

Green Products

# 1.5KE SERIES TRANSIENT VOLTAGE SUPPRESSOR

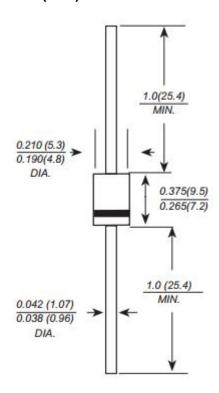
#### Features:

- Glass Passivated Die Construction
- 1500W Peak Pulse Power Dissipation
- 6.8V- 440V Standoff Voltage
- Uni- and Bi-Directional Versions Available
- Excellent Clamping Capability
- Fast Response Time
- Plastic Case Material has UL Flammability Classification Rating 94V-O
- This is a Pb Free Device
- All SMC Parts are Traceable to the Wafer Lot
- Additional testing can be offered upon request

#### **Mechanical Data:**

- Case: JEDEC DO-201AD Low Profile Molded Plastic
- Terminals: Axial Leads, Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band or Cathode Notch
- Weight: 1.10 grams(approx.)

## Mechanical Dimensions: In Inches (mm)



**DO-201AD** 

- China Germany Korea Singapore United States
  - http://www.smc-diodes.com
     sales@ smc-diodes.com



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### **Marking Diagram**



1.5KE6.8

1.5KE6.8/1.5KE6.8C = Part Name



1.5KE6.8C

Note: Starting from the 16XXX will not mark date code.

Cautions: Molding resin

Epoxy resin UL:94V-0

# **Ordering Information**

Device	Package	Shipping
1.5KE SERIES	DO-201AD	1250naa / Tana
	(Pb-Free)	1250pcs / Tape

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification.

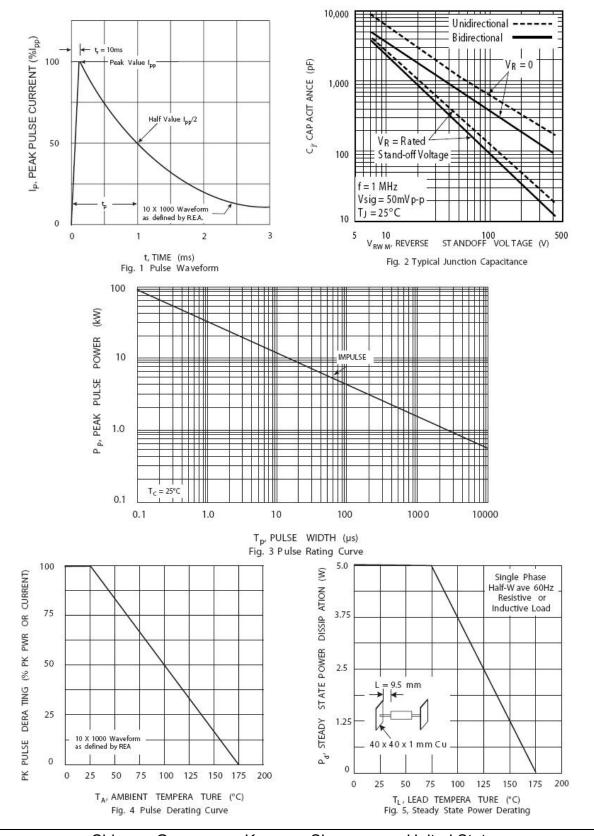
# Maximum Ratings and Electrical Characteristics @TA=25°C unless otherwise specified

Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation at T <sub>A</sub> =25°C (Fig.1)(Note 1, 2, 5)	Рррм	1500	W
Peak Forward Surge Current per Fig.6(Note 3)	lfsм	200	Α
Peak Pulse Current on 10x1000µs Waveform(Fig.3)(Note 1)	ІРРМ	See Table 1	Α
Steady State Power Dissipation(Note 2, 4)	Pm(AV)	5.0	W
Operating Junction and Storage Temperature Range	Tj,Tstg	-65 to 175	°C

Notes: 1. Non-repetitive current pulse, per Fig. 3 and derated above TA = 25°C per Fig. 2.

- 2. Mounted on 20mm<sup>2</sup> copper pad
- 3. 8.3ms single half sine wave duty cycle=4 pulses per minute maximum.
- 4. Lead temperature at 75°C=T<sub>L</sub>
- 5. Peak pulse power waveform is 10x1000µs
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### **Green Products**

### **UNI-DIRECTIONAL 1500 WATT AXIAL LEAD TVS**

UNI-DIRECTIONAL PART NUMBER	REVERSE STAND-OFF VOLTAGE VRWM (V)	BREAKDOWN VOLTAGE VBR (V) MIN. @IT	BREAKDOWN VOLTAGE VBR (V) MAX. @IT	TEST CURRENT IT (mA)	MAXIMUM CLAMPING VOLTAGE @lpp Vc (V)	PEAK PULSE CURRENT Ipp (A)	REVERSE LEAKAGE @VRWM IR (uA
1.5KE6.8	5.50	6.12	7.48	10	10.8	139.00	1000
1.5KE6.8A	5.80	6.45	7.14	10	10.5	143.00	1000
1.5KE7.5	6.05 6.40	6.75	8.25 7.88	10 10	11.7 11.3	128.00 132.00	500 500
1.5KE7.5A 1.5KE8.2	6.63	7.13 7.38	9.02	10	12.5	120.00	200
1.5KE8.2A	7.02	7.79	8.61	10	12.1	124.00	200
1.5KE9.1	7.37	8.19	10.00	1	13.8	109.00	50
1.5KE9.1A	7.78	8.65	9.50	1	13.4	112.00	50
1.5KE10	8.10	9.00	11.00	1	15.0	100.00	10
1.5KE10A	8.55	9.50	10.50	1	14.5	103.00	10
1.5KE11	8.92	9.90	12.10	1	16.2	93.00	5
1.5KE11A	9.40 9.72	10.50 10.80	11.60 13.20	1	15.6 17.3	96.00	5
1.5KE12 1.5KE12A	10.20	11.40	12.60	1	16.7	87.00 90.00	5
1.5KE13	10.50	11.70	14.30	1	19.0	79.00	5
1.5KE13A	11.10	12.40	13.70	1	18.2	82.00	5
1.5KE15	12.10	13.50	16.50	1	22.0	68.00	5
1.5KE15A	12.80	14.30	15.80	1	21.2	71.00	5
1.5KE16	12.90	14.40	17.60	1	23.5	64.00	5
1.5KE16A	13.60	15.20	16.80	1	22.5	67.00	5
1.5KE18	14.50	16.20	19.80	1	26.5	56.50	5
1.5KE18A	15.30	17.10	18.90	1	25.2	59.50	5 5
1.5KE20 1.5KE20A	16.20 17.10	18.00 19.00	22.00 21.00	1	29.1 27.7	51.50 54.00	5
1.5KE22	17.80	19.80	24.20	1	31.9	47.00	5
1.5KE22A	18.80	20.90	23.10	-1	30.6	49.00	5
1.5KE24	19.40	21.60	26.40	1	34.7	43.00	5
1.5KE24A	20.50	22.80	25.20	1	33.2	45.00	5
1.5KE27	21.80	24.30	29.70	1	39.1	38.50	5
1.5KE27A	23.10	25.70	28.40	1	37.5	40.00	5
1.5KE30	24.30	27.00	33.00	1	43.5	34.50	5
1.5KE30A	25.60	28.50	31.50	1	41.4	36.00	5
1.5KE33 1.5KE33A	26.80	29.70	36.30	1	47.7	31.50	5
1.5KE33A 1.5KE36	28.20 29.10	31.40 32.40	34.70 39.60	1	45.7 52.0	33.00 29.00	5 5
1.5KE36A	30.80	34.20	37.80	1	49.9	30.00	5
1.5KE39	31.60	35.10	42.90	1	56.A	26.50	5
1.5KE39A	33.30	37.10	41.00	1	53.9	28.00	5
1.5KE43	34.80	38.70	47.30	1	61.9	24.00	5
1.5KE43A	36.80	40.90	45.20	1	59.3	25.30	5
1.5KE47	38.10	42.30	51.70	1	67.8	22.20	5
1.5KE47A	40.20	44.70	49.40	1	64.8	23.20	5
1.5KE51 1.5KE51A	41.30 43.60	45.90 48.50	56.10 53.60	1	73.5 70.1	20.40 21.40	5 5
1.5KE51A 1.5KE56	45.60	48.50 50.40	61.60	1	80.5	18.60	5
1.5KE56A	47.80	53.20	58.80	1	77.0	19.50	5
1.5KE62	50.20	55.80	68.20	1	89.0	16.90	5
1.5KE62A	53.00	58.90	65.10	1	85.0	17.70	5
1.5KE68	55.10	61.20	74.80	1	98.0	15.30	5
1.5KE68A	58.10	64.60	71.40	1	92.0	16.30	5
1.5KE75	60.70	67.50	82.50	1	108.0	13.90	5
1.5KE75A	64.10	71.30	78.80	1	103.0	14.60	5
1.5KE82	66.40	73.80	90.20	1	118.0	12.70	5
1.5KE82A 1.5KE91	70.10 73.70	77.90 81.90	86.10 100.00	1	113.0 131.0	13.30 11.40	5 5
1.5KE91A	77.80	86.50	95.50	1	125.0	12.00	5
1.5KE100	81.00	90.00	110.00	1	144.0	10.40	5
1.5KE100A	85.50	95.00	105.00	1	137.0	11.00	5
1.5KE110	89.20	99.00	121.00	1	158.0	9.50	5
1.5KE110A	94.00	105.00	116.00	1	152.0	9.90	5
1.5KE120	97.20	108.00	132.00	1	173.0	8.70	5
1.5KE120A	102.00	114.00	126.00	1	165.0	9.10	5
1.5KE130	105.00	117.00	143.00	1	187.0	8.00	5
1.5KE130A 1.5KE150	111.00	124.00 135.00	137,00 165,00	1	179.0 215.0	8.40 7.00	5
1.5KE150 1.5KE150A	121.00 128.00	135.00 143.00	165.00 158.00	1	215.0 207.0	7.00	5
1.5KE160	130.00	144.00	176.00	1	230.0	6.50	5
1.5KE160A	136.00	152.00	168.00	1	219.0	6.80	5
1.5KE170	138.00	153.00	187.00	1	244.0	6.20	5
1.5KE170A	145.00	162.00	179.00	1	234.0	6.40	5
1.5KE180	146.00	162.00	198.00	1	258.0	5.80	5
1.5KE180A	154.00	171.00	189.00	1	246.0	6.10	5
1.5KE200	162.00	180.00	220.00	1	287.0	5.20	5
1.5KE200A	171.00	190.00	210.00	1	274.0	5.50	5
1.5KE220 1.5KE220A	175.00	198.00	242.00 231.00	1	344.0 328.0	4.30	5 5
1.5KE250 1.5KE250	185.00 202.00	209.00 225.00	275.00	1	360.0	4.60 5.00	5
1.5KE250A	214.00	237.00	263.00	1	344.0	5.00	5
1.5KE300	243.00	270.00	330.00	1	430.0	5.00	5
1.5KE300A	256.00	285.00	315.00	1	414.0	5.00	5
1.5KE350	284.00	315.00	385.00	1	504.0	4.00	5
1.5KE350A	300.00	332.00	368.00	1	482.0	4.00	5
1.5KE400	324.00	360.00	440.00	1	574.0	4.00	5
1.5KE400A	342.00	380.00	420.00	1	548.0	4.00	5
1.5KE440	356.00	396.00	484.00	1	631.0	4.00	5
1.5KE440A	376.00	418.00	462.00	1	600.0	4.00	5

<sup>&</sup>quot;C" Suffix Designates Bi-directional Devices
"A" Suffix Designates 5% Tolerance Devices
No Suffix Designates 10% Tolerance Devices



**Green Products Technical Data** 

### Data Sheet N0209, Rev. D

### **BI-DIRECTIONAL 1500 WATT AXIAL LEAD TVS**

BI-DIRECTIONAL PART NUMBER	REVERSE STAND-OFF VOLTAGE VRWM (V)	BREAKDOWN VOLTAGE VBR (V) MIN. @IT	BREAKDOWN VOLTAGE VBR (V) MAX. @IT	TEST CURRENT IT (mA)	MAXIMUM CLAMPING VOLTAGE @Ipp Vc (V)	PEAK PULSE CURRENT lpp (A)	REVERSE LEAKAGE @VRWM IR (u
.5KE6.8C	5.50	6.12	7.48	10	10.8	139.00	2000
.5KE6.8CA	5.80	6.45	7.14	10	10.5	143.00	2000
.5KE7.5C	6.05	6.75	8.25	10	11.7	128.00	1000
.5KE7.5CA	6.40	7.13	7.88	10	11.3	132.00	1000
.5KE8.2C	6.63	7.38	9.02	10	12.5	120.00	400
.5KE8.2CA .5KE9.1C	7.02	7.79 8.19	8.61 10.00	10	12.1 13.8	124.00 109.00	400 100
	7.37			1	13.4		100
.5KE9.1CA	7.78 8.10	8.65 9.00	9.50 11.00	1	15.0	112.00 100.00	
.5KE10C				7.10			20 20
5KE10CA	8.55	9.50 9.90	10.50	1	14.5	103.00	
5KE11C 5KE11CA	8.92 9.40	10.50	12.10 11.60	1	16.2 15.6	93.00 96.00	10
5KE12C	9.72	10.80	13.20	1	17.3	87.00	5
5KE12CA	10.20	11.40	12.60	1	16.7	90.00	5
5KE13C	10.20	11.70	14.30	1	19.0	79.00	5
5KE13CA	11.10	12.40	13.70	1	18.2	82.00	5
5KE15C	12.10	13.50	16.50	1	22.0	68.00	5
5KE15CA	12.80	14.30	15.80	1	21.2	71.00	5
5KE16C	12.90	14.40	17.60	1	23.5	64.00	5
5KE16CA	13.60	15.20	16.80	1	22.5	67.00	5
5KE18C	14.50	16.20	19.80	1	26.5	56.50	5
5KE18CA	15.30	17.10	18.90	1	25.2	59.50	5
5KE20C	16.20	18.00	22.00	1	29.1	51.50	5
5KE20CA	17.10	19.00	21.00	1	27.7	54.00	5
5KE22C	17.80	19.80	24.20	1	31.9	47.00	5
5KE22CA	18.80	20.90	23.10	1	30.6	49.00	5
5KE24C	19.40	21.60	26.40	1	34.7	43.00	5
5KE24CA	20.50	22.80	25.20	1	33.2	45.00	5
5KE27C	21.80	24.30	29.70	1	39.1	38.50	5
5KE27CA	23.10	25.70	28.40	1	37.5	40.00	5
5KE27CA 5KE30C	24.30	25.70	33.00	1	43.5	34.50	5
5KE30CA	25.60	28.50	31.50	1	41.4	36.00	5
5KE33C	26.80	29.70	36.30	1	47.7	31.50	5
5KE33CA	28.20	31.40	34.70	1	45.7	33.00	5
5KE36C	29.10	32.40	39.60	1	52.0	29.00	5
5KE36CA	30.80	34.20	37.80	1	49.9	30.00	5
5KE39C	31.60	35.10	42.90	1	56.4	26.50	5
5KE39CA	33.30	37.10	41.00	1	53.9	28.00	5
5KE43C	34.80	38.70	47.30	1	61.9	24.00	5
5KE43CA	36.80	40.90		1		25.30	
5KE47C	38.10	42.30	45.20 51.70		59.3		5
				1	67.8	22.20	5
5KE47CA 5KE51C	40.20 41.30	44.70 45.90	49.40 56.10	1	64.8 73.5	23.20 20.40	5 5
5KE51CA	43.60	48.50	53.60	1	70.1	21.40	5
	17.000			1			
5KE56C 5KE56CA	45.60	50.40 53.20	61.60 58.80	1	80.5 77.0	18.60	5 5
5KE62C	47.80 50.20	55.80	68.20	1	89.0	19.50 16.90	5
5KE62CA	53.00	58.90	65.10	1	85.0	17.70	5
5KE68C	55.10	61.20	74.80	1	98.0	15.30	5
5KE68CA	58.10	64.60	71.40	1	92.0	16.30	5
5KE75C	60.70		82.50	1	108.0	13.90	
5KE75CA	64.10	67.50 71.30	78.80	1	103.0	14.60	5 5
5KE82C	66.40	73.80	90.20	1	118.0	12.70	5
5KE82CA	70.10	77.90	86.10	1	113.0	13.30	5
5KE91C	73.70	81.90	100.00	1	131.0	11.40	5
5KE91CA 5KE100C	77.80 81.00	86.50 90.00	95.50 110.00	1	125.0 144.0	12.00 10.40	
							5
5KE100CA 5KE110C	85.50	95.00	105.00	1	137.0	11.00	5
	89.20	99.00	121.00	1	158.0	9.50	5
5KE110CA	94.00	105.00	116.00		152.0	9.90	5
5KE120C	97.20	108.00	132.00	1	173.0	8.70	5
5KE120 CA	102.00	114.00	126.00	1	165.0	9.10	5
5KE130C	105.00	117.00	143.00	1	187.0	8.00	5
5KE130 CA	111.00	124.00	137.00	1	179.0	8.40	5
5KE150C	121.00	135.00	165.00	1	215.0	7.00	5
5KE150CA	128.00	143.00	158.00 176.00	1	207.0	7.20	5
5KE160 C	130.00	144.00		1	230.0	6.50	5
5KE160 CA	136.00	152.00	168.00	1	219.0	6.80	5
5KE170C	138.00	153.00	187.00	1	244.0	6.20	5
5KE170CA	145.00	162.00	179.00	1	234.0	6.40	5
5KE180C	146.00	162.00	198.00	1	258.0	5.80	5
5KE180 CA	154.00	171.00	189.00	1	246.0	6.10	5
5KE200C	162.00	180.00	220.00	1	287.0	5.20	5
5KE200 CA	171.00	190.00	210.00	1	274.0	5.50	5
5KE220C	175.00	198.00	242.00	1	344.0	4.30	5
5KE220CA	185.00	209.00	231.00	1	328.0	4.60	5
5KE250C	202.00	225.00	275.00	1	360.0	5.00	5
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5KE350C	284.00	315.00	385.00	1	504.0	4.00	5
5KE350CA	300.00	332.00	368.00	1	482.0	4.00	5
	324.00	360.00	440.00	1	574.0	4.00	5
5KE400C					202232323	100000000	
5KE400 C 5KE400 CA 5KE440 C	342.00 346.00	380.00 396.00	420.00 484.00	1	548.0 631.0	4.00 4.00	. 5 5

<sup>&</sup>quot;C" Suffix Designates Bi-directional Devices "A" Suffix Designates 5% Tolerance Devices No Suffix Designates 10% Tolerance Devices



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