



# 1.5KE6.8A ~ 1.5KE440CA Series

**GLASS PASSIVATED JUNCTION TRANSIENT VOLTAGE SUPPRESSOR PEAK PULSE POWER 1500 Watt**

**BREAKDOWN VOLTAGE**

6.8 to 440 Volt

**Recongized File # E210467 (1.5KE6.8A~1.5KE300CA)**

**FEATURES**

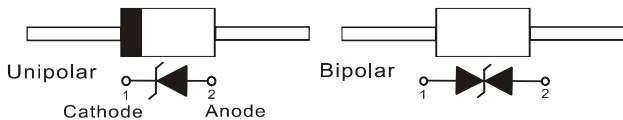
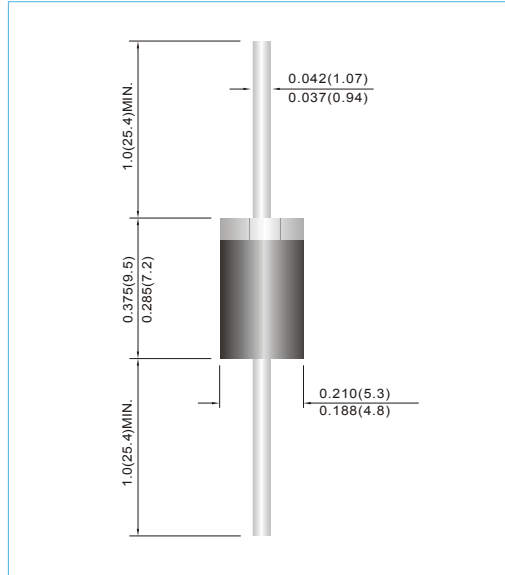
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- Glass passivated chip junction in DO-201AE package
- 1500W surge capability at 1ms
- Excellent clamping capability
- Low zener impedance
- Fast response time: typically less than 1ps from 0 volts to BV min
- High temperature soldering guaranteed: 260°C/10 seconds/0.375" ,(9.5mm) lead length/5lbs., (2.3kg) tension
- ESD IEC-61000-4-2 Air ± 30kV, Contact ± 30kV
- Lead free in ccompliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

**MECHANICAL DATA**

- Case : JEDEC DO-201AE molded plastic
- Terminals : Axial leads, solderable per MIL-STD-750, Method 2026
- Polarity : Color band denotes cathode end
- Approx. Weight : 1.122 grams

**DO-201AE**

Unit : inch(mm)



**DEVICES FOR BIPOLAR APPLICATIONS**

For Bidirectional use CA Suffix for types 1.5KE6.8CA thru types 1.5KE440CA  
Electrical characteristics apply in both directions.

**MAXIMUM RATINGS AND CHARACTERISTICS**

Rating at 25°C ambient temperature unless otherwise specified.

Rating	Symbol	Value	Units
Peak Power Dissipation at T <sub>A</sub> =25°C, tp=1ms (Notes 1)	P <sub>PP</sub>	1500	Watts
Typical Thermal Resistance Junction to Air Lead Lengths 0.375", (9.5mm) (Notes 2)	R <sub>θJA</sub>	30	°C / W
Peak Pulse Current on tp=10/1000µs waveform (Notes 1)	I <sub>PPM</sub>	see Table	Amps
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load (Notes 3)	I <sub>FSM</sub>	200	Amps
ESD IEC-61000-4-2 (Air) ESD IEC-61000-4-2 (Contact)	V <sub>ESD</sub>	±30 ±30	kV
Operating Junction and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +175	°C

**NOTES :**

1. Non-repetitive current pulse, per Fig. 3 and derated above T<sub>A</sub>=25°C per Fig. 2.
2. Mounted on Copper Leaf area of 0.79 in<sup>2</sup>(20mm<sup>2</sup>).
3. 8.3ms single half sine-wave, duty cycle= 4 pulses per minutes maximum.
4. A transient suppressor is selected according to the working peak reverse voltage (V<sub>RWM</sub>), which should be equal to or greater than the DC or continuous peak operating voltage level.



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Part Number		Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Reverse Leakage		Max. Clamp Voltage 10/1000us	Peak Pulse Current 10/1000us	Marking Code	
		V <sub>RWM</sub> (Notes 4)	V <sub>BR</sub> @ I <sub>T</sub>		I <sub>T</sub>	I <sub>R</sub> @ V <sub>RWM</sub>		V <sub>C</sub> @ I <sub>PP</sub>	I <sub>PP</sub>		
			Min.	Max.		UNI	BI				
UNI	BI	V	V	V	mA	uA	uA	V	A	UNI	BI
1500W Transient Voltage Suppressor											
1.5KE6.8A	1.5KE6.8CA	5.8	6.45	7.14	10	1000	2000	10.5	143	1.5KE6.8A	1.5KE6.8CA
1.5KE7.5A	1.5KE7.5CA	6.4	7.13	7.88	10	500	1000	11.3	132	1.5KE7.5A	1.5KE7.5CA
1.5KE8.2A	1.5KE8.2CA	7.02	7.79	8.61	10	200	400	12.1	124	1.5KE8.2A	1.5KE8.2CA
1.5KE9.1A	1.5KE9.1CA	7.78	8.65	9.5	1	50	100	13.4	112	1.5KE9.1A	1.5KE9.1CA
1.5KE10A	1.5KE10CA	8.55	9.5	10.5	1	10	20	14.5	103	1.5KE10A	1.5KE10CA
1.5KE11A	1.5KE11CA	9.4	10.5	11.6	1	5	10	15.6	96	1.5KE11A	1.5KE11CA
1.5KE12A	1.5KE12CA	10.2	11.4	12.6	1	5	5	16.7	90	1.5KE12A	1.5KE12CA
1.5KE13A	1.5KE13CA	11.1	12.4	13.7	1	1	1	18.2	82	1.5KE13A	1.5KE13CA
1.5KE15A	1.5KE15CA	12.8	14.3	15.8	1	1	1	21.2	71	1.5KE15A	1.5KE15CA
1.5KE16A	1.5KE16CA	13.6	15.2	16.8	1	1	1	22.5	67	1.5KE16A	1.5KE16CA
1.5KE18A	1.5KE18CA	15.3	17.1	18.9	1	1	1	25.2	59.5	1.5KE18A	1.5KE18CA
1.5KE20A	1.5KE20CA	17.1	19	21	1	1	1	27.7	54	1.5KE20A	1.5KE20CA
1.5KE22A	1.5KE22CA	18.8	20.9	23.1	1	1	1	30.6	49	1.5KE22A	1.5KE22CA
1.5KE24A	1.5KE24CA	20.5	22.8	25.2	1	1	1	33.2	45	1.5KE24A	1.5KE24CA
1.5KE27A	1.5KE27CA	23.1	25.7	28.4	1	1	1	37.5	40	1.5KE27A	1.5KE27CA
1.5KE30A	1.5KE30CA	25.6	28.5	31.5	1	1	1	41.4	36	1.5KE30A	1.5KE30CA
1.5KE33A	1.5KE33CA	28.2	31.4	34.7	1	1	1	45.7	33	1.5KE33A	1.5KE33CA
1.5KE36A	1.5KE36CA	30.8	34.2	37.8	1	1	1	49.9	30	1.5KE36A	1.5KE36CA
1.5KE39A	1.5KE39CA	33.3	37.1	41	1	1	1	53.9	28	1.5KE39A	1.5KE39CA
1.5KE43A	1.5KE43CA	36.8	40.9	45.2	1	1	1	59.3	25.3	1.5KE43A	1.5KE43CA
1.5KE47A	1.5KE47CA	40.2	44.7	49.4	1	1	1	64.8	23.2	1.5KE47A	1.5KE47CA
1.5KE51A	1.5KE51CA	43.6	48.5	53.6	1	1	1	70.1	21.4	1.5KE51A	1.5KE51CA
1.5KE56A	1.5KE56CA	47.8	53.2	58.8	1	1	1	77	19.5	1.5KE56A	1.5KE56CA
1.5KE62A	1.5KE62CA	53	58.9	65.1	1	1	1	85	17.7	1.5KE62A	1.5KE62CA
1.5KE68A	1.5KE68CA	58.1	64.6	71.4	1	1	1	92	16.3	1.5KE68A	1.5KE68CA
1.5KE75A	1.5KE75CA	64.1	71.3	78.8	1	1	1	103	14.6	1.5KE75A	1.5KE75CA
1.5KE82A	1.5KE82CA	70.1	77.9	86.1	1	1	1	113	13.3	1.5KE82A	1.5KE82CA
1.5KE91A	1.5KE91CA	77.8	86.5	95.5	1	1	1	125	12	1.5KE91A	1.5KE91CA
1.5KE100A	1.5KE100CA	85.5	95	105	1	1	1	137	11	1.5KE100A	1.5KE100CA
1.5KE110A	1.5KE110CA	94	105	116	1	1	1	152	9.9	1.5KE110A	1.5KE110CA
1.5KE120A	1.5KE120CA	102	114	126	1	1	1	165	9.1	1.5KE120A	1.5KE120CA
1.5KE130A	1.5KE130CA	111	124	137	1	1	1	179	8.4	1.5KE130A	1.5KE130CA
1.5KE150A	1.5KE150CA	128	143	158	1	1	1	207	7.2	1.5KE150A	1.5KE150CA
1.5KE160A	1.5KE160CA	136	152	168	1	1	1	219	6.8	1.5KE160A	1.5KE160CA
1.5KE170A	1.5KE170CA	145	162	179	1	1	1	234	6.4	1.5KE170A	1.5KE170CA
1.5KE180A	1.5KE180CA	154	171	189	1	1	1	246	6.1	1.5KE180A	1.5KE180CA
1.5KE200A	1.5KE200CA	171	190	210	1	1	1	274	5.5	1.5KE200A	1.5KE200CA
1.5KE220A	1.5KE220CA	185	209	231	1	1	1	328	4.6	1.5KE220A	1.5KE220CA
1.5KE250A	1.5KE250CA	214	237	263	1	1	1	344	4.5	1.5KE250A	1.5KE250CA
1.5KE300A	1.5KE300CA	256	285	315	1	1	1	414	3.8	1.5KE300A	1.5KE300CA
1.5KE350A	1.5KE350CA	300	332	368	1	1	1	482	3.2	1.5KE350A	1.5KE350CA

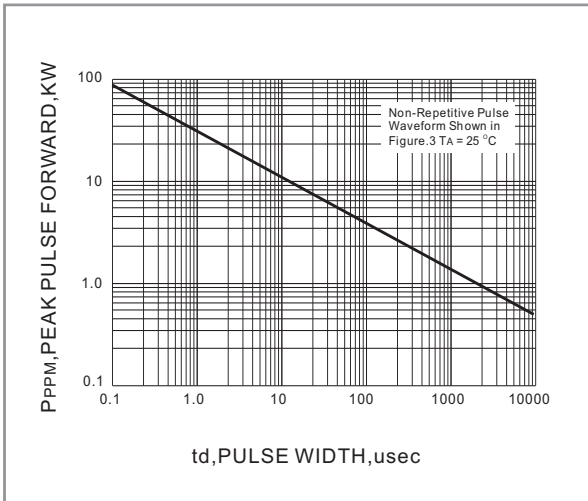


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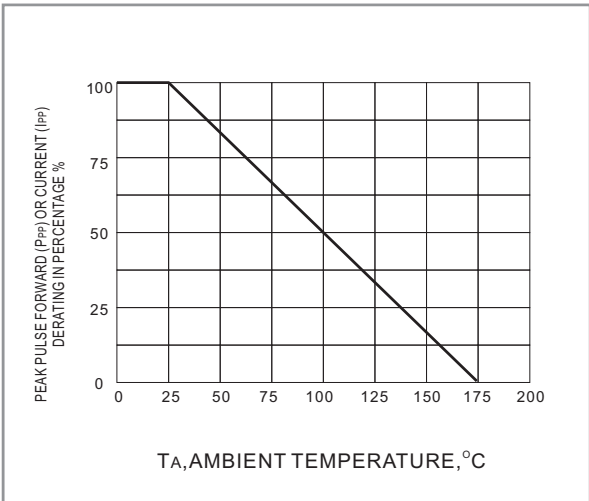
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			Min.	Max.		UNI	BI				
UNI	BI	V	V	V	mA	uA	uA	V	A	UNI	BI
1500W Transient Voltage Suppressor											
1.5KE400A	1.5KE400CA	342	380	420	1	1	1	548	2.8	1.5KE400A	1.5KE400CA
1.5KE440A	1.5KE440CA	376	418	462	1	1	1	600	2.6	1.5KE440A	1.5KE440CA



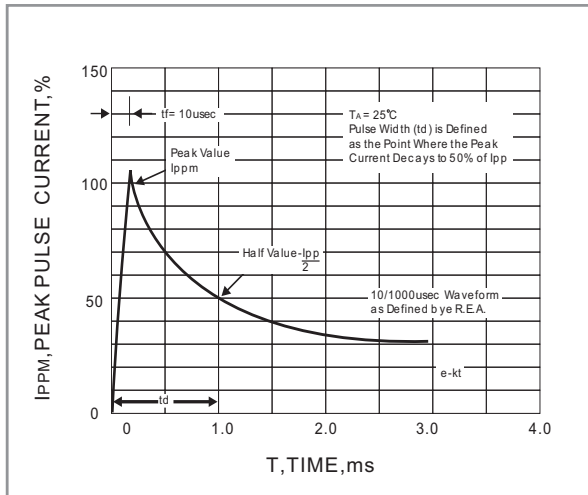
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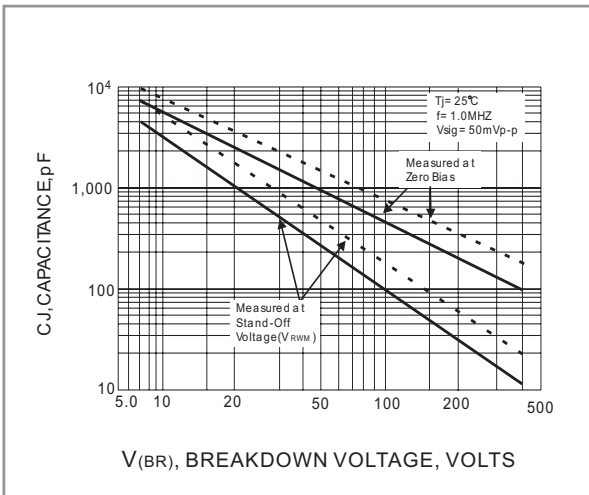
**Fig.1 PEAK PULSE POWER RATING VERSUS PULSE TIME CURVE**



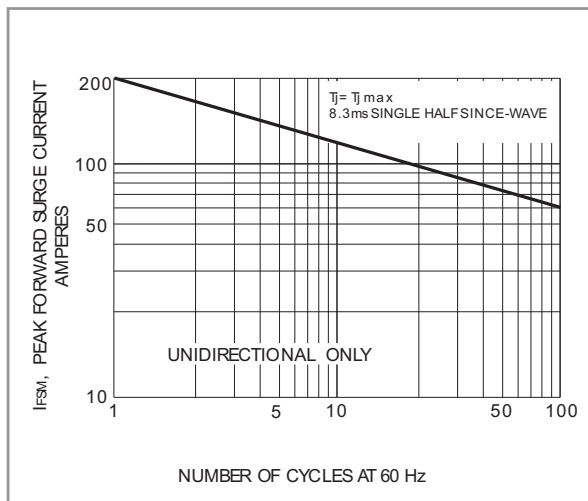
**Fig.2 PULSE DERATING CURVE**



**Fig.3 PULSE WAVEFORM**



**Fig.4 TYPICAL JUNCTION CAPACITANCE**



**Fig.5 MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT UNIDIRECTIONAL**



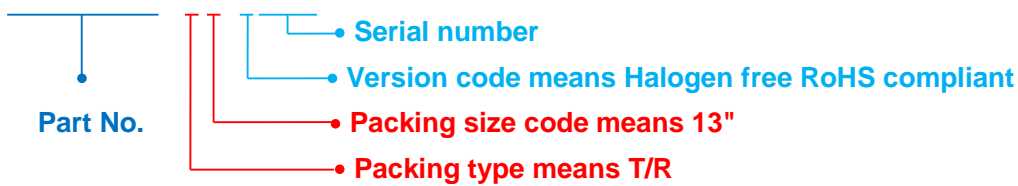
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## Part No.\_packing code\_Version

- 1.5KE6.8A\_AY\_00001
- 1.5KE6.8A\_AY\_10001
- 1.5KE6.8A\_B0\_00001
- 1.5KE6.8A\_B0\_10001
- 1.5KE6.8A\_R2\_00001
- 1.5KE6.8A\_R2\_10001

For example :

**RB500V-40\_R2\_00001**



Packing Code <b>XX</b>				Version Code <b>X</b>		Serial number <b>XXXX</b>
Packing type	1 <sup>st</sup> Code	Packing size code	2 <sup>nd</sup> Code	HSF Level	1 <sup>st</sup> Code	2 <sup>nd</sup> ~5 <sup>th</sup> Code
Tape and Ammunition Box (T/B)	<b>A</b>	N/A	<b>0</b>	Halogen free RoHS compliant	<b>0</b>	serial number
Tape and Reel (T/R)	<b>R</b>	7"	<b>1</b>	RoHS compliant	<b>1</b>	serial number
Bulk Packing (B/P)	<b>B</b>	13"	<b>2</b>			
Tube Packing (T/P)	<b>T</b>	26mm	<b>X</b>			
Tape and Reel (Right Oriented) (TRR)	<b>S</b>	52mm	<b>Y</b>			
Tape and Reel (Left Oriented) (TRL)	<b>L</b>	PANASERT T/B CATHODE UP (PBCU)	<b>U</b>			
FORMING	<b>F</b>	PANASERT T/B CATHODE DOWN (PBCD)	<b>D</b>			



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