



ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE
SENSITIVE
DEVICES

Part Number: KAA-3528EMBSGS

High Efficiency Red
Blue
Super Bright Green

Features

- Suitable for all SMT assembly and solder process.
- Available on tape and reel.
- Package: 1500pcs / reel.
- Moisture sensitivity level : level 3.
- 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.

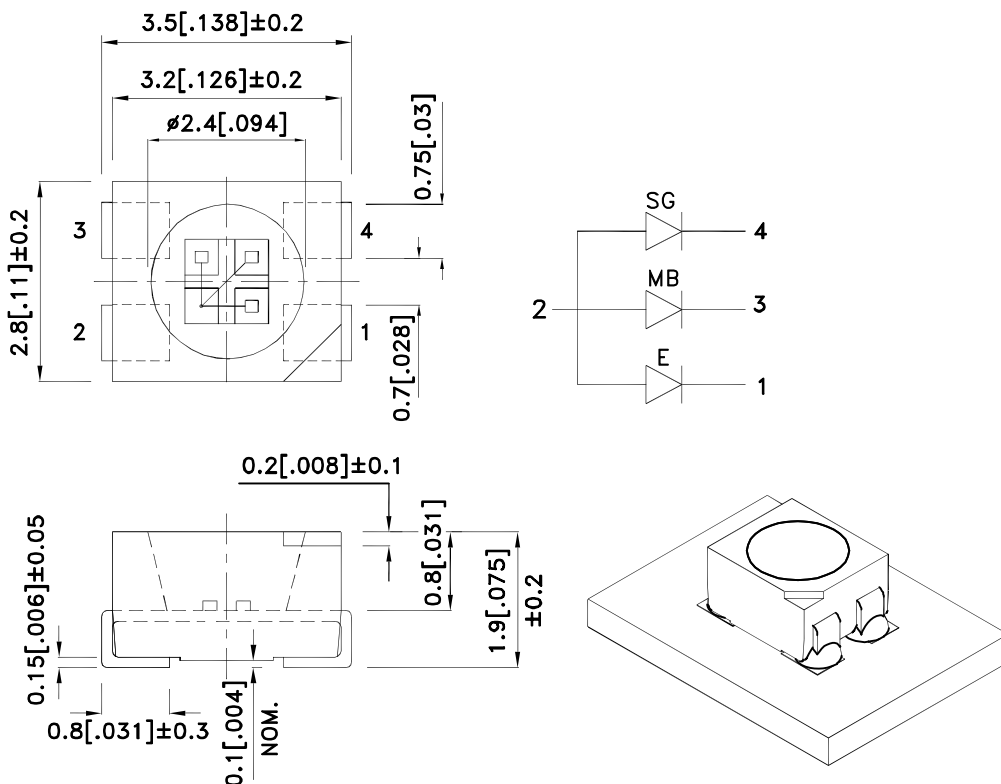
The Super Bright Green source color devices are made with Gallium Phosphide Green Light Emitting Diode.

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.

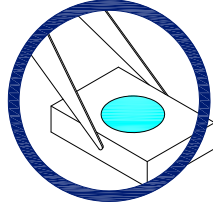


Handling Precautions

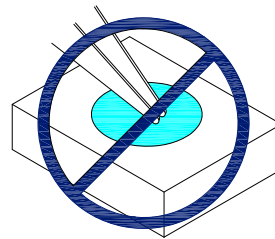
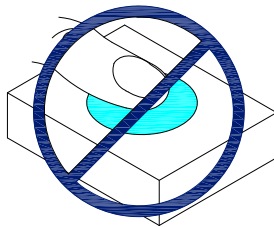
Compare to epoxy encapsulant that is hard and brittle, silicone is softer and flexible. Although its characteristic significantly reduces thermal stress, it is more susceptible to damage by external mechanical force.

As a result, special handling precautions need to be observed during assembly using silicone encapsulated LED products. Failure to comply might lead to damage and premature failure of the LED.

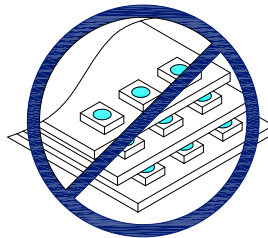
1. Handle the component along the side surfaces by using forceps or appropriate tools.



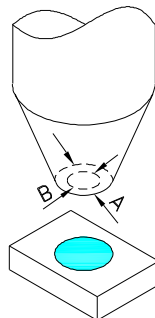
2. Do not directly touch or handle the silicone lens surface. It may damage the internal circuitry.



3. Do not stack together assembled PCBs containing exposed LEDs. Impact may scratch the silicone lens or damage the internal circuitry.



4. The outer diameter of the SMD pickup nozzle should not exceed the size of the LED to prevent air leaks. The inner diameter of the nozzle should be as large as possible.
5. A pliable material is suggested for the nozzle tip to avoid scratching or damaging the LED surface during pickup.
6. The dimensions of the component must be accurately programmed in the pick-and-place machine to insure precise pickup and avoid damage during production.



Selection Guide

Part No.	Dice	Lens Type	Iv (mcd) [2] @ 20mA		Viewing Angle [1]
			Min.	Typ.	2θ1/2
KAA-3528EMBSGS	High Efficiency Red (GaAsP/GaP)	WATER CLEAR	12	30	120°
	Blue (GaN)		7	15	
	Super Bright Green (GaP)		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%.

Electrical / Optical Characteristics at TA=25°C

Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λ _{peak}	Peak Wavelength	High Efficiency Red Blue Super Bright Green	627 430 565		nm	I _F =20mA
λ _D [1]	Dominant Wavelength	High Efficiency Red Blue Super Bright Green	625 466 568		nm	I _F =20mA
Δλ _{1/2}	Spectral Line Half-width	High Efficiency Red Blue Super Bright Green	45 60 30		nm	I _F =20mA
C	Capacitance	High Efficiency Red Blue Super Bright Green	15 100 15		pF	V _F =0V;f=1MHz
V _F [2]	Forward Voltage	High Efficiency Red Blue Super Bright Green	2 3.8 2.2	2.5 4.5 2.5	V	I _F =20mA
I _R	Reverse Current	High Efficiency Red Blue Super Bright Green		10 10 10	uA	V _R =5V

Notes:

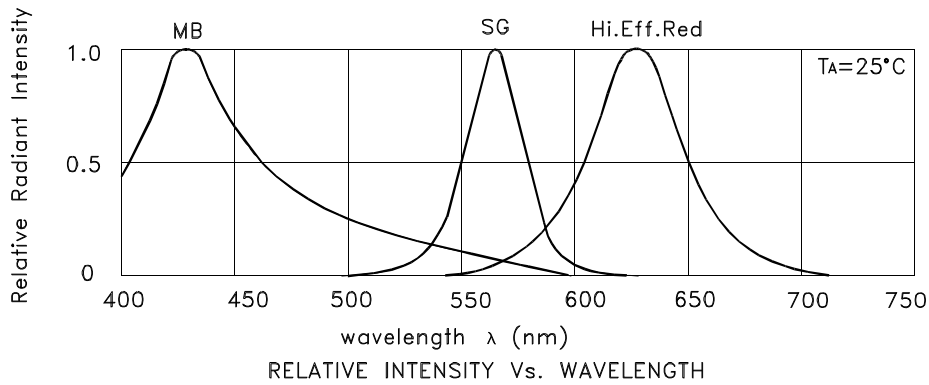
- 1.Wavelength: +/-1nm.
2. Forward Voltage: +/-0.1V.

Absolute Maximum Ratings at TA=25°C

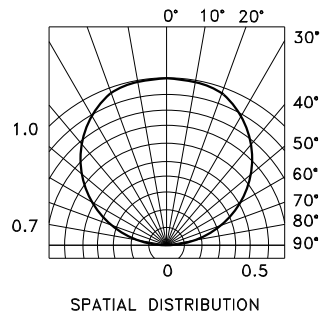
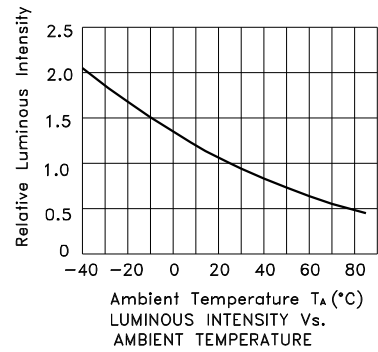
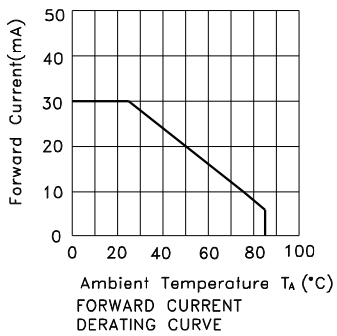
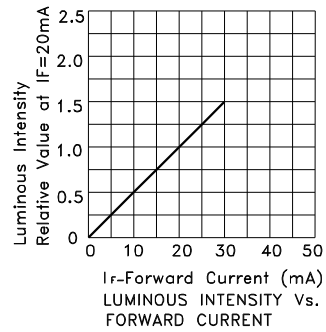
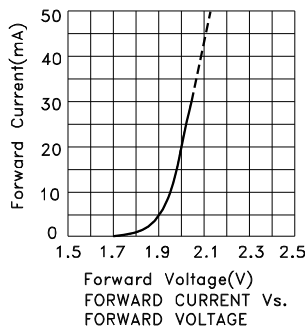
Parameter	High Efficiency Red	Blue	Super Bright Green	Units
Power dissipation	75	135	62.5	mW
DC Forward Current	30	30	25	mA
Peak Forward Current [1]	160	150	140	mA
Reverse Voltage	5			V
Operating Temperature	-40°C To +85°C			
Storage Temperature	-40°C To +85°C			

Notes:

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

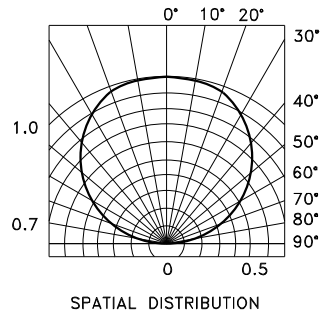
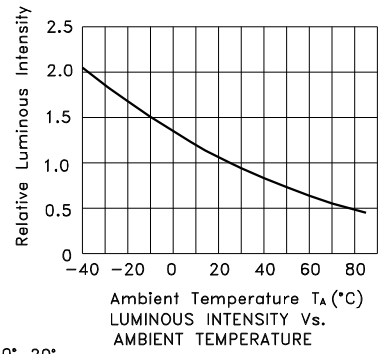
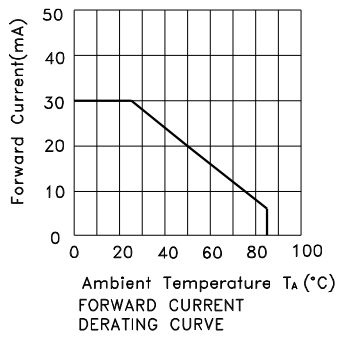
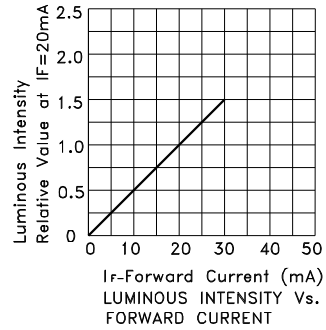
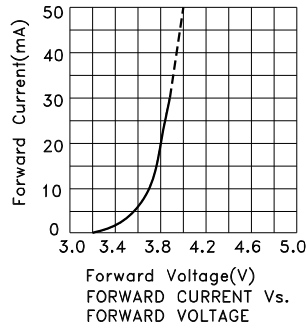


KAA-3528EMBSGS High Efficiency Red

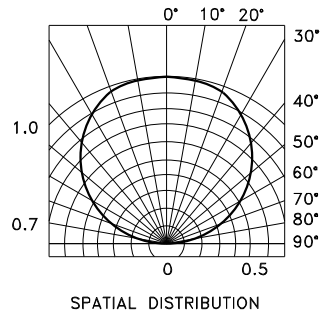
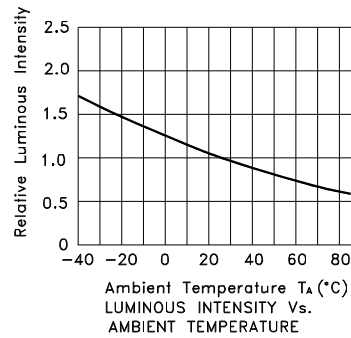
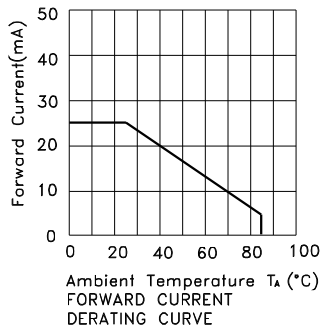
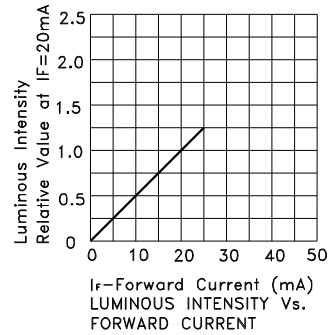
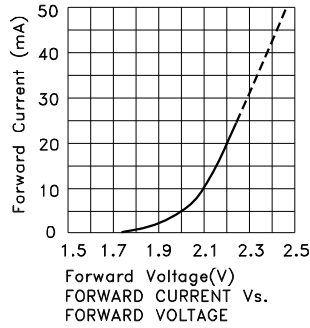


Kingbright

Blue



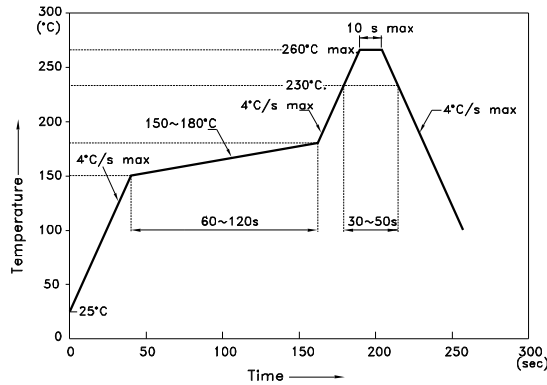
Super Bright Green



KAA-3528EMBSGS

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.

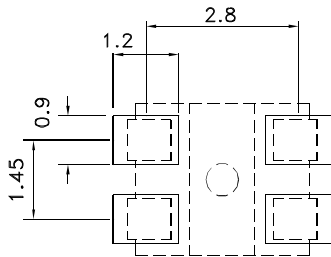
Reflow Soldering Profile For Lead-free SMT Process.



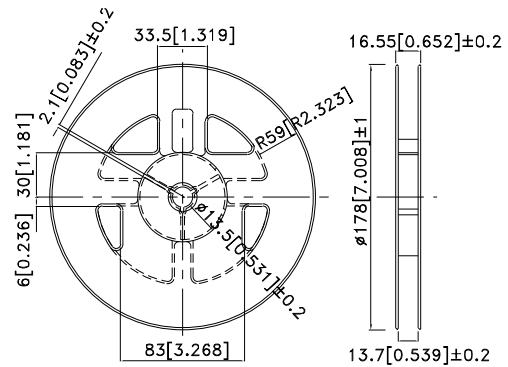
NOTES:

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.

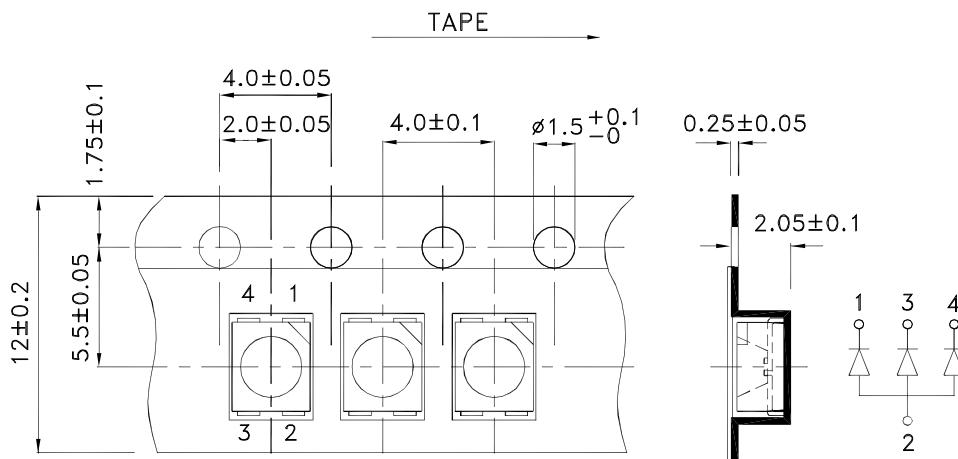
Recommended Soldering Pattern (Units : mm; Tolerance: ± 0.1)



Reel Dimension

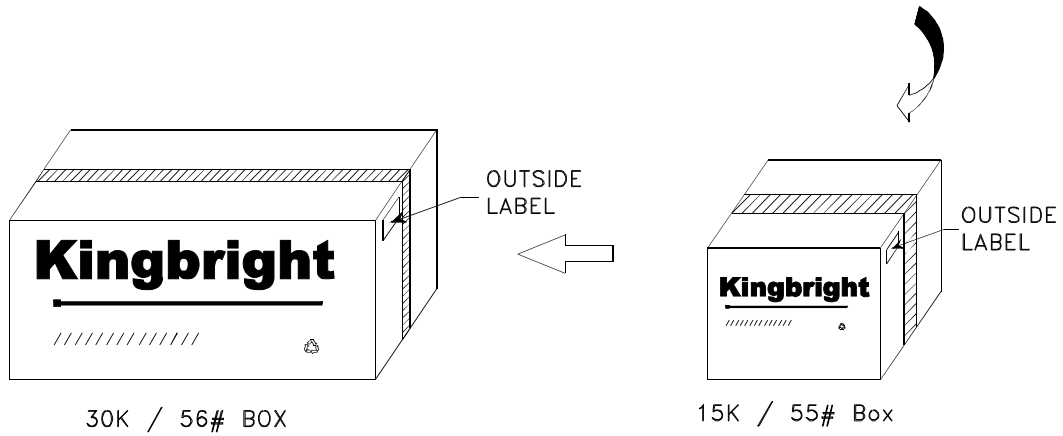
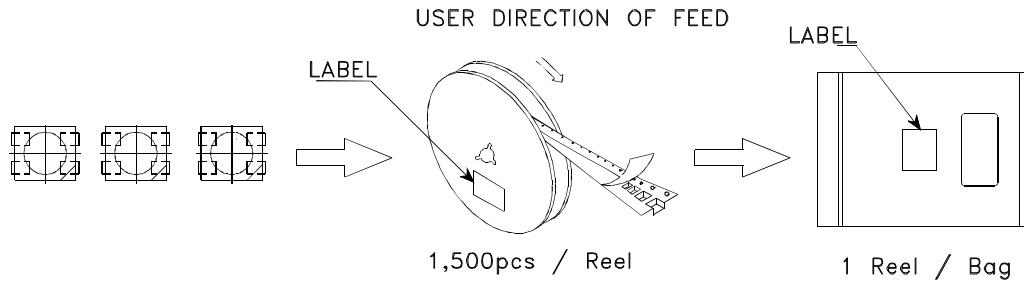



Tape Dimensions (Units : mm)



PACKING & LABEL SPECIFICATIONS

KAA-3528EMBSGS



<h1>Kingbright</h1>	
P/NO:KAA-3528xxx	
QTY: 1,500 pcs	Q.C. Q C XX XX XXXX PASSED
S/N: XXXX	
CODE: XXX	
LOT NO:	
 xxxxxxxxxxxxxxxxxxxxxxxxxxxx	
RoHS Compliant	