

AA2214VR4D1S

SERIES



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

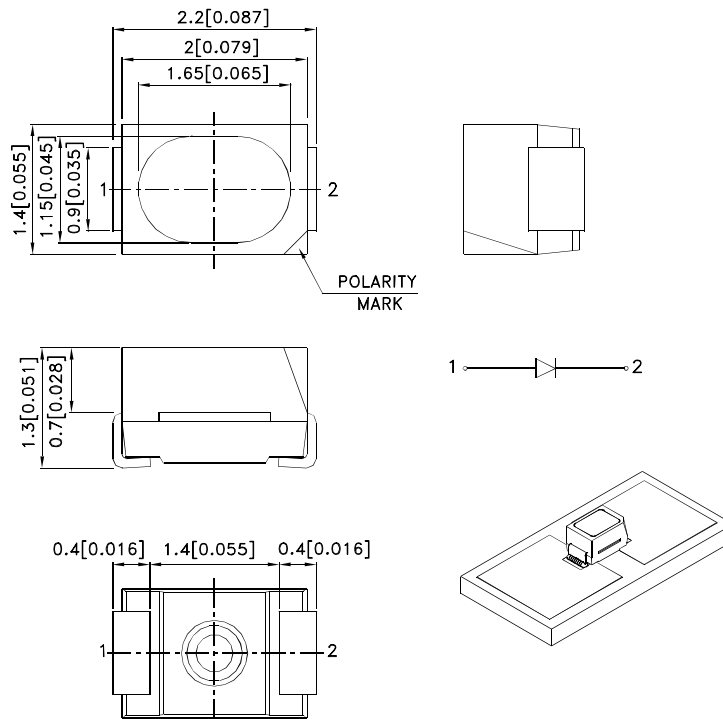
The source color devices are made with InGaN Light Emitting Diode.

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 $\pm 0.2(0.008)$ 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.

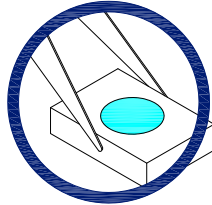


Handling Precautions

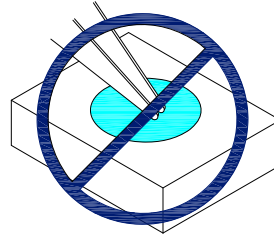
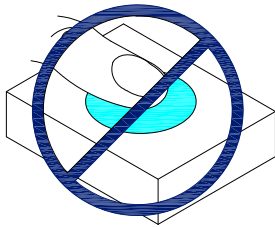
Compare to epoxy encapsulant that is hard and brittle, silicone is softer and flexible. Although its characteristic significantly reduces thermal stress, it is more susceptible to damage by external mechanical force.

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

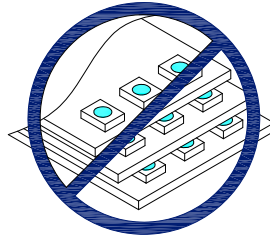
1. Handle the component along the side surfaces by using forceps or appropriate tools.



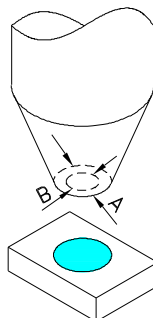
2. Do not directly touch or handle the silicone lens surface. It may damage the internal circuitry.



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

Erp	Part No.	Dice	Lens Type	CCT Range			Iv (mcd) [2] @ 20mA		Viewing Angle [1]
				Min.	Typ.	Max.	Min.	Typ.	2θ1/2
1201005923	AA2214VR4D1S-C1	Cool White	WATER CLEAR	5310K	6000K	7040K	900	1300	120°
1201005921	AA2214VR4D1S-N1	Neutral White	WATER CLEAR	3710K	4000K	4260K	650	1200	120°
1201005922	AA2214VR4D1S-W2	Warm White	WATER CLEAR	2870K	3000K	3220K	650	1100	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%.

Electrical / Optical Characteristics at TA=25°C

Symbol	Parameter	Typ.	Max.	Units	Test Conditions
V _F [1]	Forward Voltage	3.3	4.0	V	I _F =20mA
I _R	Reverse Current		10	μA	V _R = 5V
C	Capacitance	100		pF	V _F =0V;f=1MHz

Note:

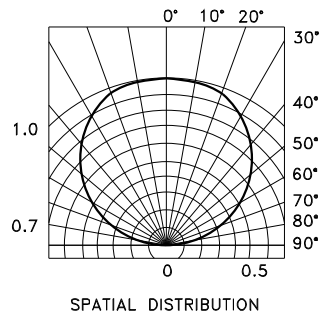
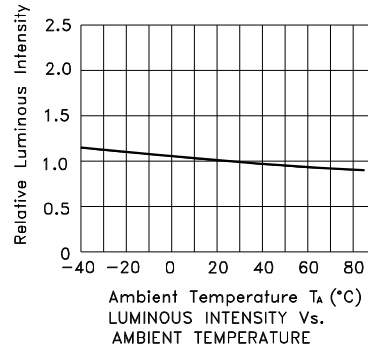
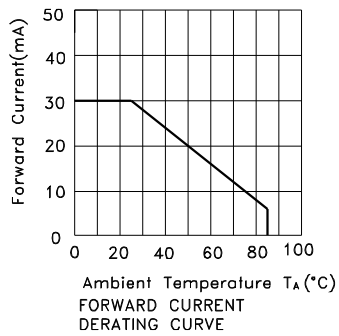
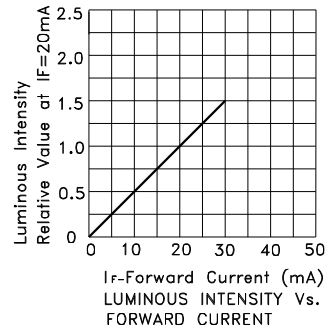
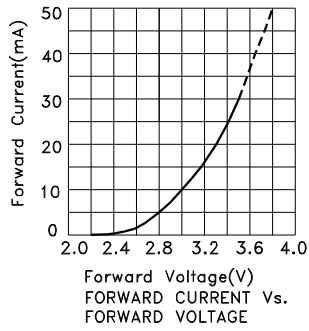
1. Forward Voltage: +/-0.1V.

Absolute Maximum Ratings at TA=25°C

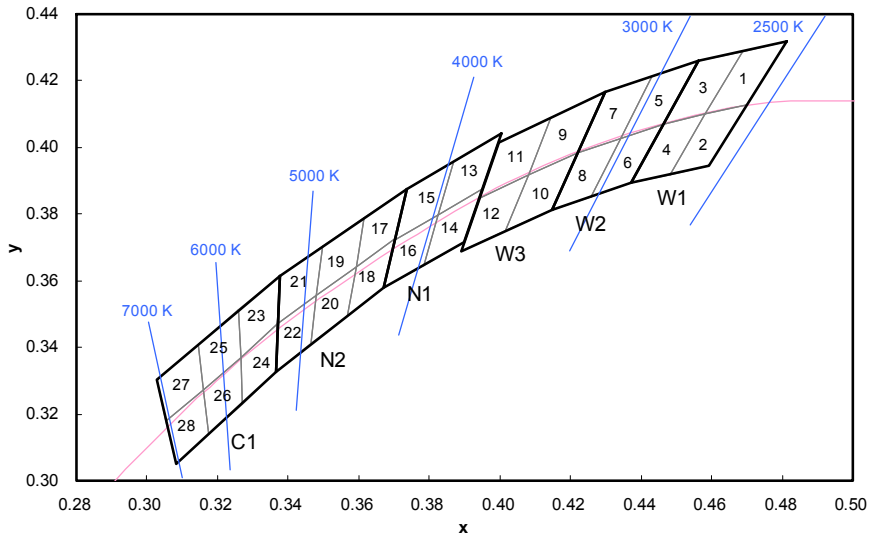
Parameter	Cool White / Neutral White / Warm White	Units
Power dissipation	120	mW
DC Forward Current	30	mA
Peak Forward Current [1]	100	mA
Reverse Voltage	5	V
Operating Temperature	-40°C To +85°C	
Storage Temperature	-40°C To +85°C	

Note:

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



CCT 2500-7000 K Bin Code



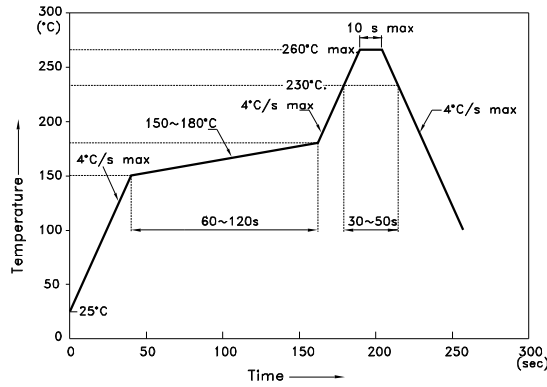
Color	Group	Chromaticity Regions	CCT (K)		
			Min.	Typ.	Max.
Warm White	W1	1, 2, 3, 4	2580	2700	2870
	W2	5, 6, 7, 8	2870	3000	3220
	W3	9, 10, 11, 12	3220	3500	3710
Neutral White	N1	13, 14, 15, 16	3710	4000	4260
	N2	17, 18, 19, 20, 21, 22	4260	4700	5310
Cool White	C1	23, 24, 25, 26, 27, 28	5310	6000	7040

Notes:
 Shipment may contain more than one chromaticity regions. Orders for single chromaticity region are generally not accepted.
 Measurement tolerance of the chromaticity coordinates is ± 0.01 .

	x	y		x	y		x	y		x	y
1	0.4582	0.4099	8	0.4147	0.3814	15	0.3702	0.3722	22	0.3481	0.3557
	0.4687	0.4289		0.4221	0.3984		0.3736	0.3874		0.3370	0.3472
	0.4813	0.4319		0.4342	0.4028		0.3869	0.3958		0.3364	0.3328
	0.4700	0.4126		0.4259	0.3853		0.3825	0.3798		0.3466	0.3411
2	0.4483	0.3919	9	0.4080	0.3916	16	0.3670	0.3578	23	0.3376	0.3616
	0.4582	0.4099		0.4146	0.4089		0.3702	0.3722		0.3260	0.3512
	0.4700	0.4126		0.4299	0.4165		0.3825	0.3798		0.3265	0.3371
3	0.4593	0.3944	10	0.4221	0.3984	17	0.3783	0.3646	24	0.3370	0.3472
	0.4465	0.4071		0.4017	0.3751		0.3736	0.3874		0.3265	0.3371
	0.4562	0.4260		0.4080	0.3916		0.3616	0.3788		0.3270	0.3230
	0.4687	0.4289		0.4221	0.3984		0.3592	0.3641		0.3364	0.3328
4	0.4582	0.4099	11	0.4147	0.3814	18	0.3703	0.3726	25	0.3260	0.3512
	0.4483	0.3919		0.3941	0.3848		0.3703	0.3726		0.3144	0.3408
	0.4465	0.4071		0.3996	0.4015		0.3592	0.3641		0.3160	0.3274
	0.4582	0.4099		0.4146	0.4089		0.3568	0.3495		0.3265	0.3371
5	0.4483	0.3919	12	0.4080	0.3916	19	0.3670	0.3578	26	0.3265	0.3371
	0.4342	0.4028		0.3889	0.3690		0.3616	0.3788		0.3160	0.3274
	0.4430	0.4212		0.3941	0.3848		0.3496	0.3702		0.3175	0.3139
	0.4562	0.4260		0.4080	0.3916		0.3481	0.3557		0.3270	0.3230
6	0.4465	0.4071	13	0.4017	0.3751	20	0.3592	0.3641	27	0.3144	0.3408
	0.4259	0.3853		0.3825	0.3798		0.3481	0.3557		0.3028	0.3304
	0.4342	0.4028		0.3869	0.3958		0.3466	0.3411		0.3055	0.3177
	0.4465	0.4071		0.4006	0.4044		0.3466	0.3411		0.3160	0.3274
7	0.4373	0.3893	14	0.3950	0.3875	21	0.3568	0.3495	28	0.3160	0.3274
	0.4373	0.3893		0.3783	0.3646		0.3496	0.3702		0.3055	0.3177
	0.4221	0.3984		0.3825	0.3798		0.3376	0.3616		0.3081	0.3049
	0.4299	0.4165		0.3825	0.3798		0.3370	0.3472		0.3175	0.3139
	0.4430	0.4212		0.3950	0.3875		0.3370	0.3472			
	0.4342	0.4028		0.3898	0.3716		0.3481	0.3557			

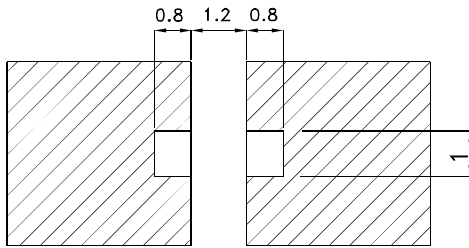
Reflow soldering is recommended and the soldering profile is shown below.
Other soldering methods are not recommended as they might cause damage to the product.

Reflow Soldering Profile For Lead-free SMT Process.



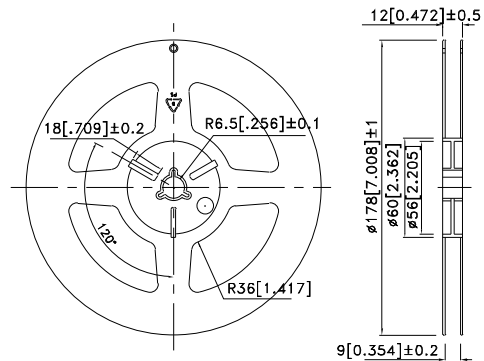
- NOTES:
1. We recommend the reflow temperature 245°C (+/-5°C). The maximum soldering temperature should be limited to 260°C.
 2. Don't cause stress to the epoxy resin while it is exposed to high temperature.
 3. Number of reflow process shall be 2 times or less.

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

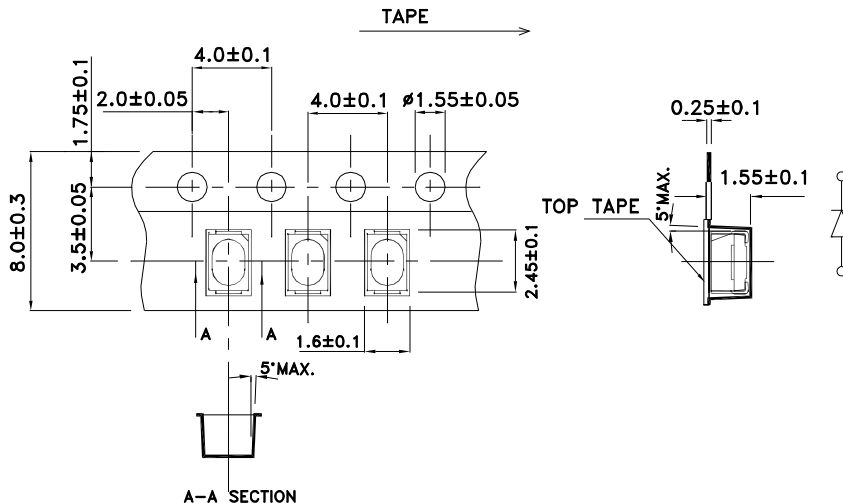


▨ Solder Resist

Reel Dimension



Tape Dimensions (Units : mm)

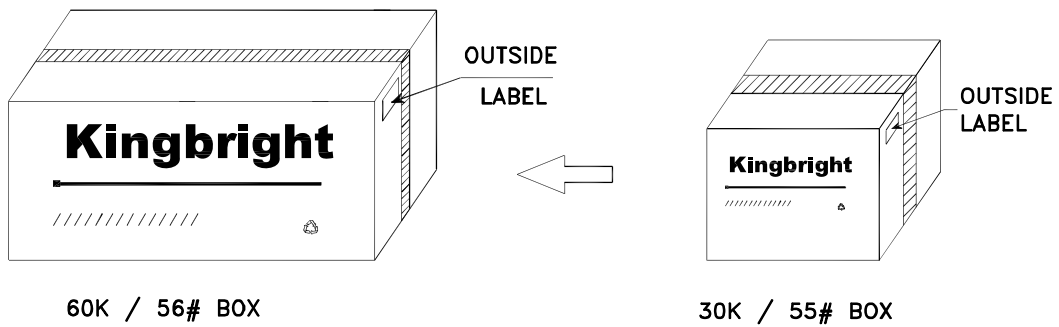
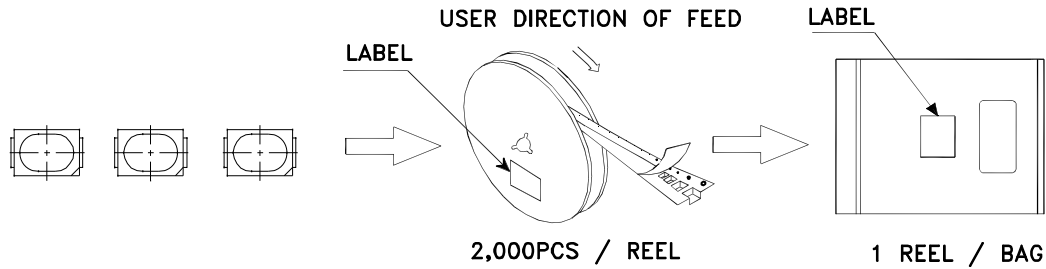


Kingbright

PACKING & LABEL SPECIFICATIONS

AA2214VR4D1S

SERIES



<h2 style="margin: 0;">Kingbright</h2>	
P/NO: AA2214xxx	
QTY: 2,000 pcs	Q.C. Q C XX XX XXXX PASSED
S/N: XXXX	
CODE: XXX	
LOT NO:	
RoHS Compliant	