

PRELIMINARY SPEC

Part Number: AA3021PR4S/Z-W2

Warm White



ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE
SENSITIVE
DEVICES

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 4.
- RoHS compliant.

Description

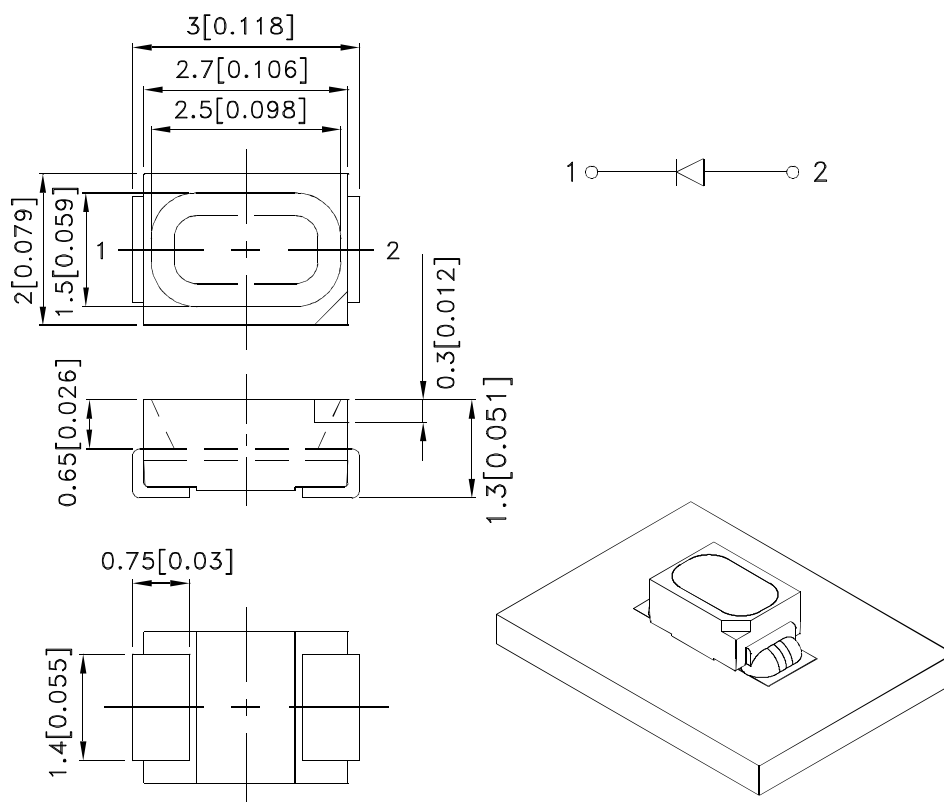
The source color devices are made with InGaN Light Emitting Diode.

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 ± 0.2 (0.008") unless otherwise noted.
3. Specifications are subject to change without notice.
4. The device has a single mounting surface. The device must be mounted according to the specifications.

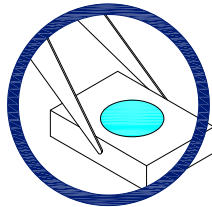


Handling Precautions

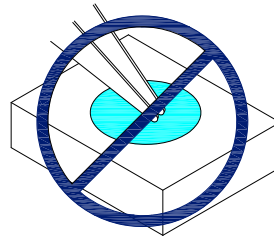
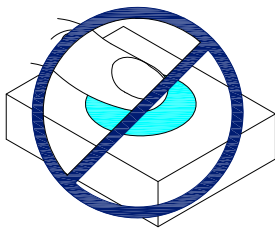
Compare to epoxy encapsulant that is hard and brittle, silicone is softer and flexible. Although its characteristic significantly reduces thermal stress, it is more susceptible to damage by external mechanical force.

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

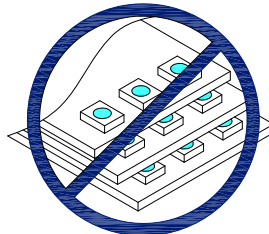
1. Handle the component along the side surfaces by using forceps or appropriate tools.



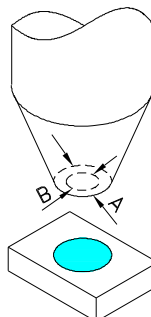
2. Do not directly touch or handle the silicone lens surface. It may damage the internal circuitry.



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
AA3021PR4S/Z-W2	Warm White (InGaN)	WATER CLEAR	480	600	125°

Notes:

1. θ1/2 is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.
2. Luminous intensity/ luminous Flux: +/-15%.

Electrical / Optical Characteristics at TA=25°C

Symbol	Parameter	Device	Min.	Typ.	Max.	Units	Test Conditions
V _F [1]	Forward Voltage	Warm White		3.2	3.7	V	I _F =20mA
CCT	Color Temperature	Warm White	2780	3000	3310	K	I _F =20mA
I _R	Reverse Current	Warm White			10	uA	V _R = 5V
C	Capacitance	Warm White		110		pF	V _F =0V;f=1MHz

Note:

- 1.Forward Voltage: +/-0.1V.

Absolute Maximum Ratings at TA=25°C

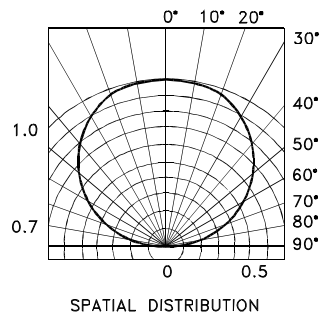
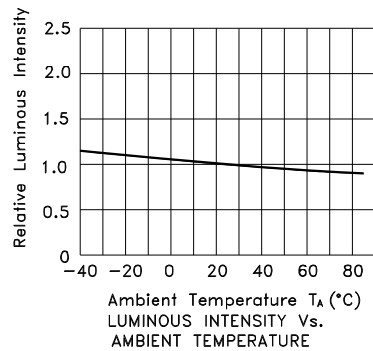
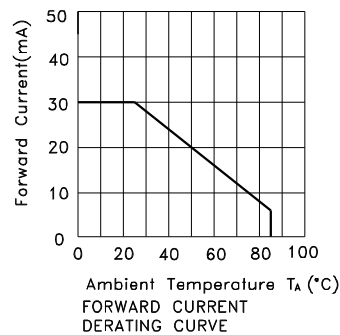
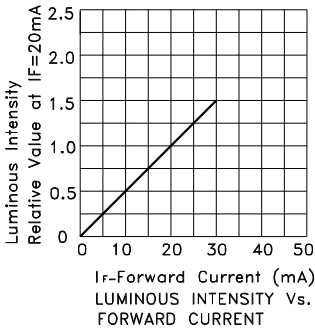
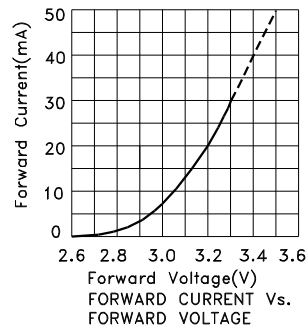
Parameter	Warm White	Units
Power dissipation	111	mW
DC Forward Current	30	mA
Peak Forward Current [1]	100	mA
Reverse Voltage	5	V
Operating Temperature	-40°C To +85°C	
Storage Temperature	-40°C To +85°C	

Note:

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

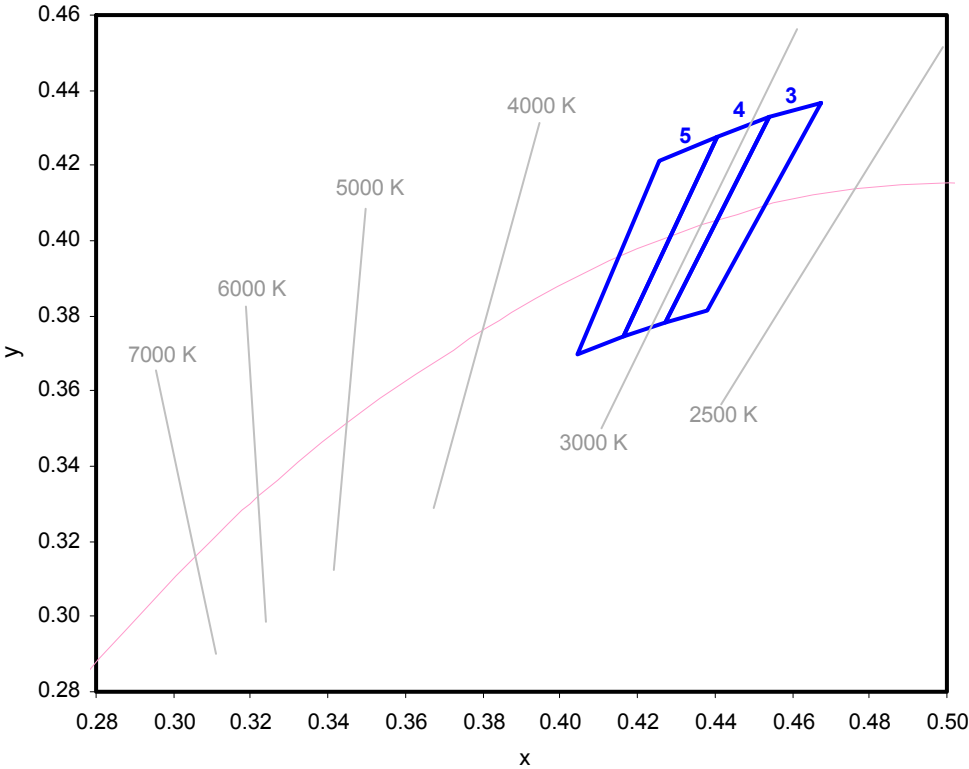
Warm White

AA3021PR4S/Z-W2



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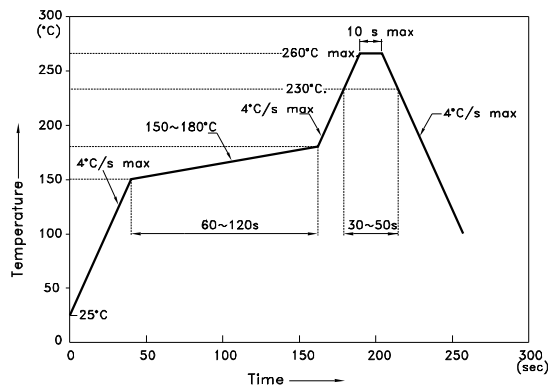
W2 bin code



Bin	x	y
3	0.4674	0.4367
	0.4541	0.4327
	0.4272	0.3783
	0.4379	0.3814
CCT: 2780~2930K		
4	0.4541	0.4327
	0.4405	0.4278
	0.4163	0.3745
	0.4272	0.3783
CCT: 2930~3120K		
5	0.4405	0.4278
	0.4258	0.4214
	0.4047	0.3697
	0.4163	0.3745
CCT: 3120~3310K		

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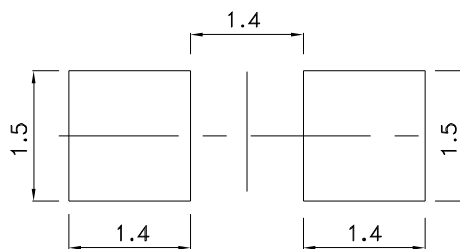
Reflow Soldering Profile For Lead-free SMT Process.



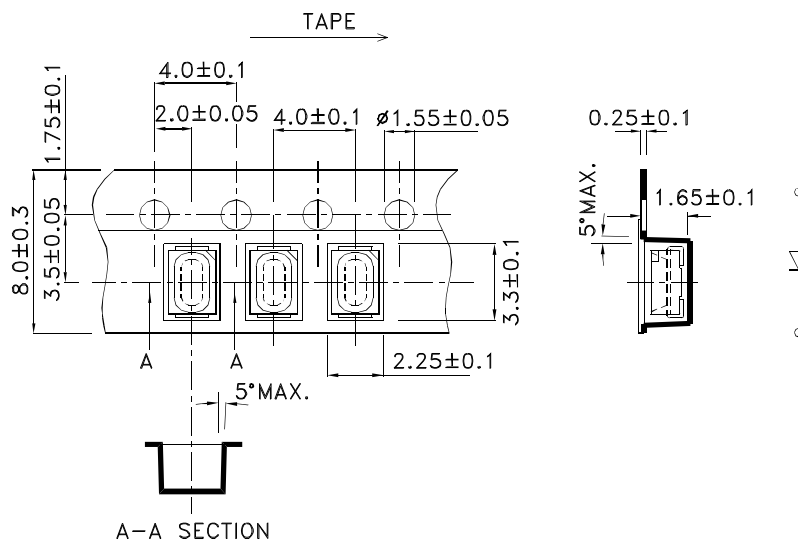
NOTES:

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)

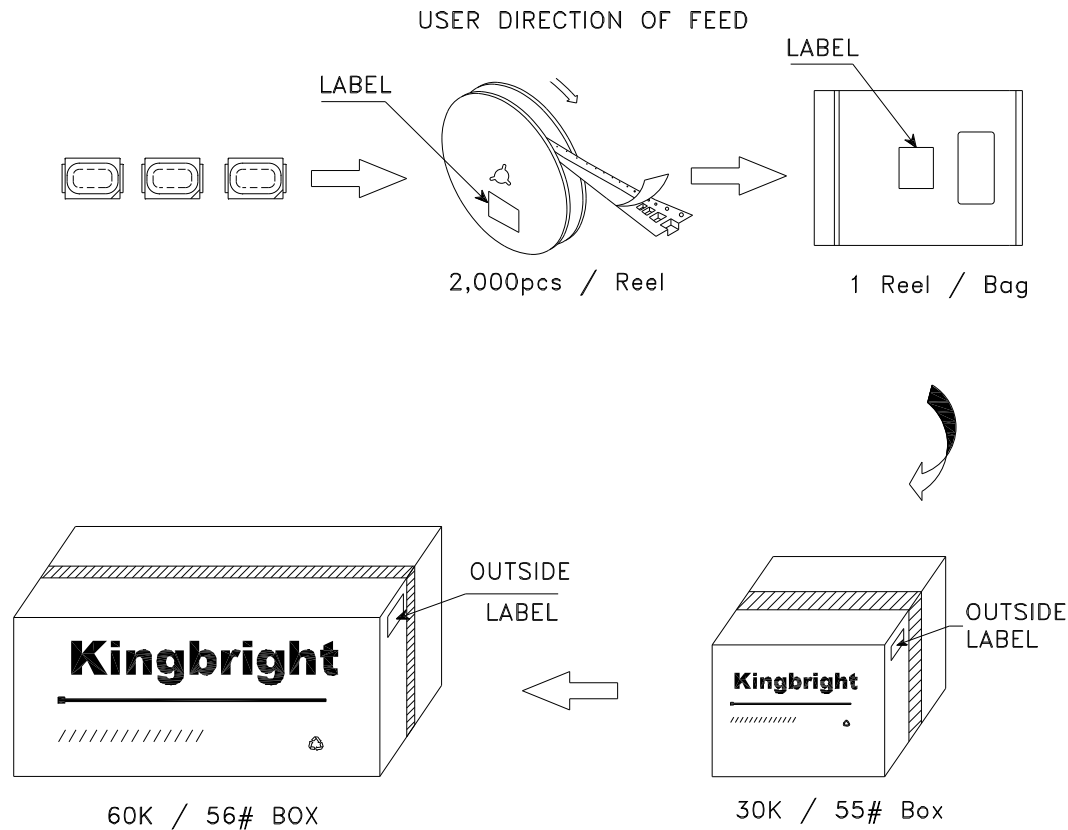



Tape Specifications (Units : mm)



PACKING & LABEL SPECIFICATIONS

AA3021PR4S/Z-W2



Kingbright	
P/NO: AA3021xxx	
QTY: 2,000 pcs	Q.C. <div>Q C xx xx xxxx PASSED</div>
S/N: XXXX	
CODE: XXX	
LOT NO:  xxxxxxxxxxxxxxxxxxxxxxxxxxxx	
RoHS Compliant	