

Part Number: AA3021SGS

Super Bright Green

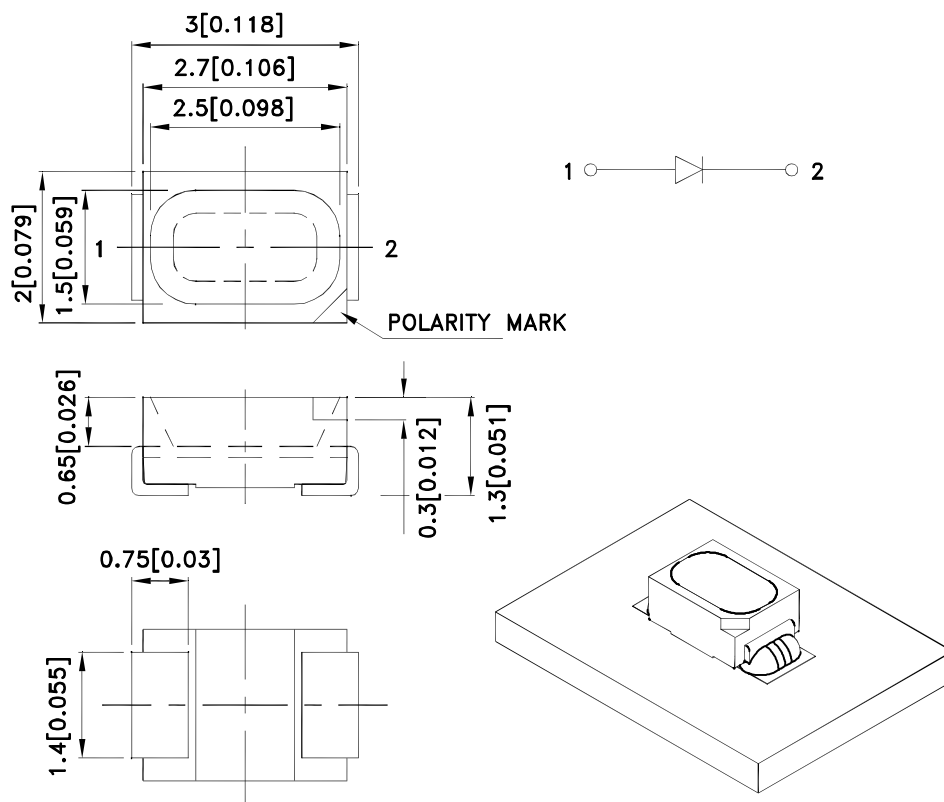
Features

- 3.0mm x 2.0mm, 1.3mm high, only minimum space required.
- Suitable for compact optoelectronic applications.
- Low power consumption.
- Package : 2000pcs / reel.
- Moisture sensitivity level : level 3.
- RoHS compliant.

Description

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

Package Dimensions



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.



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.

Selection Guide

Part No.	Dice	Lens Type	Iv (mcd) [2] @ 20mA		Viewing Angle [1]
			Min.	Typ.	2θ1/2
AA3021SGS	Super Bright Green (GaP)	Water Clear	12	20	125°

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	Super Bright Green	565		nm	IF=20mA
λD [1]	Dominant Wavelength	Super Bright Green	568		nm	IF=20mA
Δλ1/2	Spectral Line Half-width	Super Bright Green	30		nm	IF=20mA
C	Capacitance	Super Bright Green	15		pF	VF=0V;f=1MHz
VF [2]	Forward Voltage	Super Bright Green	2.2	2.5	V	IF=20mA
IR	Reverse Current	Super Bright Green		10	uA	VR=5V

Notes:

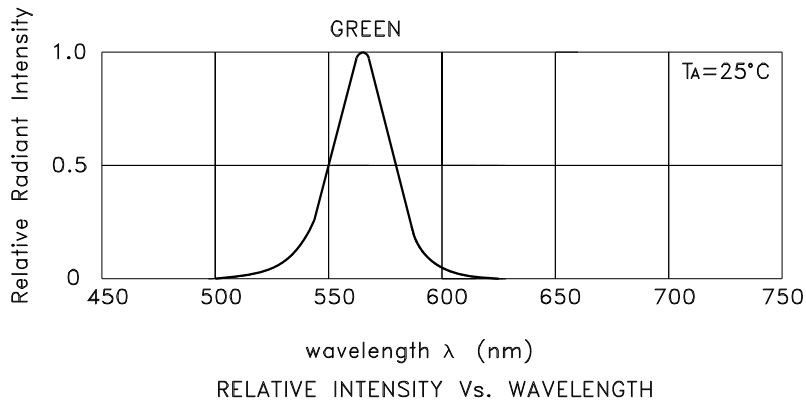
1. Wavelength: +/-1nm.
2. Forward Voltage: +/-0.1V.
3. Wavelength value is traceable to the CIE127-2007 compliant national standards.

Absolute Maximum Ratings at TA=25°C

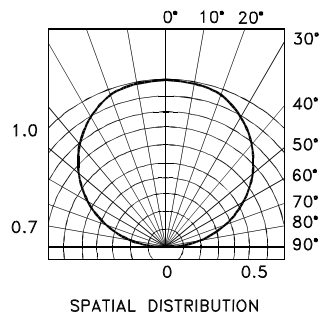
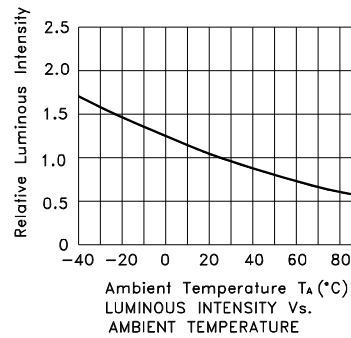
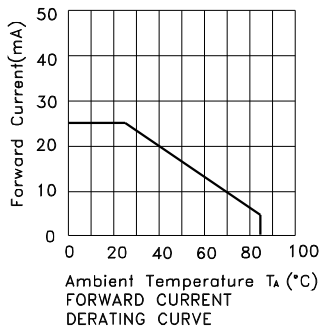
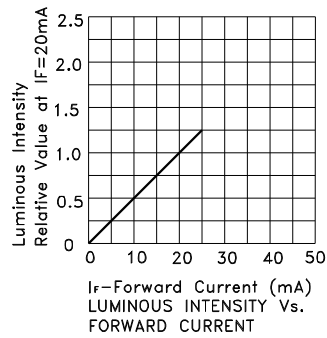
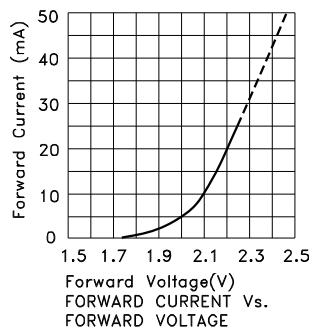
Parameter	Super Bright Green	Units
Power dissipation	62.5	mW
DC Forward Current	25	mA
Peak Forward Current [1]	140	mA
Reverse Voltage	5	V
Operating Temperature	-40°C To +85°C	
Storage Temperature	-40°C To +85°C	

Note:

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



Super Bright Green AA3021SGS



AA3021SGS

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.

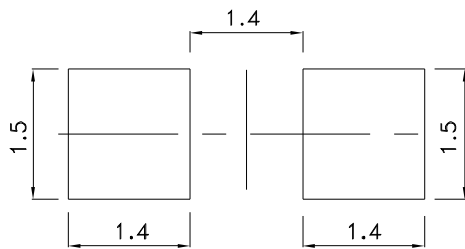
Reflow Soldering Profile For Lead-free SMT Process.



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.

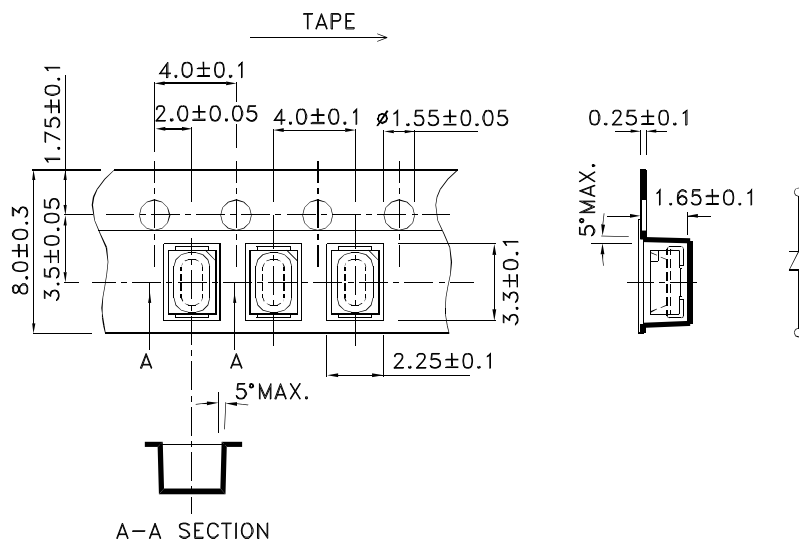
Recommended Soldering Pattern (Units : mm; Tolerance: ± 0.1)



Reel Dimension

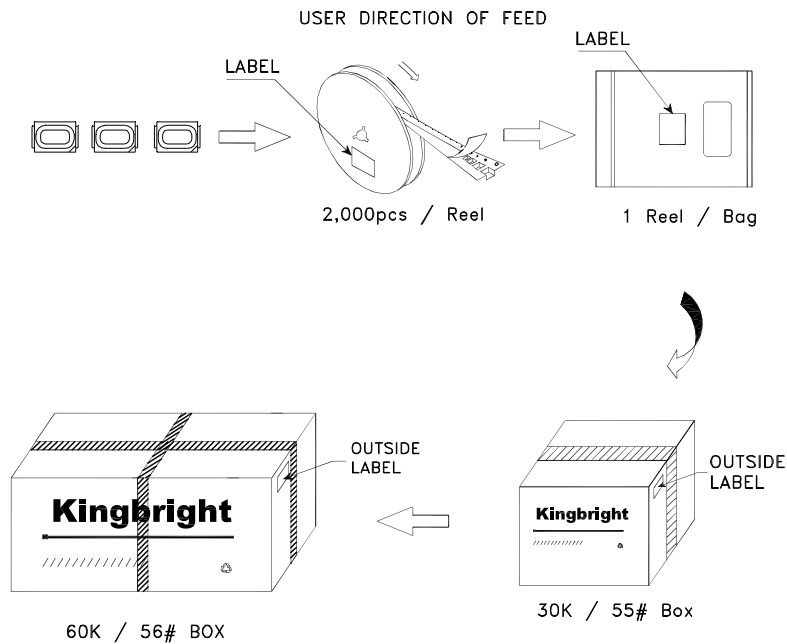



Tape Dimensions (Units : mm)



PACKING & LABEL SPECIFICATIONS

AA3021SGS



Kingbright	
P/NO: AA3021xxx	
QTY: 2,000 pcs	Q.C. Q C XX XX XXXX PASSED
S/N: XXXX	
CODE: XXX	
LOT NO:	
 <small>XXXXXXXXXXXXXXXXXXXX</small>	
RoHS Compliant	

Terms and conditions for the usage of this document

- 1.The information included in this document reflects representative usage scenarios and is intended for technical reference only.
- 2.The part number, type, and specifications mentioned in this document are subject to future change and improvement without notice. Before production usage customer should refer to the latest datasheet for the updated specifications.
- 3.When using the products referenced in this document, please make sure the product is being operated within the environmental and electrical limits specified in the datasheet. If customer usage exceeds the specified limits, Kingbright will not be responsible for any subsequent issues.
- 4.The information in this document applies to typical usage in consumer electronics applications. If customer's application has special reliability requirements or have life-threatening liabilities, such as automotive or medical usage, please consult with Kingbright representative for further assistance.
- 5.The contents and information of this document may not be reproduced or re-transmitted without permission by Kingbright.
- 6.All design applications should refer to Kingbright application notes available at <http://www.KingbrightUSA.com/ApplicationNotes>