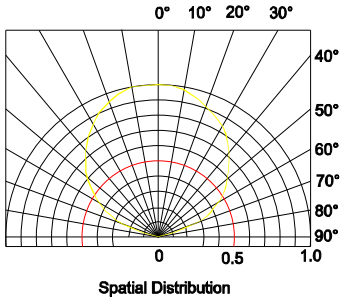
Super Bright Yellow



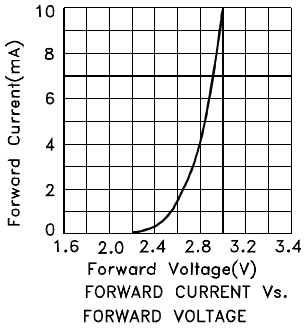




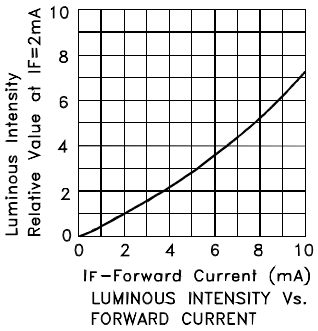




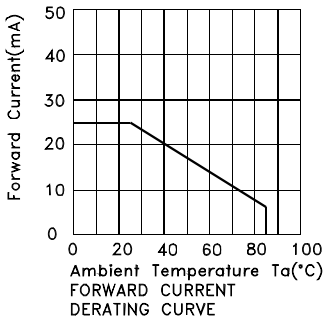
Green



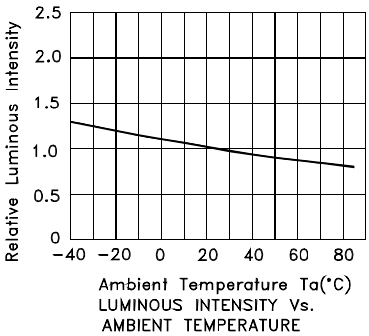
FORWARD CURRENT Vs.
FORWARD VOLTAGE



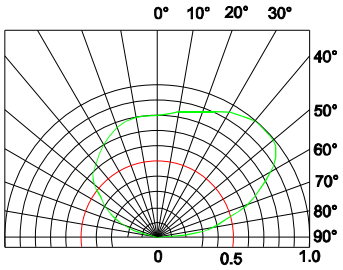
LUMINOUS INTENSITY Vs.
FORWARD CURRENT



FORWARD CURRENT
DERATING CURVE



LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE

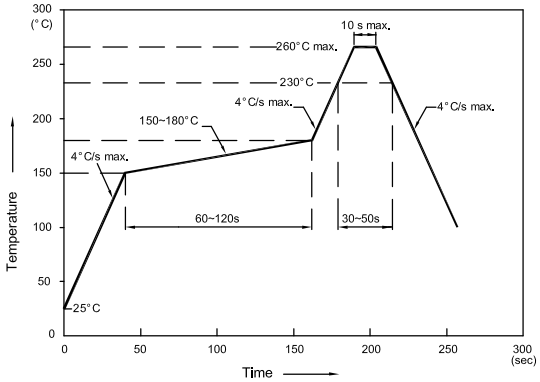


Spatial Distribution

APFA2507LSURKSYKZGKC

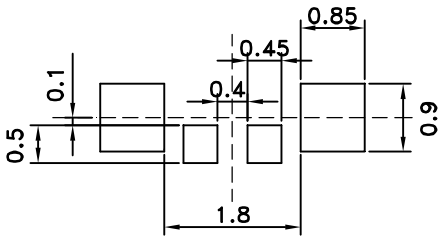
Reflow soldering is recommended and the soldering profile is shown below.
Other soldering methods are not recommended as they might cause damage to the product.

Reflow Soldering Profile For Lead-free SMT Process.

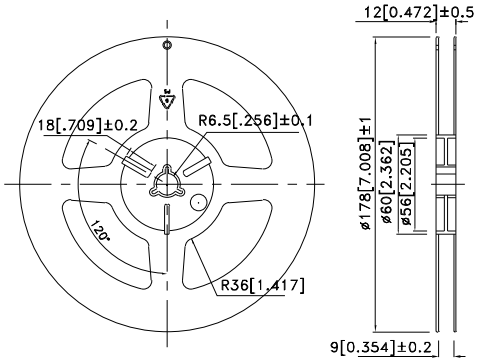


NOTES:
1. We recommend the reflow temperature 245°C(+/-5°C).The maximum soldering temperature should be limited to 260°C.
2. Don't cause stress to the epoxy resin while it is exposed to high temperature.
3. Number of reflow process shall be 2 times or less.

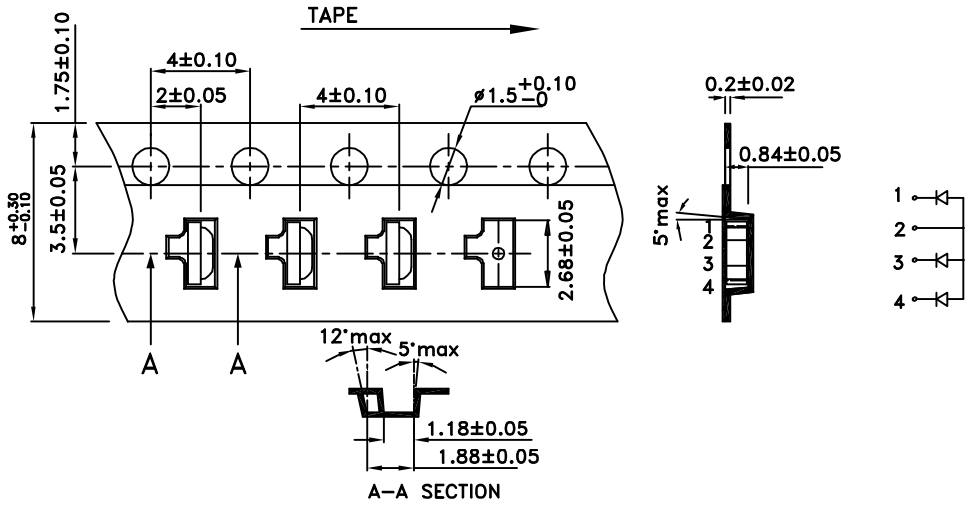
Recommended Soldering Pattern (Units : mm; Tolerance: ± 0.1)



Reel Dimension



Tape Dimensions (Units : mm)



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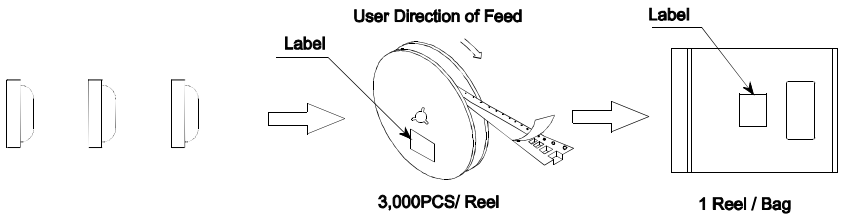
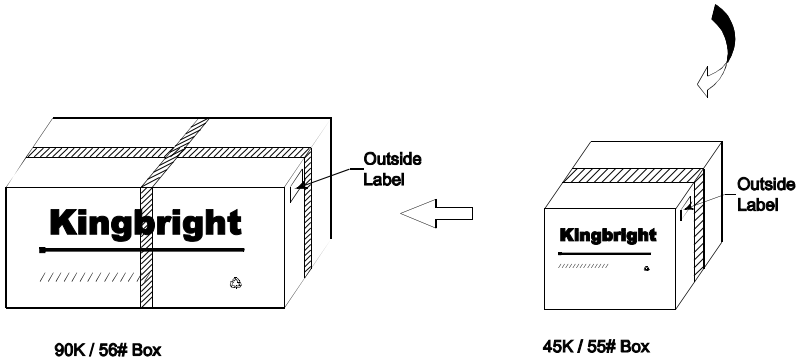
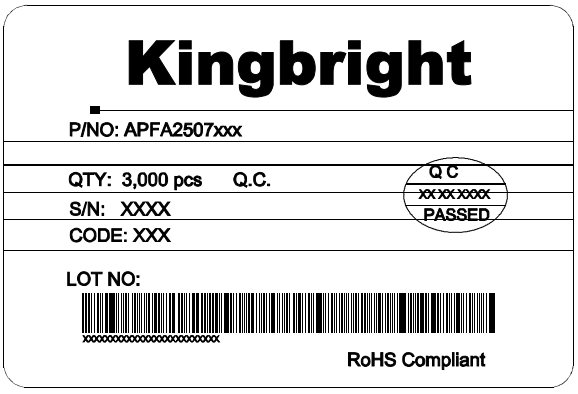
PACKING & LABEL SPECIFICATIONS **APFA2507LSURKSYKZGKC**







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