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Kingbright
AA2214ZGS

For any questions, you can email us directly:
sales@integrated-circuit.com

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2.2x1.4mm SURFACE MOUNT LED LAMP

Part Number: AA2214ZGS   Green

ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE
SENSITIVE
DEVICES

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.
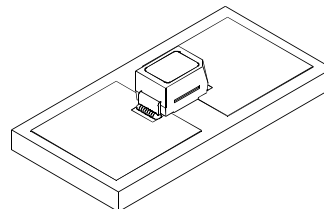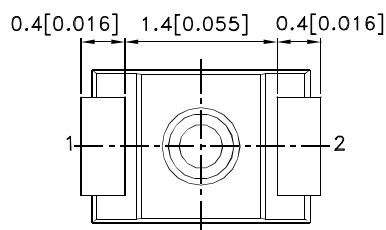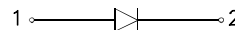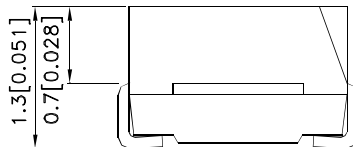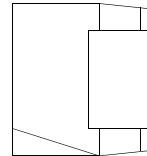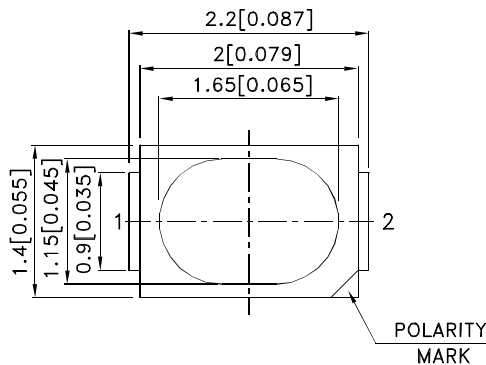- RoHS compliant.

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

POLARITY
MARK

Notes:
1. All dimensions are in millimeters (inches).
2. Tolerance is ±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.

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Handling Precautions

Compare to epoxy encapsulant that is hard and brittle, silicone is softer and flexible. Although its characteristic significantly Orangeuces 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.
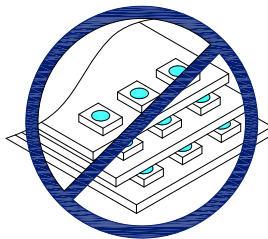
1. Handle the component along the side surfaces by using forceps or appropriate tools.
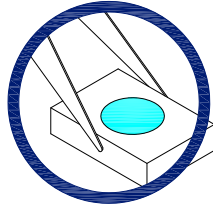

2. Do not directly touch or handle the silicone lens surface. It may damage the internal circuitry.
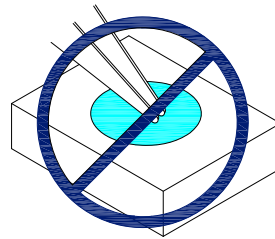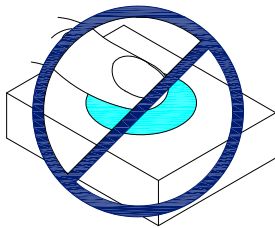
3. Do not stack together assembled PCBs containing exposed LEDs. Impact may scratch the silicone lens or damage the internal circuitry.

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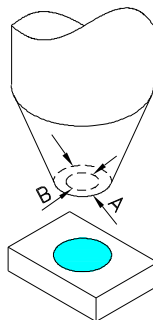
5. As silicone encapsulation is permeable to gases, some corrosive substances such as H_2S might corrode silver plating of leadframe. Special care should be taken if an LED with silicone encapsulation is to be used near such substances.

All design applications should refer to Kingbright application notes available at
http://www.KingbrightUSA.com/ApplicationNotes

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Selection Guide

Part No.	Dice	Lens Type	Iv (mcd) [2] @ 20mA		Viewing Angle [1]
			Min.	Typ.	2θ1/2
AA2214ZGS	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	I_F=20mA
λD [1]	Dominant Wavelength	Green	525		nm	I_F=20mA
Δλ1/2	Spectral Line Half-width	Green	30		nm	I_F=20mA
C	Capacitance	Green	45		pF	V_F=0V;f=1MHz
V_F [2]	Forward Voltage	Green	3.3	4.1	V	I_F=20mA
I_R	Reverse Current	Green		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.
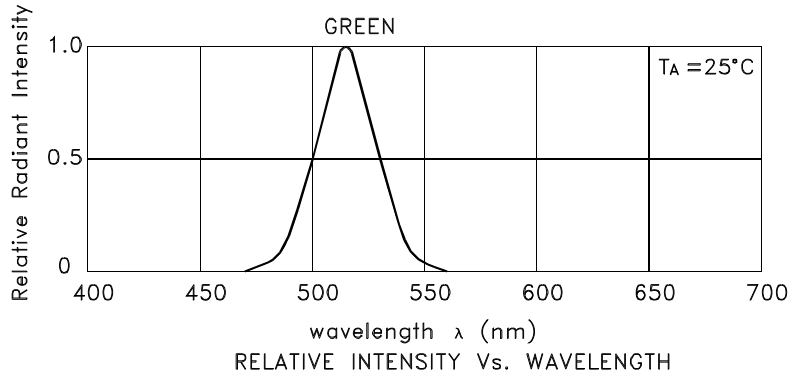
Absolute Maximum Ratings at TA=25°C

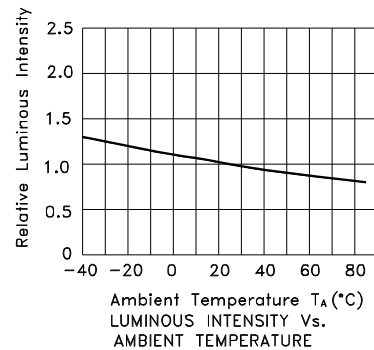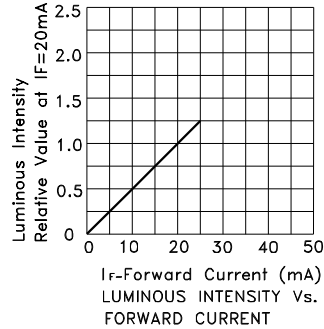| Parameter	Green	Units
Power dissipation	102.5	mW
DC Forward Current	25	mA
Peak Forward Current [1]	150	mA
Reverse Voltage	5	V
Operating Temperature	-40°C To +85°C	
Storage Temperature	-40°C To +85°C	

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

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RELATIVE INTENSITY Vs. WAVELENGTH

Green **AA2214ZGS**

FORWARD CURRENT Vs. FORWARD VOLTAGE

LUMINOUS INTENSITY Vs. FORWARD CURRENT

FORWARD CURRENT DERATING CURVE

LUMINOUS INTENSITY Vs. AMBIENT TEMPERATURE
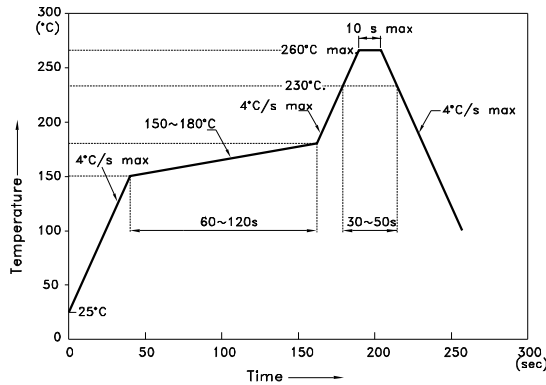

SPATIAL DISTRIBUTION
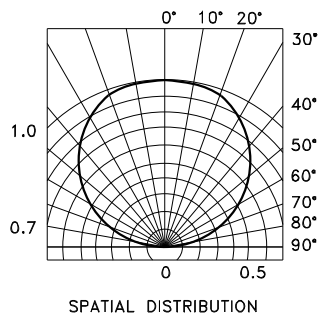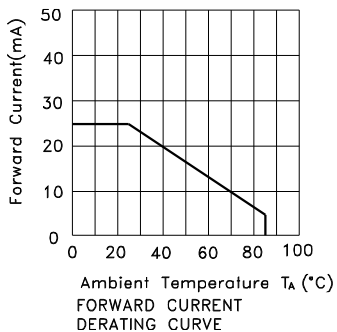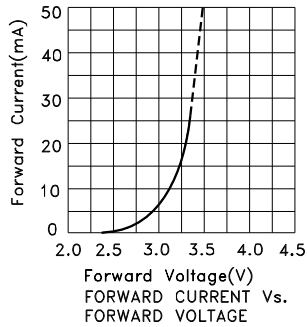
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AA2214ZGS

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.

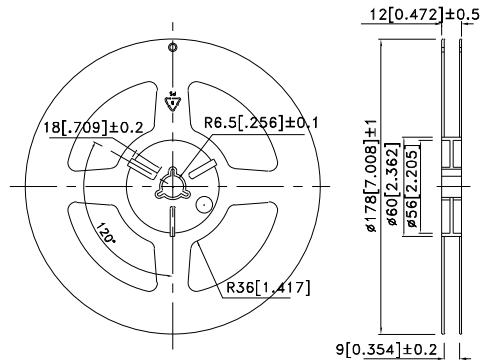Reflow Soldering Profile For Lead—free SMT Process.

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
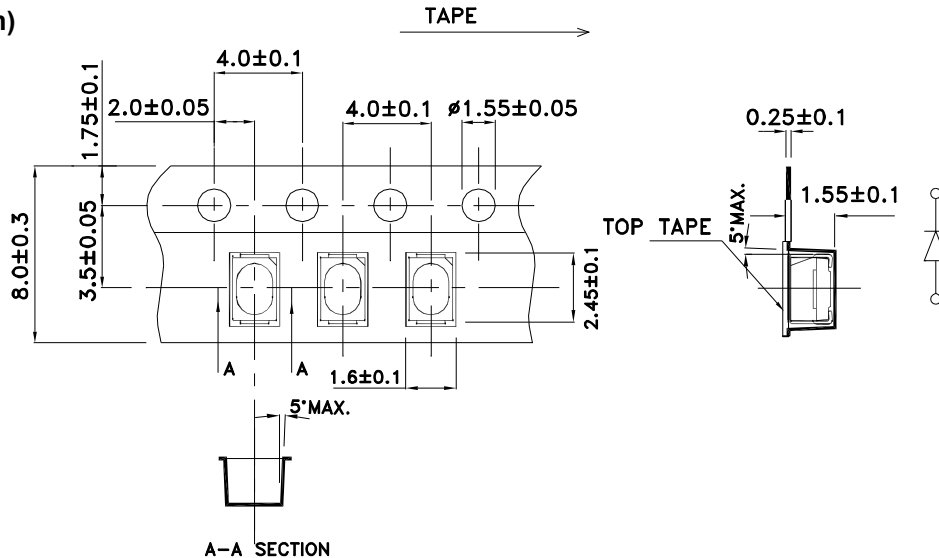**(Units : mm; Tolerance: ± 0.1)**
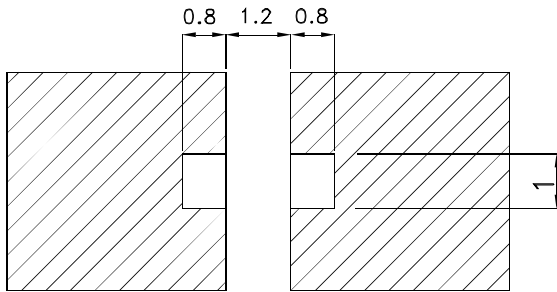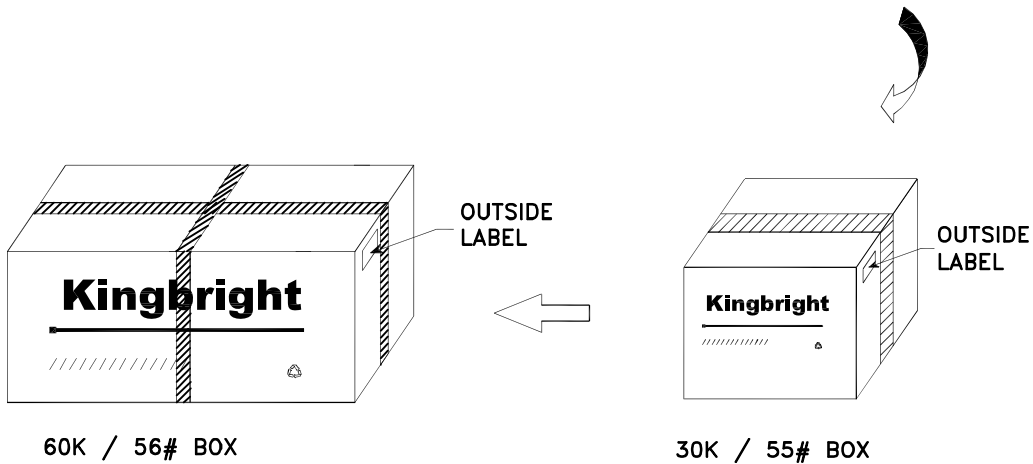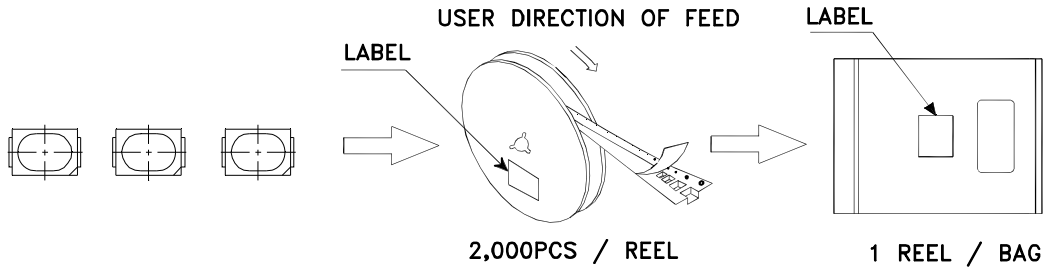
Reel Dimension

Solder Resist

Tape Dimensions
(Units : mm)

A—A SECTION

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PACKING & LABEL SPECIFICATIONS   **AA2214ZGS**

USER DIRECTION OF FEED

LABEL

LABEL

2,000PCS / REEL

1 REEL / BAG

OUTSIDE LABEL

OUTSIDE LABEL

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60K / 56# BOX

30K / 55# BOX

Kingbright

P/NO: AA2214xxx

QTY: 2,000 pcs   Q.C.

S/N: XXXX

CODE: XXX

LOT NO:

Q C
xx xx xxxx
PASSED

xxxxxxxxxxxxxxxxxxxxxxxxx

RoHS Compliant