

### PRELIMINARY SPEC

Part Number: AAA3528SURKVGAPBA

HYPER RED  
GREEN / BLUE



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

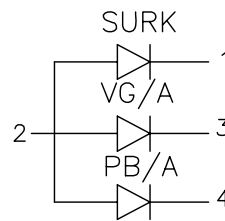
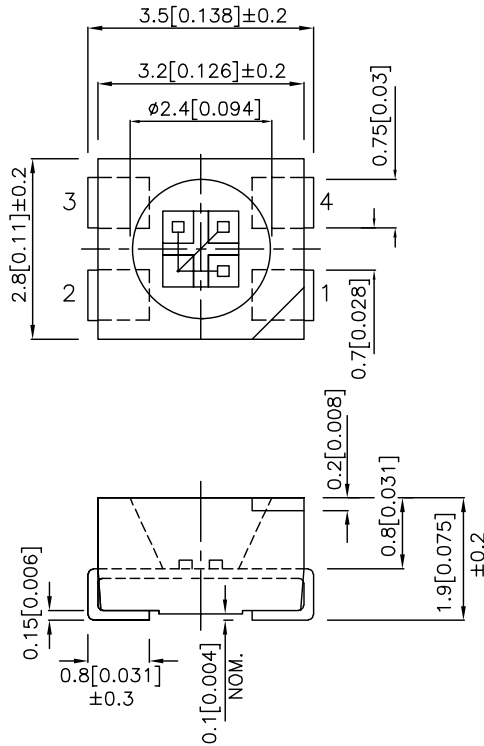
### Features

- SUITABLE FOR ALL SMT ASSEMBLY AND SOLDER PROCESS.
- AVAILABLE ON TAPE AND REEL.
- PACKAGE: 1500PCS / REEL.
- MOISTURE SENSITIVITY LEVEL : LEVEL 4.
- RoHS COMPLIANT.

### Description

The Hyper Red source color devices are made with DH InGaAlP on GaAs substrate Light Emitting Diode.  
The Green source color devices are made with InGaN on G-SiC Light Emitting Diode.  
The Blue source color devices are made with InGaN on SiC 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



Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.25(0.01") unless otherwise noted.
3. Specifications are subjected to change without notice.

## Selection Guide

Part No.	Dice	Lens Type	Iv (mcd) [2] @ 20mA		Viewing Angle [1]
			Min.	Typ.	2θ1/2
AAA3528SURKVGAPBA	HYPER RED (InGaAlP)	WATER CLEAR	70	200	120°
	GREEN (InGaN)		70	200	
	BLUE (InGaN)		36	70	

Notes:

- 1.θ1/2 is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.
- 2.Luminous Intensity/ Luminous Flux: +/-15%.

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

Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λ <sub>peak</sub>	Peak Wavelength	Hyper Red Green Blue	650 520 468		nm	I <sub>F</sub> =20mA
λ <sub>D</sub> [1]	Dominant Wavelength	Hyper Red Green Blue	635 525 470		nm	I <sub>F</sub> =20mA
Δλ <sub>1/2</sub>	Spectral Line Half-width	Hyper Red Green Blue	28 35 21		nm	I <sub>F</sub> =20mA
C	Capacitance	Hyper Red Green Blue	35 100 100		pF	V <sub>F</sub> =0V;f=1MHz
V <sub>F</sub> [2]	Forward Voltage	Hyper Red Green Blue	1.95 3.2 3.3	2.5 4.0 3.8	V	I <sub>F</sub> =20mA
I <sub>R</sub>	Reverse Current	Hyper Red Green Blue		10 10 10	uA	V <sub>R</sub> = 5V

Notes:

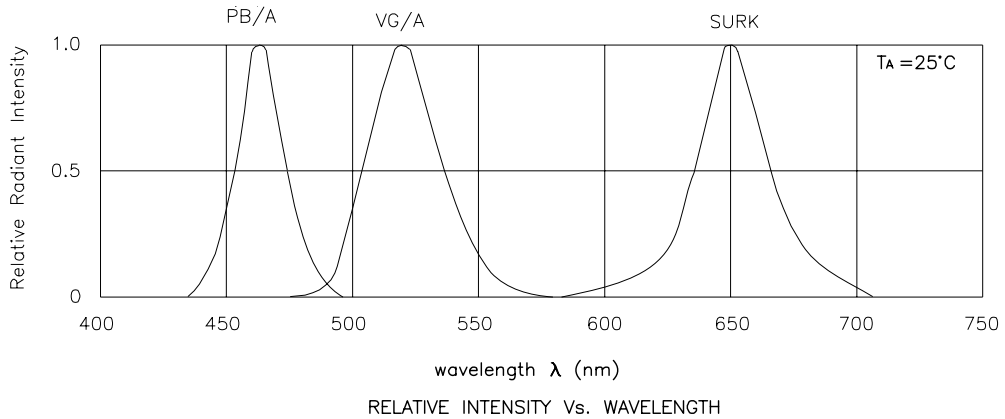
- 1.Wavelength: +/-1nm
- 2.Forward Voltage: +/-0.1V

## Absolute Maximum Ratings at TA=25°C

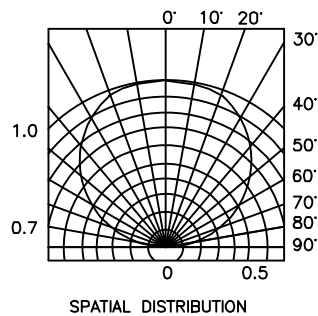
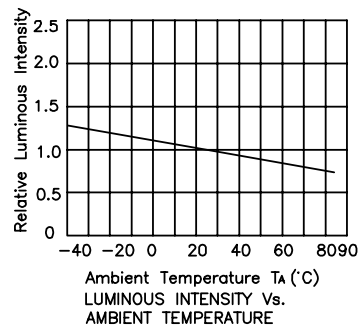
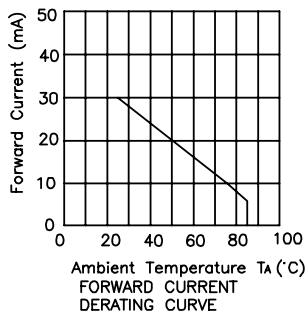
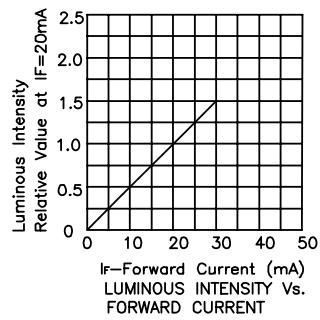
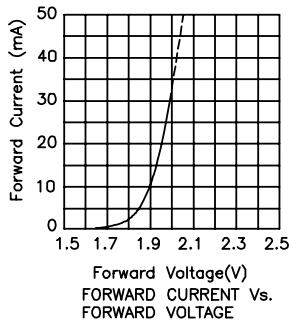
Parameter	Hyper Red	Green	Blue	Units
Power dissipation	75	200	114	mW
DC Forward Current	30	50	30	mA
Peak Forward Current [1]	185	100	100	mA
Reverse Voltage	5			V
Operating / Storage Temperature	-40°C To +85°C			

Note:

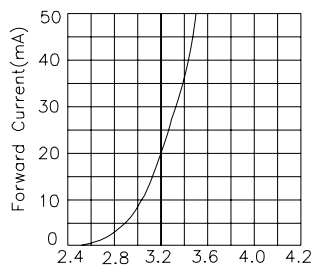
1. 1/10 Duty Cycle, 0.1ms Pulse Width.



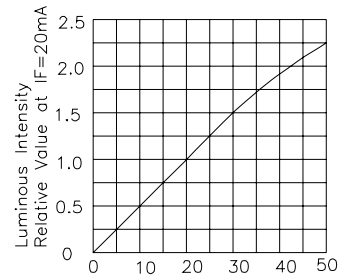
**AAA3528SURKVGAPBA**  
**Hyper Red**



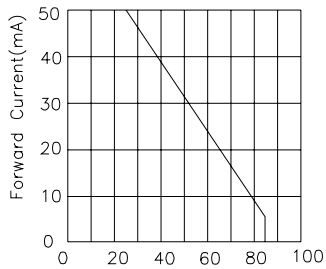
## Green



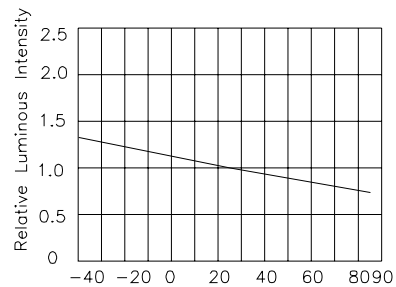
Forward Voltage(V)  
FORWARD CURRENT Vs  
FORWARD VOLTAGE



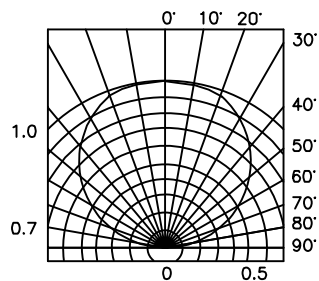
If-Forward Current (mA)  
LUMINOUS INTENSITY Vs.  
FORWARD CURRENT



Ambient Temperature Ta (°C)  
FORWARD CURRENT  
DERATING CURVE



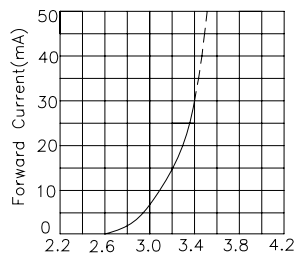
Ambient Temperature Ta (°C)  
LUMINOUS INTENSITY Vs.  
AMBIENT TEMPERATURE



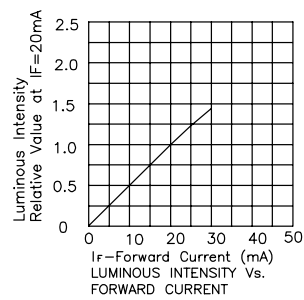
SPATIAL DISTRIBUTION

# Kingbright

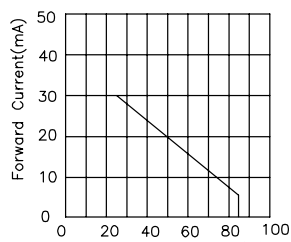
## Blue



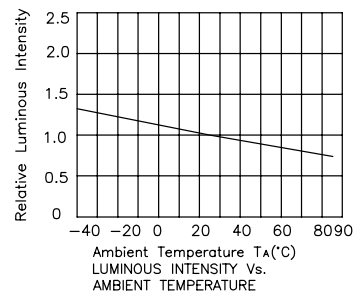
Forward Voltage(V)  
FORWARD CURRENT Vs  
FORWARD VOLTAGE



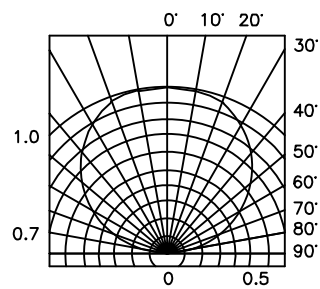
$I_F$ -Forward Current (mA)  
LUMINOUS INTENSITY Vs.  
FORWARD CURRENT



Ambient Temperature  $T_A$ (°C)  
FORWARD CURRENT  
DERATING CURVE



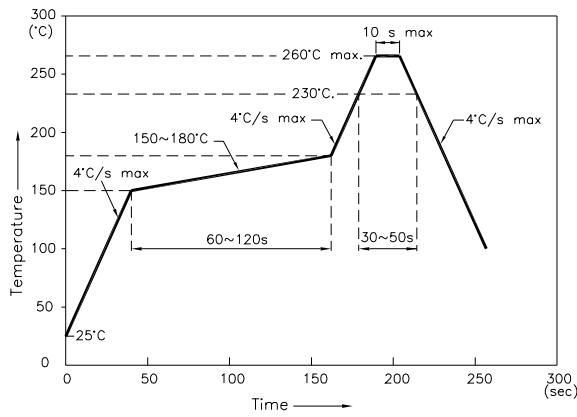
Ambient Temperature  $T_A$ (°C)  
LUMINOUS INTENSITY Vs.  
AMBIENT TEMPERATURE



SPATIAL DISTRIBUTION

## AAA3528SURKVGAPBA

Reflow Soldering Profile For Lead-free SMT Process.

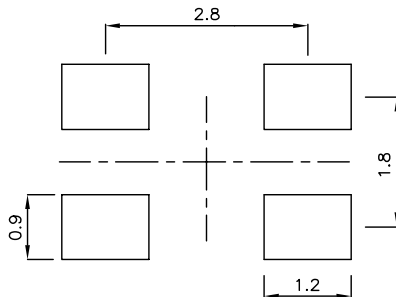


NOTES:

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.

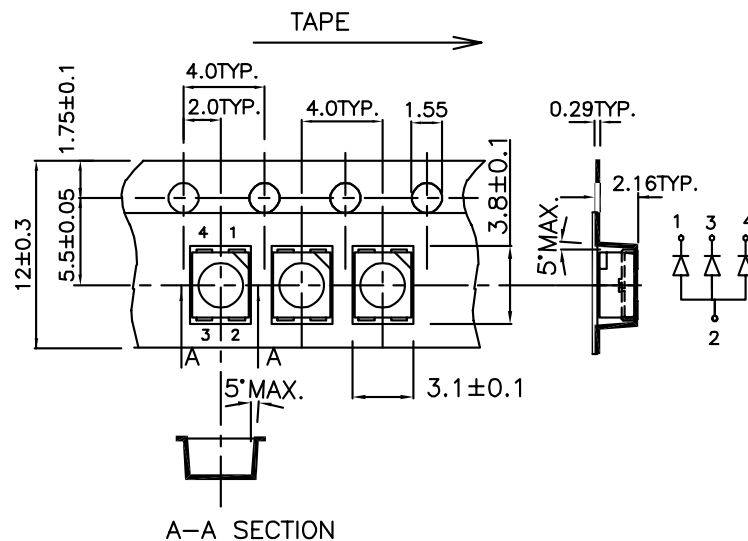
### Recommended Soldering Pattern

(Units: mm ; Tolerance: ± 0.1)



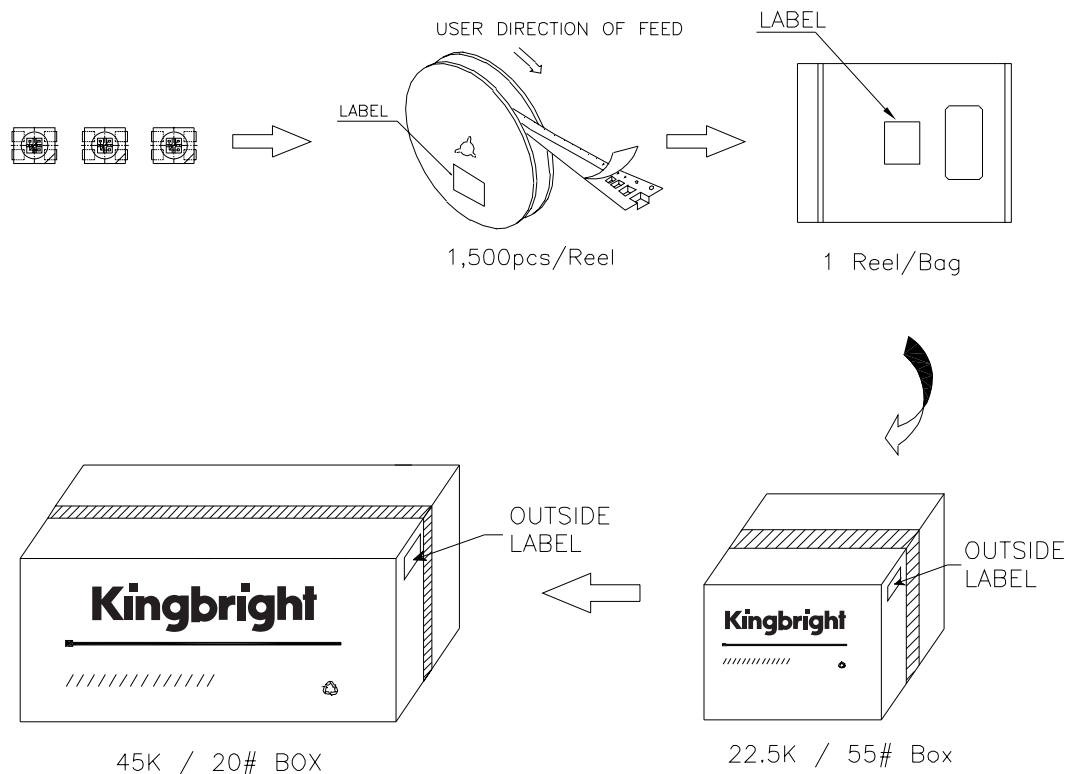
### Tape Specifications


(Units : mm)



## PACKING & LABEL SPECIFICATIONS

AAA3528SURKVGAPBA



<b>Kingbright</b>	
P/NO: AAA3528XXX	
QTY: 1,500 pcs	Q.C. <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">Q.C. xx xx xxxx</span>
S/N: XXXX	PASSED <span style="margin-left: 20px;">Date</span>
CODE: XXX	
LOT NO:	
 <small>XXXXXXXXXXXXXXXXXXXXXXXX</small>	
RoHS Compliant	