

## 3.0x2.0mm SURFACE MOUNT LED LAMP

Part Number: AA3021CGSK Green

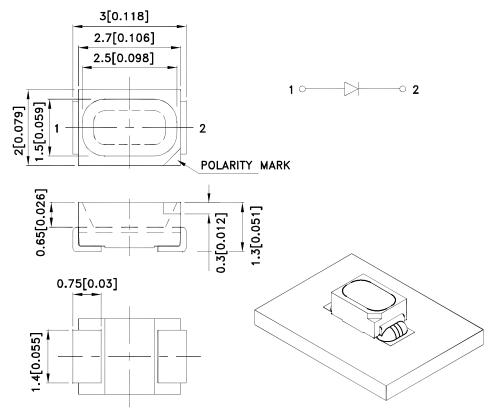
### **Features**

- 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 Green source color devices are made with AlGaInP on GaAs substrate Light Emitting Diode.

# **Package Dimensions**



- 1. All dimensions are in millimeters (inches).
- 2. Tolerance is  $\pm 0.2 (0.008")$  unless otherwise noted.
- The specifications, characteristics and technical data described in the datasheet are subject to change without prior notice.
   The device has a single mounting surface. The device must be mounted according to the specifications.

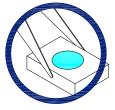
SPEC NO: DSAL0849 **REV NO: V.2** DATE: APR/13/2011 PAGE: 1 OF 6 APPROVED: WYNEC **CHECKED: Allen Liu** DRAWN: J.Yu ERP: 1201006490

## **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.

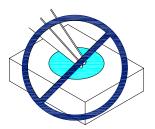
As a result, special handling precautions need to be observed during assembly using silicone encapsulated LED products. Failure to comply might lead to damage and premature failure of the LED.

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.

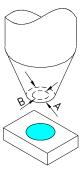




3. Do not stack together assembled PCBs containing exposed LEDs. Impact may scratch the silicone lens or damage the internal circuitry.



- 4.1. The 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.
- 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.

 SPEC NO: DSAL0849
 REV NO: V.2
 DATE: APR/13/2011
 PAGE: 2 OF 6

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## **Selection Guide**

Part No.	Dice	Lens Type	lv (mcd) [2] @ 20mA		Viewing Angle [1]
		,	Min.	Тур.	201/2
AA3021CGSK	Green (AlGaInP)	Water Clear	40	80	125°

- 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	Тур.	Max.	Units	Test Conditions
λpeak	Peak Wavelength	Green	574		nm	IF=20mA
λD [1]	Dominant Wavelength	Green	570		nm	IF=20mA
Δλ1/2	Spectral Line Half-width	Green	20		nm	IF=20mA
С	Capacitance	Green	15		pF	VF=0V;f=1MHz
VF [2]	Forward Voltage	Green	2.1	2.5	V	IF=20mA
lR	Reverse Current	Green		10	uA	V <sub>R</sub> =5V

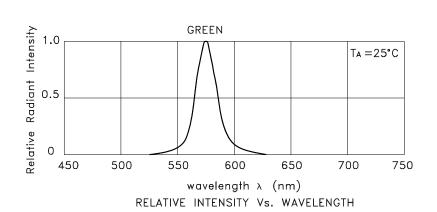
- 1.Wavelength: +/-1nm. 2. Forward Voltage: +/-0.1V.

# Absolute Maximum Ratings at TA=25°C

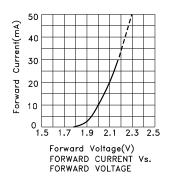
Parameter	Green	Units	
Power dissipation	75	mW	
DC Forward Current	30	mA	
Peak Forward Current [1]	150	mA	
Reverse Voltage	5	V	
Operating Temperature	-40°C To +85°C		
Storage Temperature	-40°C To +85°C		

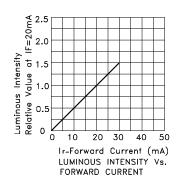
1. 1/10 Duty Cycle, 0.1ms Pulse Width.

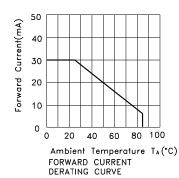
SPEC NO: DSAL0849 **REV NO: V.2** DATE: APR/13/2011 PAGE: 3 OF 6 APPROVED: WYNEC **CHECKED: Allen Liu** DRAWN: J.Yu ERP: 1201006490

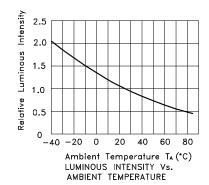


Green AA3021CGSK









0° 10° 20° 40° 50° 60° 70° 80° 90°

SPATIAL DISTRIBUTION

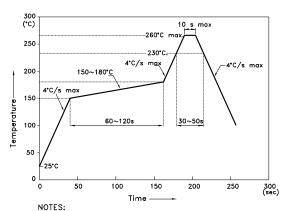
 SPEC NO: DSAL0849
 REV NO: V.2
 DATE: APR/13/2011
 PAGE: 4 OF 6

 APPROVED: WYNEC
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### AA3021CGSK

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.



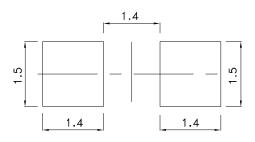
- NOTES:

  1.We recommend the reflow temperature 245°C(+/-5°C). The maximum soldering temperature should be limited to 260°C.

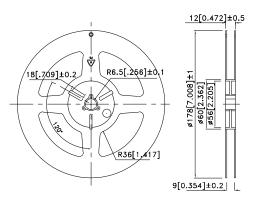
  2.Don't cause stress to the epoxy resin while it is exposed to high temperature.

  3.Number of reflow process shall be 2 times or less.

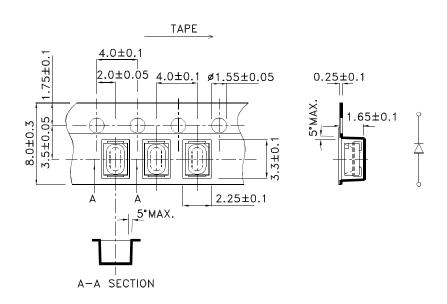
# **Recommended Soldering Pattern** (Units: mm; Tolerance: ± 0.1)



# **Reel Dimension**



**Tape Dimensions** (Units: mm)



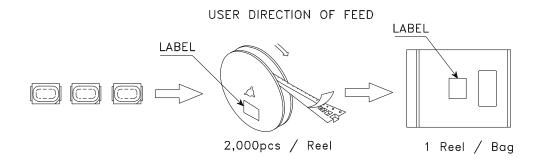
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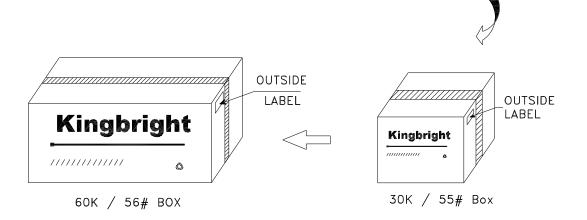
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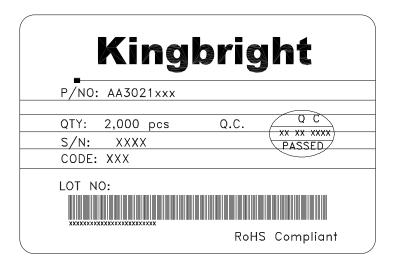
PAGE: 5 OF 6 ERP: 1201006490

**PACKING & LABEL SPECIFICATIONS** 

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SPEC NO: DSAL0849 APPROVED: WYNEC REV NO: V.2 CHECKED: Allen Liu DATE: APR/13/2011 DRAWN: J.Yu PAGE: 6 OF 6 ERP: 1201006490