



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

Part Number: KAA-3528EMBSGC

High Efficiency Red  
Blue  
Super Bright Green

### Features

- Suitable for all SMT assembly and solder process.
- Available on tape and reel.
- Package: 2000pcs / reel.
- Moisture sensitivity level : level 4.
- RoHS compliant.

### Description

The High Efficiency Red source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Orange Light Emitting Diode.

The Blue source color devices are made with GaN on SiC Light Emitting Diode.

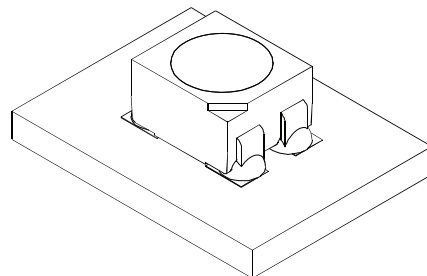
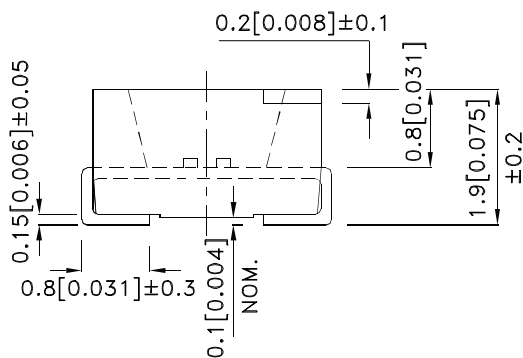
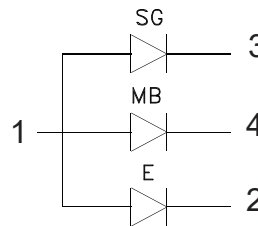
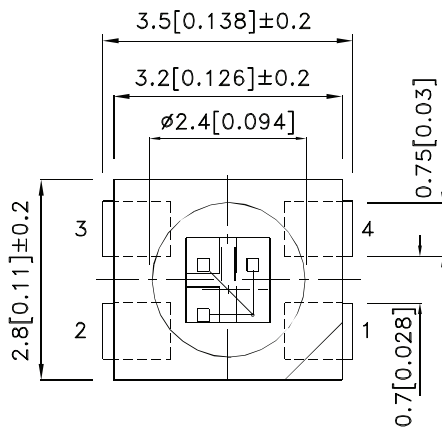
The Super Bright Green source color devices are made with Gallium Phosphide Green Light Emitting Diode.

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  $\pm 0.25(0.01)$  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.	Dice	Lens Type	Iv (mcd) [2] @ 20mA		Viewing Angle [1]
			Min.	Typ.	2θ1/2
KAA-3528EMBSC	High Efficiency Red (GaAsP/GaP)	Water Clear	12	30	120°
			*8	*15	
	Blue (GaN)		8	15	
			*8	*15	
	Super Bright Green (GaP)		12	30	
			*12	*30	

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	Device	Typ.	Max.	Units	Test Conditions
$\lambda_{peak}$	Peak Wavelength	High Efficiency Red Blue Super Bright Green	627 430 565		nm	I <sub>F</sub> =20mA
$\lambda_D$ [1]	Dominant Wavelength	High Efficiency Red Blue Super Bright Green	617 466 568		nm	I <sub>F</sub> =20mA
$\Delta\lambda_{1/2}$	Spectral Line Half-width	High Efficiency Red Blue Super Bright Green	45 60 30		nm	I <sub>F</sub> =20mA
C	Capacitance	High Efficiency Red Blue Super Bright Green	15 100 15		pF	V <sub>F</sub> =0V;f=1MHz
V <sub>F</sub> [2]	Forward Voltage	High Efficiency Red Blue Super Bright Green	2 3.8 2.2	2.5 4.5 2.5	V	I <sub>F</sub> =20mA
I <sub>R</sub>	Reverse Current	High Efficiency Red Blue Super Bright Green		10 10 10	uA	V <sub>R</sub> =5V

Notes:

1. Wavelength: +/-1nm.

2. Forward Voltage: +/-0.1V.

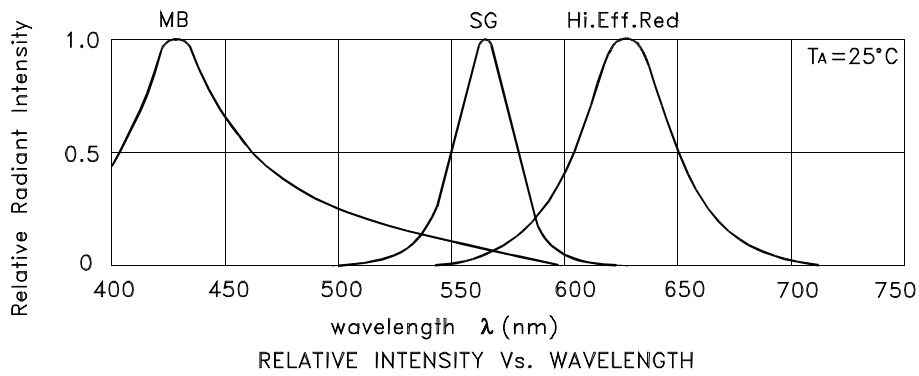
3. Wavelength value is traceable to the CIE127-2007 compliant national standards.

## Absolute Maximum Ratings at TA=25°C

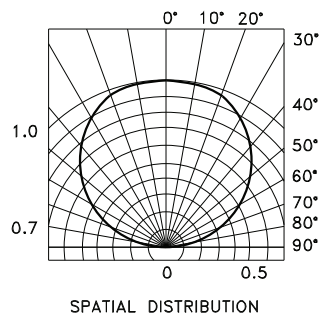
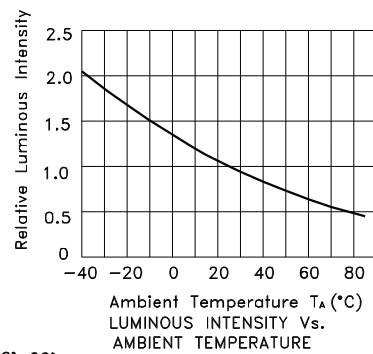
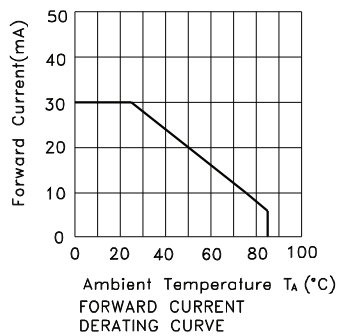
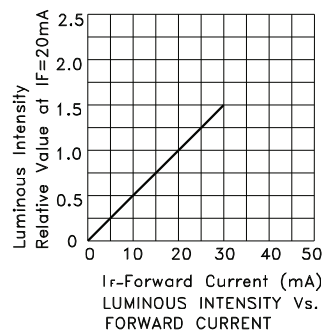
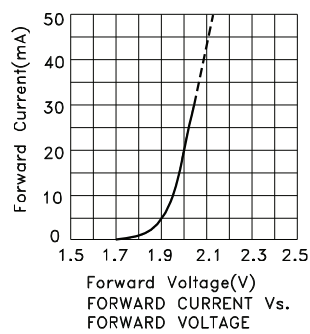
Parameter	High Efficiency Red	Blue	Super Bright Green	Units
Power dissipation	75	135	62.5	mW
DC Forward Current	30	30	25	mA
Peak Forward Current [1]	160	150	140	mA
Reverse Voltage	5			V
Operating Temperature	-40°C To +85°C			
Storage Temperature	-40°C To +85°C			

Notes:

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

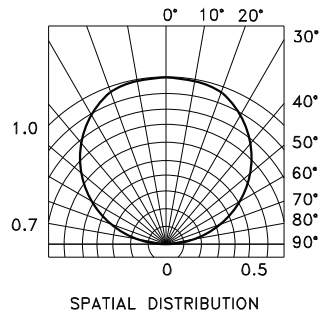
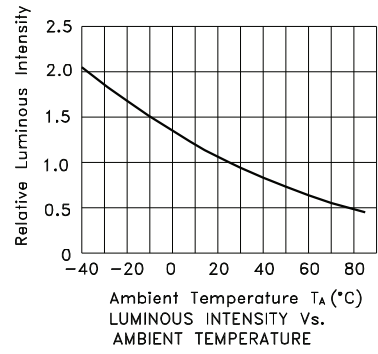
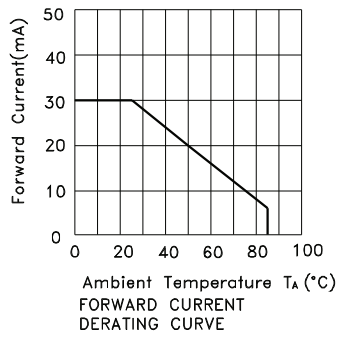
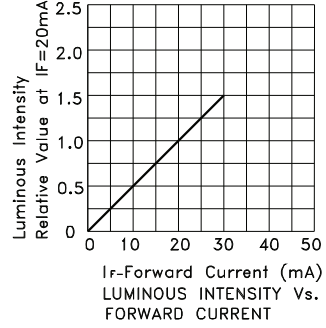
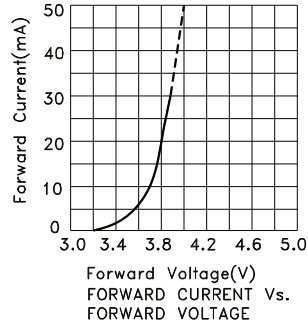


## KAA-3528EMBSGC High Efficiency Red

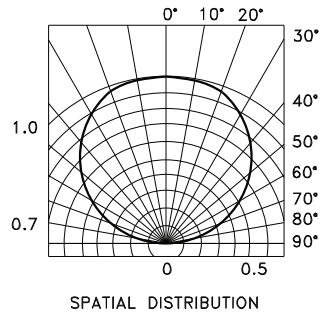
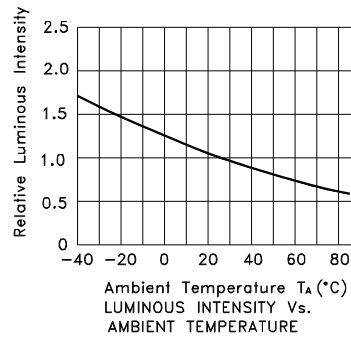
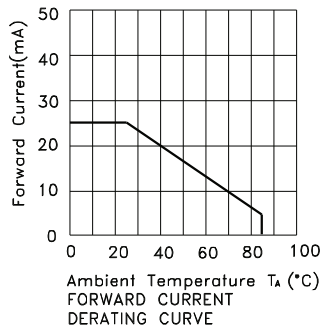
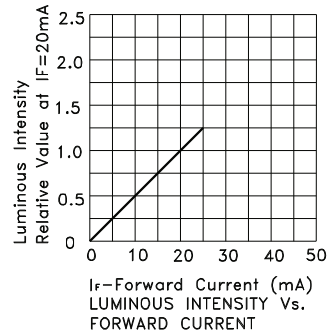
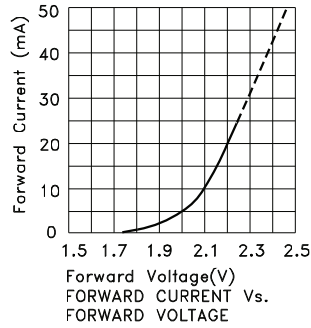


# Kingbright

## Blue



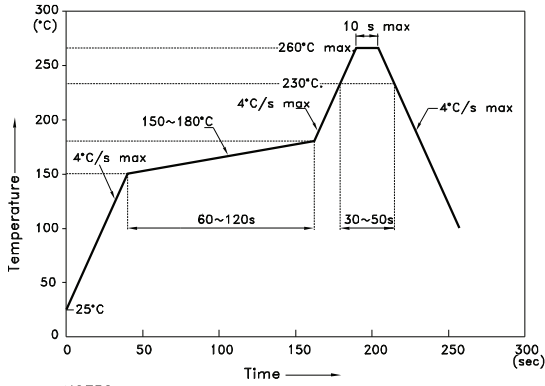
## Super Bright Green



## KAA-3528EMBSGC

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.

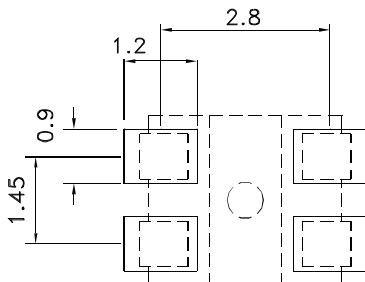
Reflow Soldering Profile For Lead-free SMT Process.



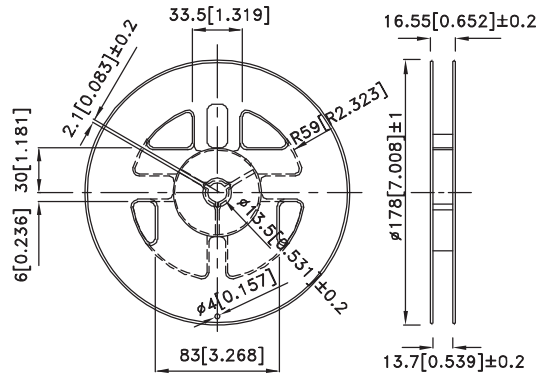
NOTES:

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.

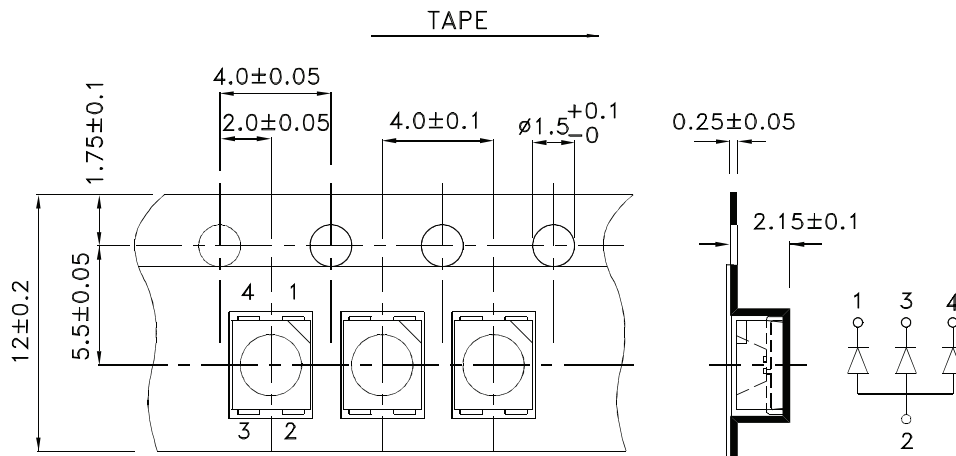
### Recommended Soldering Pattern (Units : mm; Tolerance: ± 0.1)



### Reel Dimension

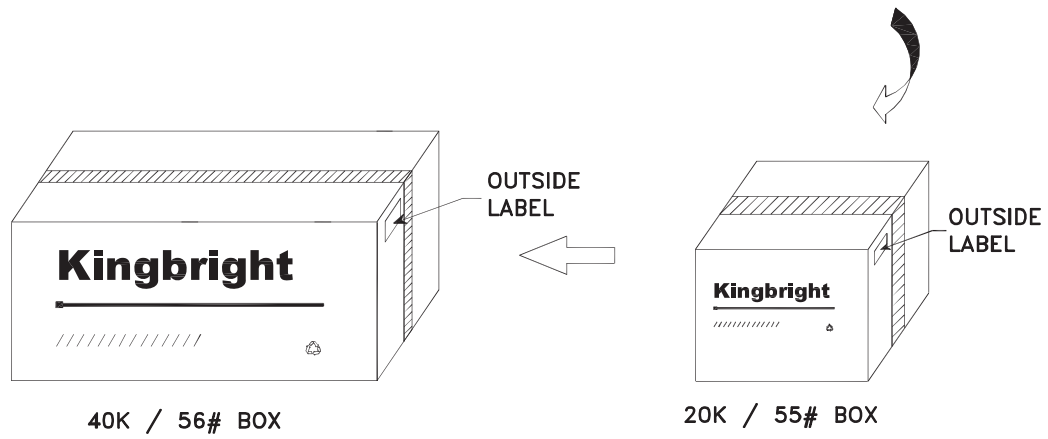
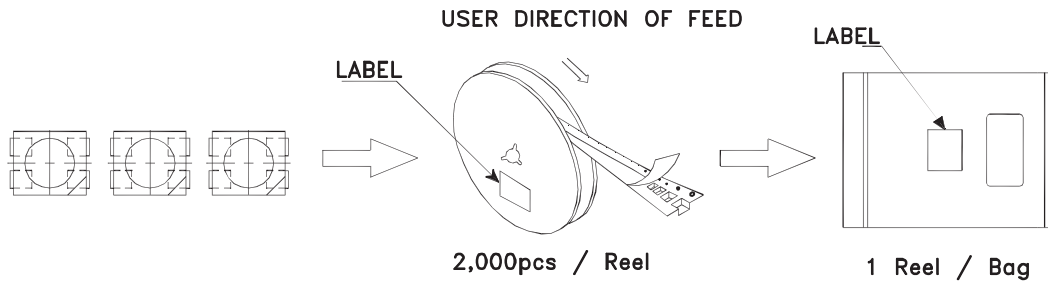



### Tape Dimensions (Units : mm)



**PACKING & LABEL SPECIFICATIONS**

**KAA-3528EMBSGC**



<h1>Kingbright</h1>	
P/NO: KAA-3528xxx	
QTY: 2,000 pcs	Q.C. <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">Q C XX XX XXXX PASSED</span>
S/N: XXXX	
CODE: XXX	
LOT NO:	
 <small>XXXXXXXXXXXXXXXXXXXX</small>	
RoHS Compliant	

Detailed application notes are listed on our website.  
[http://www.kingbright.com/application\\_notes](http://www.kingbright.com/application_notes)