



**ATTENTION**  
OBSERVE PRECAUTIONS  
FOR HANDLING  
ELECTROSTATIC  
DISCHARGE  
SENSITIVE  
DEVICES

### Features

- Single color.
- Suitable for all SMT assembly and solder process.
- Available on tape and reel.
- Ideal for backlighting.
- Package : 2000pcs / reel.
- Moisture sensitivity level : level 3.
- RoHS compliant.

### Description

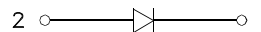
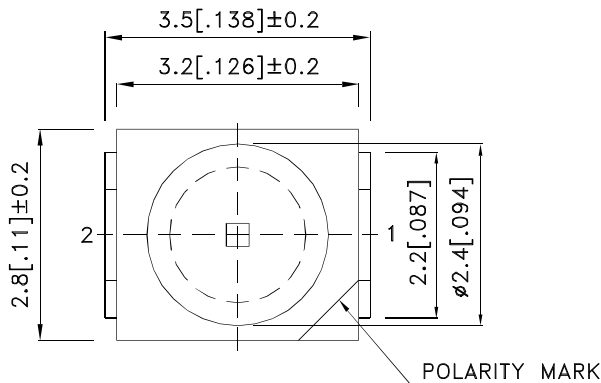
The source color devices are made with InGaN Light Emitting Diode.

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 ±0.25(0.01") 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

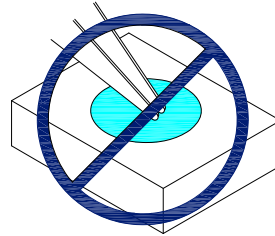
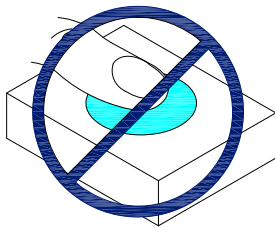
Compare to epoxy encapsulant that is hard and brittle, silicone is softer and flexible. Although its characteristic significantly reduces thermal stress, it is more susceptible to damage by external mechanical force.

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.

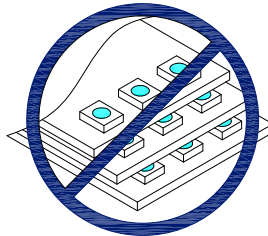
1. Handle the component along the side surfaces by using forceps or appropriate tools.



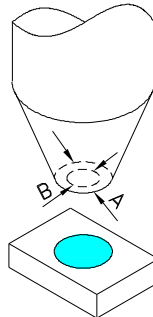
2. Do not directly touch or handle the silicone lens surface. It may damage the internal circuitry.



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<sub>2</sub>S 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>

## Selection Guide

Part No.	Dice	Lens Type	Iv (mcd) [2] @ 20mA		Viewing Angle [1]
			Min.	Typ.	2θ1/2
AA3528VRVFS/A	Violet (InGaN)	Water Clear	120	250	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
V <sub>F</sub> [1]	Forward Voltage	Violet	3.3	4.0	V	I <sub>F</sub> =20mA
I <sub>R</sub>	Reverse Current	Violet		50	uA	V <sub>R</sub> = 5V
x [2]	Chromaticity Coordinates	Violet	0.19			
y [2]			0.05			
C	Capacitance	Violet	100		pF	V <sub>F</sub> =0V;f=1MHz

Notes:

1. Forward Voltage: +/-0.1V.
2. Measurement tolerance of the chromaticity coordinates is ±0.01.

## Absolute Maximum Ratings at TA=25°C

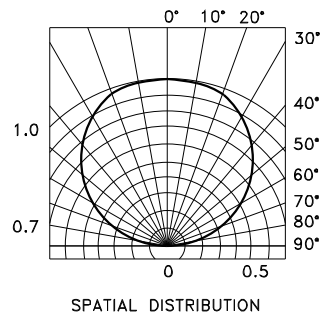
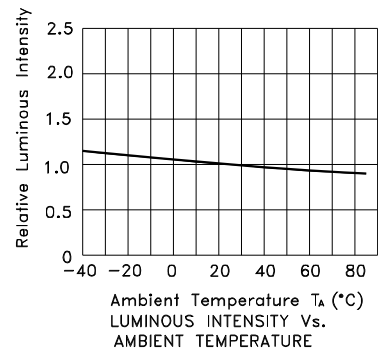
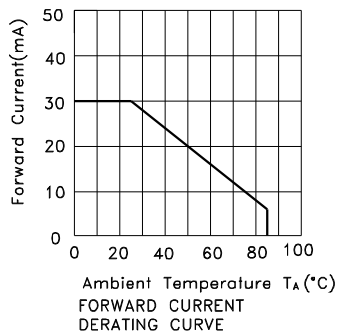
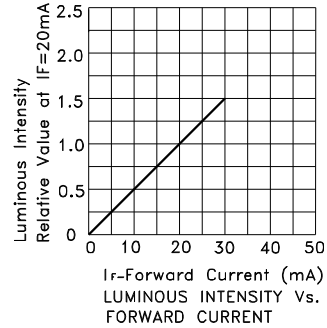
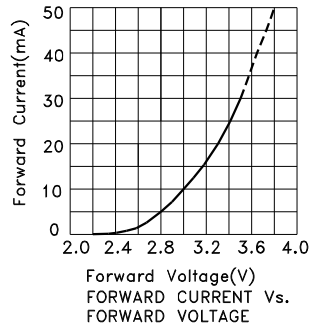
Parameter	Violet	Units
Power dissipation	120	mW
DC Forward Current	30	mA
Peak Forward Current [1]	100	mA
Reverse Voltage	5	V
Operating Temperature	-40°C To +85°C	
Storage Temperature	-40°C To +85°C	

Note:

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

Violet

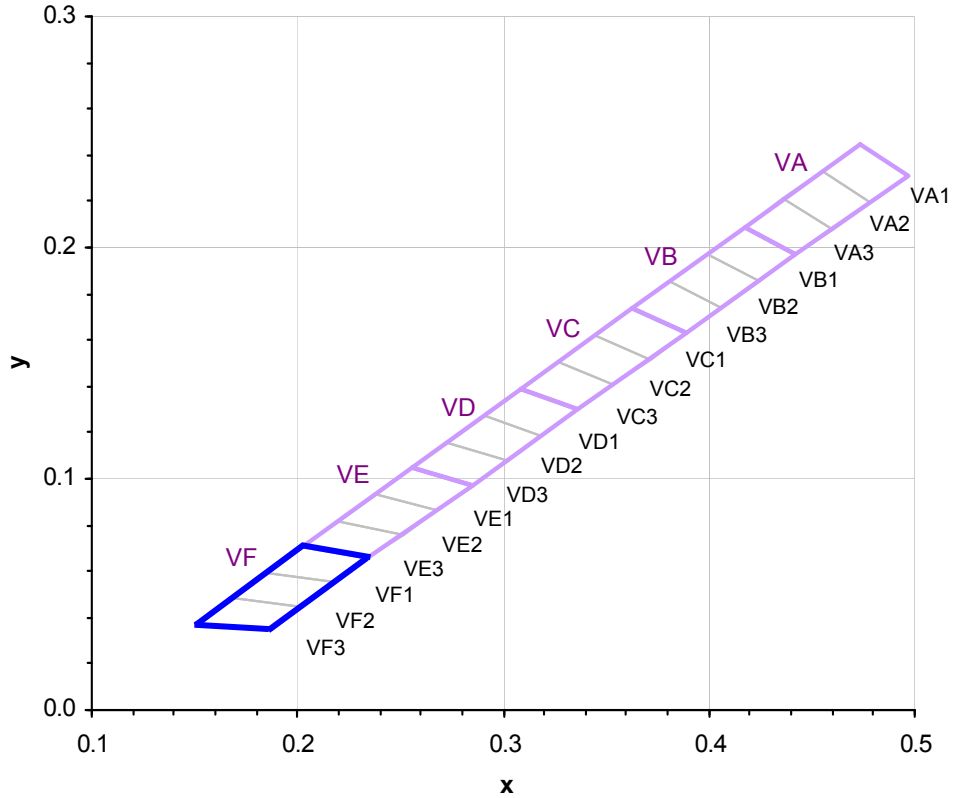
AA3528VRVFS/A



Violet

AA3528VRVFS/A

## Violet CIE



	x	y		x	y		x	y
VA1	0.4735	0.2451	VC1	0.3629	0.1737	VE1	0.2556	0.1044
	0.4548	0.2330		0.3448	0.1620		0.2380	0.0931
	0.4783	0.2194		0.3713	0.1518		0.2682	0.0867
VA2	0.4964	0.2309	VC2	0.3888	0.1629	VE2	0.2850	0.0973
	0.4548	0.2330		0.3448	0.1620		0.2380	0.0931
	0.4363	0.2211		0.3267	0.1504		0.2205	0.0818
VA3	0.4602	0.2080	VC3	0.3538	0.1408	VE3	0.2514	0.0761
	0.4783	0.2194		0.3713	0.1518		0.2682	0.0867
	0.4363	0.2211		0.3267	0.1504		0.2205	0.0818
VB1	0.4178	0.2091	VD1	0.3088	0.1388	VF1	0.2030	0.0705
	0.4422	0.1966		0.3364	0.1298		0.1857	0.0593
	0.4243	0.1853		0.3192	0.1189		0.2182	0.0551
VB2	0.4422	0.1966	VD2	0.3364	0.1298	VF2	0.2347	0.0656
	0.3994	0.1973		0.2910	0.1273		0.1857	0.0593
	0.3811	0.1855		0.2732	0.1158		0.1683	0.0481
VB3	0.4065	0.1741	VD3	0.3021	0.1081	VF3	0.2018	0.0448
	0.4243	0.1853		0.3192	0.1189		0.2182	0.0551
	0.3811	0.1855		0.2732	0.1158		0.1683	0.0481
	0.3629	0.1737		0.2556	0.1044		0.1510	0.0369
	0.3888	0.1629		0.2850	0.0973		0.1856	0.0345
	0.4065	0.1741		0.3021	0.1081		0.2018	0.0448

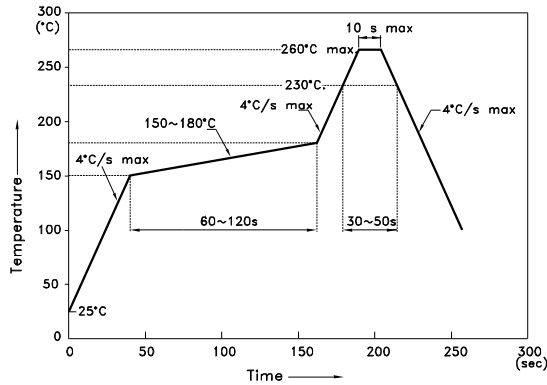
**Notes:**

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

## AA3528VRVFS/A

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.

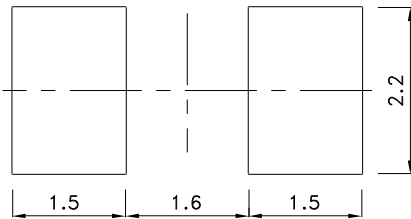
Reflow Soldering Profile For Lead-free SMT Process.



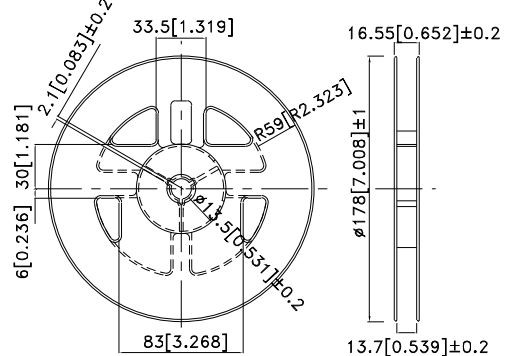
NOTES:

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.

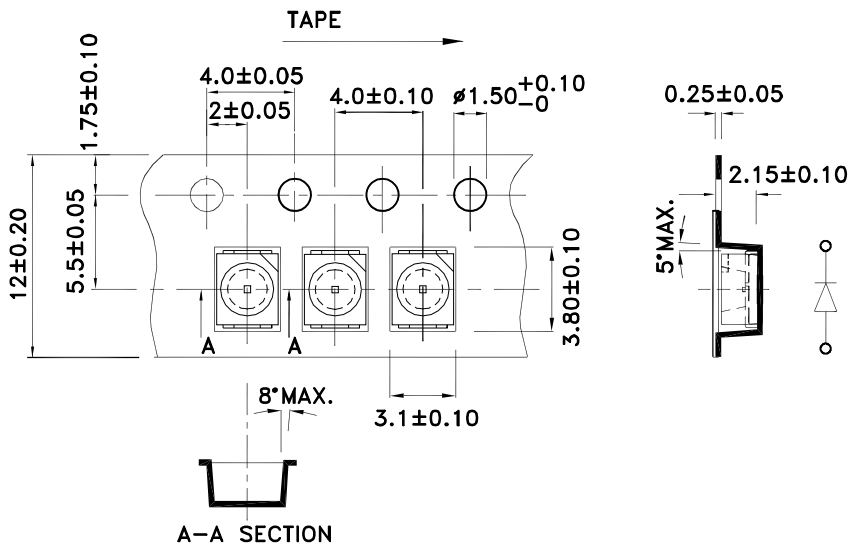
### Recommended Soldering Pattern (Units : mm; Tolerance: ± 0.1)



### Reel Dimension



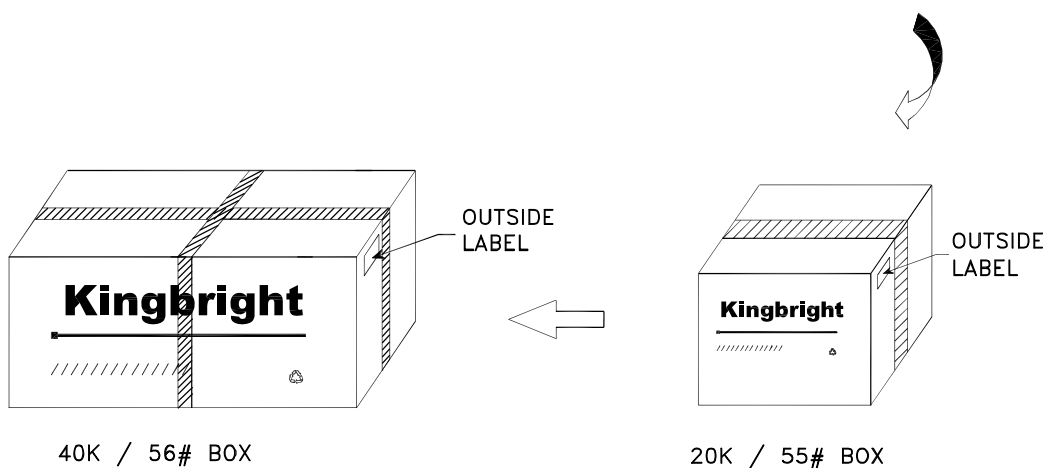
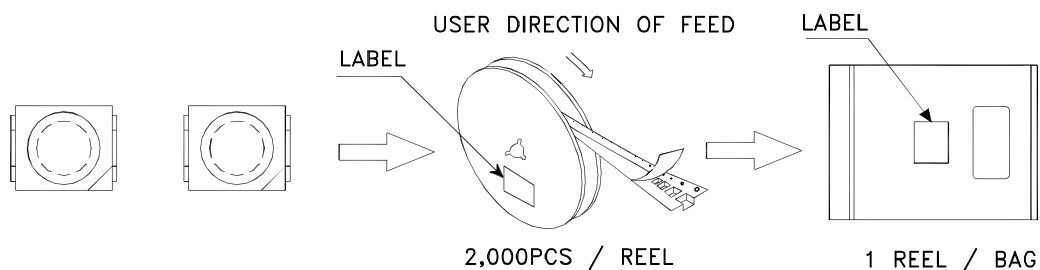
### Tape Dimensions (Units : mm)




# Kingbright

## PACKING & LABEL SPECIFICATIONS

AA3528VRVFS/A



<h1>Kingbright</h1>	
P/NO: AA3528xxx	
QTY: 2,000 pcs	Q.C. <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">Q C XX XX XXXX PASSED</span>
S/N: XXXX	
CODE: XXX	
LOT NO:	
 <small>XXXXXXXXXXXXXXXXXXXXXXXXXXXX</small>	
RoHS Compliant	

## Данный компонент на территории Российской Федерации

### Вы можете приобрести в компании MosChip.

Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

<http://moschip.ru/get-element>

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

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