



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

Part Number: KA-2214ZGS

Green

### Features

- 2.2mm x 1.4mm, 1.3mm high.
- Low power consumption.
- Available on tape and reel.
- Package : 2000pcs / reel.
- Moisture sensitivity level : level 3.
- RoHS compliant.

### Description

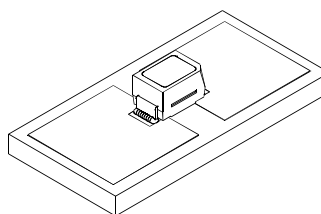
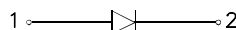
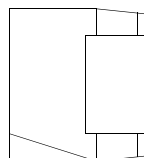
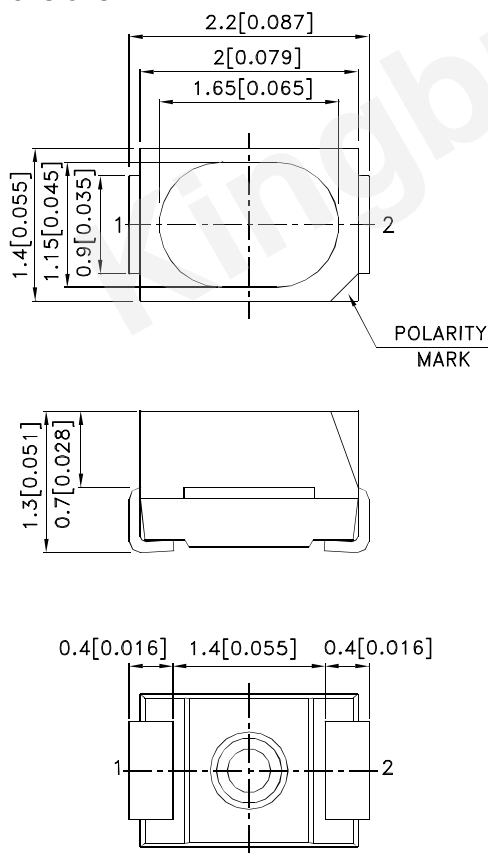
The Green source color devices are made with InGaN on Sapphire Light Emitting Diode.

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  $\pm 0.2(0.008)$  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.

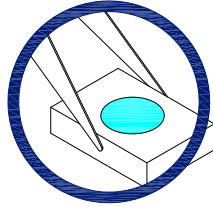


## Handling Precautions

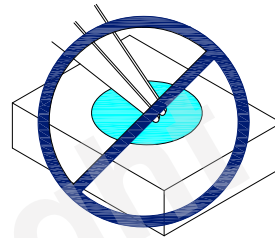
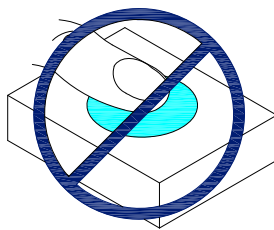
Compare to epoxy encapsulant that is hard and brittle, silicone is softer and flexible. Although its characteristic significantly reduces thermal stress, it is more susceptible to damage by external mechanical force.

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.

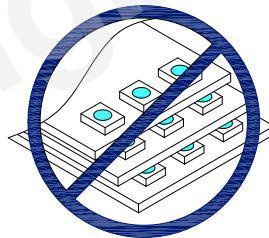
1. Handle the component along the side surfaces by using forceps or appropriate tools.



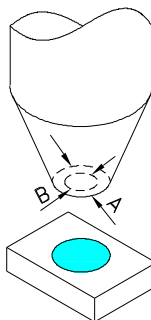
2. Do not directly touch or handle the silicone lens surface. It may damage the internal circuitry.



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



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



5. As silicone encapsulation is permeable to gases, some corrosive substances such as  $H_2S$  might corrode silver plating of leadframe. Special care should be taken if an LED with silicone encapsulation is to be used near such substances.

Detailed application notes are listed on our website.

[http://www.kingbright.com/application\\_notes](http://www.kingbright.com/application_notes)

## Selection Guide

Part No.	Dice	Lens Type	Iv (mcd) [2] @ 20mA		Viewing Angle [1]
			Min.	Typ.	2θ1/2
KA-2214ZGS	Green (InGaN)	Water Clear	400	700	120°

### 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%.
3. 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
λpeak	Peak Wavelength	Green	515		nm	IF=20mA
λD [1]	Dominant Wavelength	Green	525		nm	IF=20mA
Δλ1/2	Spectral Line Half-width	Green	30		nm	IF=20mA
C	Capacitance	Green	45		pF	VF=0V;f=1MHz
VF [2]	Forward Voltage	Green	3.3	4.1	V	IF=20mA
IR	Reverse Current	Green		50	uA	VR=5V

### Notes:

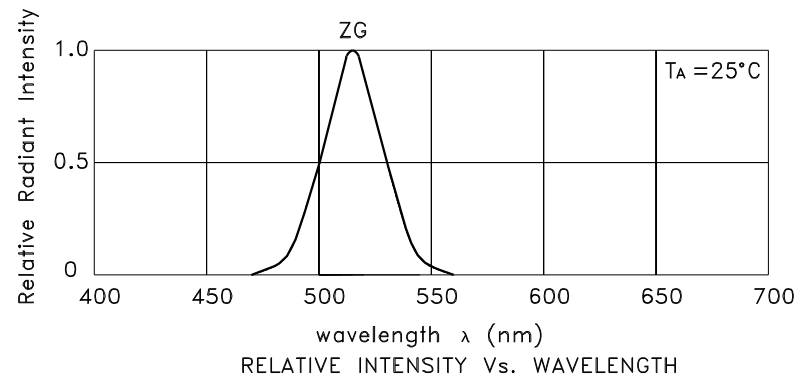
1. Wavelength: +/-1nm.
2. Forward Voltage: +/-0.1V.
3. Wavelength value is traceable to the CIE127-2007 compliant national standards.

## Absolute Maximum Ratings at TA=25°C

Parameter	Green	Units
Power dissipation	102.5	mW
DC Forward Current	25	mA
Peak Forward Current [1]	150	mA
Reverse Voltage	5	V
Operating Temperature	-40°C To +85°C	
Storage Temperature	-40°C To +85°C	

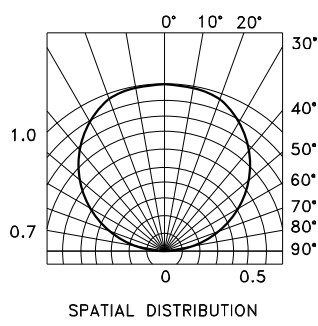
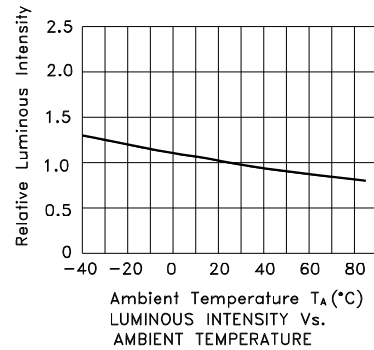
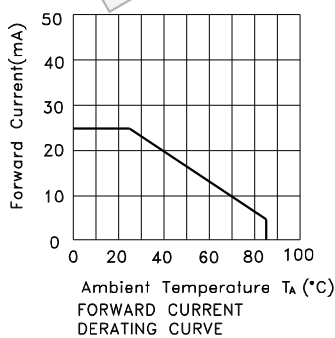
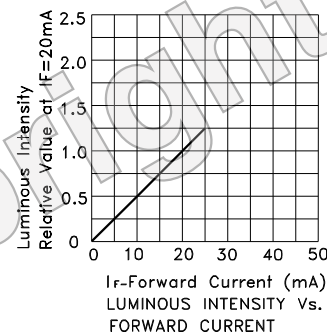
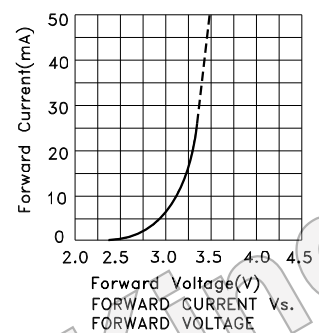
### Note:

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



Green

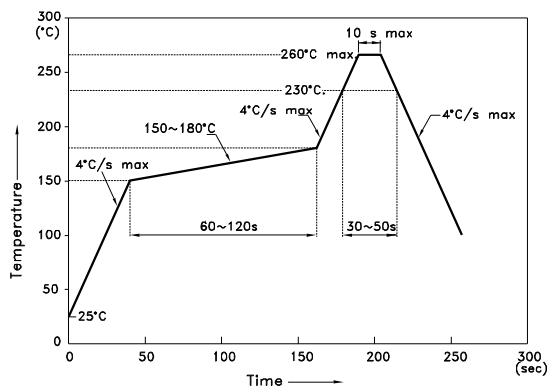
KA-2214ZGS



## KA-2214ZGS

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.

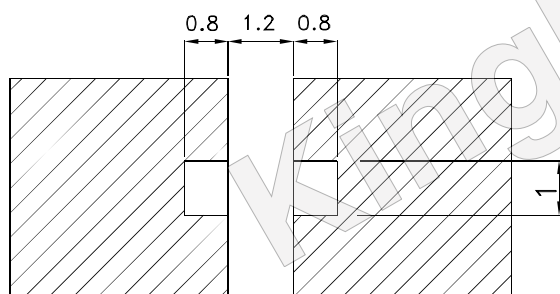
Reflow Soldering Profile For Lead-free SMT Process.



### NOTES:

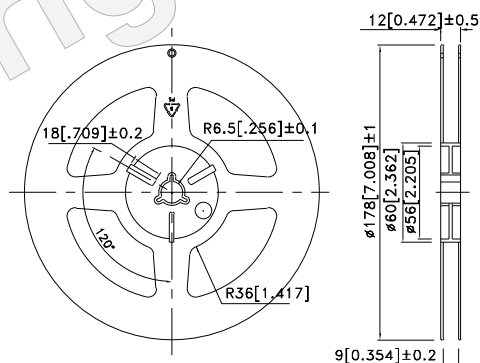
1. We recommend the reflow temperature 245°C(+/-5°C). The maximum soldering temperature should be limited to 260°C.
2. Don't cause stress to the epoxy resin while it is exposed to high temperature.
3. Number of reflow process shall be 2 times or less.

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



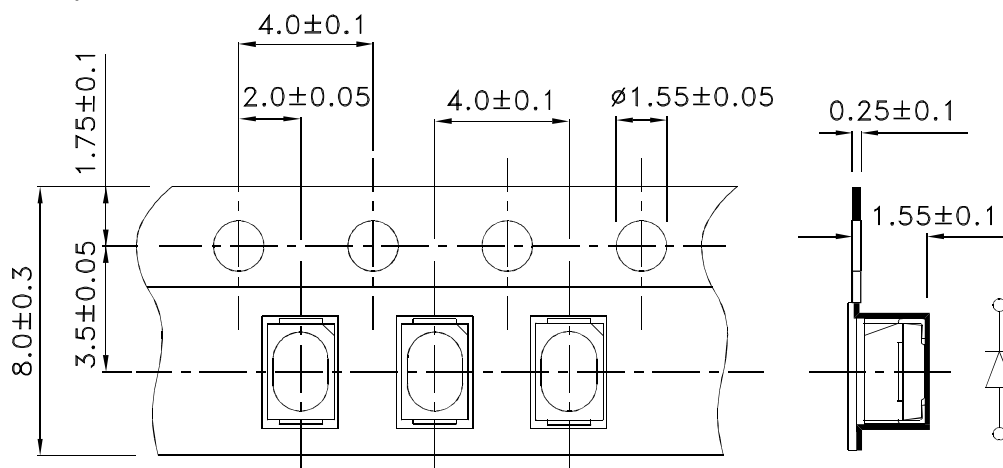
Solder Resist

## Reel Dimension



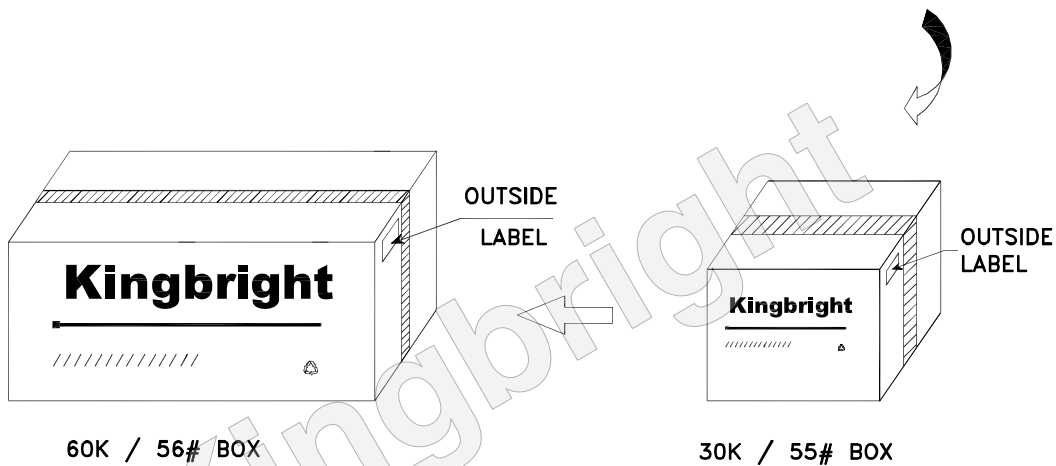
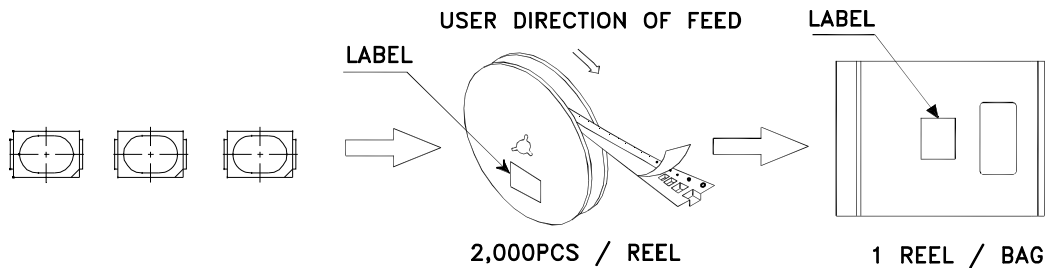
## Tape Dimensions (Units : mm)


### TAPE



PACKING & LABEL SPECIFICATIONS

KA-2214ZGS



<b>Kingbright</b>	
P/NO: KA-2214xxx	
QTY: 2,000 pcs	Q.C.
S/N: XXXX	Q C XX XX XXXX PASSED
CODE: XXX	
LOT NO:	
 xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx	
RoHS Compliant	