



# DATA SHEET

## 1.5KE SERIES

### GLASS PASSIVATED JUNCTION TRANSIENT VOLTAGE SUPPRESSOR

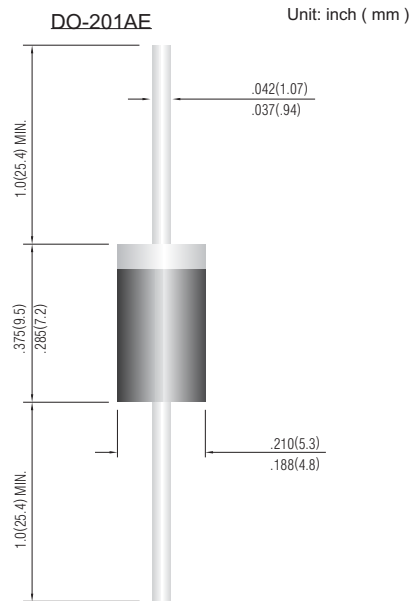
**1500 Watt Peak Power VOLTAGE - 6.8 to 440 Volts 5.0 Watt Steady State**

#### FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- Glass passivated chip junction in DO-201AE package
- 1500W surge capability at 1.0ms
- Excellent clamping capability
- Low zener impedance
- Fast response time: typically less than 1.0 ps from 0 volts to BV min
- Typical IR less than 1μA above 10V
- High temperature soldering guaranteed: 260°C/10 seconds/.375" (9.5mm) lead length/5lbs., (2.3kg) tension

#### MECHANICAL DATA

Case: JEDEC DO-201AE molded plastic  
 Terminals: Axial leads, solderable per MIL-STD-202, Method 208  
 Polarity: Color band denoted cathode except Bipolar  
 Mounting Position: Any  
 Weight: 0.045 ounce, 1.2 gram



#### DEVICES FOR BIPOLAR APPLICATIONS

For Bidirectional use C or CA Suffix for types 1.5KE6.8 thru types 1.5KE440.  
 Electrical characteristics apply in both directions.

#### MAXIMUM RATINGS AND CHARACTERISTICS

Rating at 25°C ambient temperature unless otherwise specified. Resistive or inductive load, 60Hz.  
 For Capacitive load derate current by 20%.

RATING	SYMBOL	VALUE	UNITS
Peak Power Dissipation at $T_A=25^\circ\text{C}$ , $T_P=1\text{ms}$ (Note 1)	$P_{PPM}$	Minimum Max 1500	Watts
Peak Power Current	$I_{PPM}$	see table	Amps
Steady State Power Dissipation .375 Lead Lengths at $T_A=75^\circ\text{C}$ .(Note2)	$P_D$	5.0	Watts
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load(JECED Method) (Note 3)	$I_{FSM}$	200	Amps
Operating and Storage Temperature Range	$T_J, T_{STG}$	-65 to +175	$^\circ\text{C}$

#### NOTES:

- 1.Non-repetitive current pulse, per Fig. 3 and derated above  $T_A=25^\circ\text{C}$  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.



Part Number	V <sub>RWM</sub>	V <sub>BR</sub> @ I <sub>T</sub>			I <sub>r</sub> @ V <sub>RWM</sub>		V <sub>c</sub> @ I <sub>PP</sub>		PACKAGE
		Min.	Max.	I <sub>T</sub>	UNI-	BI-	V	A	
	V	V	V	mA	uA	uA			
<b>1500W Transient Voltage Suppressor</b>									
1.5KE6.8(C)	5.50	6.12	7.48	10	1000	2000	10.8	139.0	DO-201AE
1.5KE6.8(C)A	5.80	6.45	7.14	10	1000	2000	10.5	143.0	DO-201AE
1.5KE7.5(C)	6.05	6.75	8.25	10	500	1000	11.7	128.0	DO-201AE
1.5KE7.5(C)A	6.40	7.13	7.88	10	500	1000	11.3	132.0	DO-201AE
1.5KE8.2(C)	6.63	7.38	9.02	10	200	400	12.5	120.0	DO-201AE
1.5KE8.2(C)A	7.02	7.79	8.61	10	200	400	12.1	124.0	DO-201AE
1.5KE9.1(C)	7.37	8.19	10.0	1.0	50	100	13.8	109.0	DO-201AE
1.5KE9.1(C)A	7.78	8.65	9.50	1.0	50	100	13.4	112.0	DO-201AE
1.5KE10(C)	8.10	9.00	11.0	1.0	10	20	15.0	100.0	DO-201AE
1.5KE10(C)A	8.55	9.50	10.5	1.0	10	20	14.5	103.0	DO-201AE
1.5KE11(C)	8.92	9.90	12.1	1.0	5	10	16.2	93.0	DO-201AE
1.5KE11(C)A	9.40	10.5	11.6	1.0	5	10	15.6	96.0	DO-201AE
1.5KE12(C)	9.72	10.8	13.2	1.0	5	5	17.3	87.0	DO-201AE
1.5KE12(C)A	10.2	11.4	12.6	1.0	5	5	16.7	90.0	DO-201AE
1.5KE13(C)	10.5	11.7	14.3	1.0	5	5	19.0	79.0	DO-201AE
1.5KE13(C)A	11.1	12.4	13.7	1.0	5	5	18.2	82.0	DO-201AE
1.5KE15(C)	12.1	13.5	16.5	1.0	5	5	22.0	68.0	DO-201AE
1.5KE15(C)A	12.8	14.3	15.8	1.0	5	5	21.2	71.0	DO-201AE
1.5KE16(C)	12.9	14.4	17.6	1.0	5	5	23.5	64.0	DO-201AE
1.5KE16(C)A	13.6	15.2	16.8	1.0	5	5	22.5	67.0	DO-201AE
1.5KE18(C)	14.5	16.2	19.8	1.0	5	5	26.5	56.5	DO-201AE
1.5KE18(C)A	15.3	17.1	18.9	1.0	5	5	25.2	59.5	DO-201AE
1.5KE20(C)	16.2	18.0	22.0	1.0	5	5	29.1	51.5	DO-201AE
1.5KE20(C)A	17.1	19.0	21.0	1.0	5	5	27.7	54.0	DO-201AE
1.5KE22(C)	17.8	19.8	24.2	1.0	5	5	31.9	47.0	DO-201AE
1.5KE22(C)A	18.8	20.9	23.1	1.0	5	5	30.6	49.0	DO-201AE
1.5KE24(C)	19.4	21.6	26.4	1.0	5	5	34.7	43.0	DO-201AE
1.5KE24(C)A	20.5	22.8	25.2	1.0	5	5	33.2	45.0	DO-201AE
1.5KE27(C)	21.8	24.3	29.7	1.0	5	5	39.1	38.5	DO-201AE
1.5KE27(C)A	23.1	25.7	28.4	1.0	5	5	37.5	40.0	DO-201AE
1.5KE30(C)	24.3	27.0	33.0	1.0	5	5	43.5	34.5	DO-201AE
1.5KE30(C)A	25.6	28.5	31.5	1.0	5	5	41.4	36.0	DO-201AE
1.5KE33(C)	26.8	29.7	36.3	1.0	5	5	47.7	31.5	DO-201AE
1.5KE33(C)A	28.2	31.4	34.7	1.0	5	5	45.7	33.0	DO-201AE
1.5KE36(C)	29.1	32.4	39.6	1.0	5	5	52.0	29.0	DO-201AE
1.5KE36(C)A	30.8	34.2	37.8	1.0	5	5	49.9	30.0	DO-201AE
1.5KE39(C)	31.6	35.1	42.9	1.0	5	5	56.4	26.5	DO-201AE
1.5KE39(C)A	33.3	37.1	41.0	1.0	5	5	53.9	28.0	DO-201AE
1.5KE43(C)	34.8	38.7	47.3	1.0	5	5	61.9	24.0	DO-201AE
1.5KE43(C)A	36.8	40.9	45.2	1.0	5	5	59.3	25.3	DO-201AE
1.5KE47(C)	38.1	42.3	51.7	1.0	5	5	67.8	22.2	DO-201AE
1.5KE47(C)A	40.2	44.7	49.4	1.0	5	5	64.8	23.2	DO-201AE



Part Number	V <sub>RRM</sub>	V <sub>BR</sub> @ I <sub>T</sub>			I <sub>R</sub> @ V <sub>RRM</sub>		V <sub>C</sub> @ I <sub>PP</sub>		PACKAGE
		Min.	Max.	I <sub>T</sub>	UNI-	BI-	V	A	
	V	V	mA	uA	uA				
<b>1500W Transient Voltage Suppressor</b>									
1.5KE51(C)	41.3	45.9	56.1	10	5	5	73.5	20.4	DO-201AE
1.5KE51(C)A	43.6	48.5	53.6	10	5	5	70.1	21.4	DO-201AE
1.5KE56(C)	45.6	50.4	61.6	10	5	5	80.5	18.6	DO-201AE
1.5KE56(C)A	47.8	53.2	58.8	10	5	5	77.0	19.5	DO-201AE
1.5KE62(C)	50.2	55.8	68.2	10	5	5	89.0	16.9	DO-201AE
1.5KE62(C)A	53.0	58.9	65.1	10	5	5	85.0	17.7	DO-201AE
1.5KE68(C)	55.1	61.2	74.8	1.0	5	5	98.0	15.3	DO-201AE
1.5KE68(C)A	58.1	64.6	71.4	1.0	5	5	92.0	16.3	DO-201AE
1.5KE75(C)	60.7	67.5	82.5	1.0	5	5	108	13.9	DO-201AE
1.5KE75(C)A	64.1	71.3	78.8	1.0	5	5	103	14.6	DO-201AE
1.5KE82(C)	66.4	73.8	90.2	1.0	5	5	118	12.7	DO-201AE
1.5KE82(C)A	70.1	77.9	86.1	1.0	5	5	113	13.3	DO-201AE
1.5KE*91(C)	73.7	81.9	100	1.0	5	5	131	11.4	DO-201AE
1.5KE91(C)A	77.8	86.5	95.5	1.0	5	5	125	12.0	DO-201AE
1.5KE100(C)	81.0	90.0	110	1.0	5	5	144	10.4	DO-201AE
1.5KE100(C)A	85.5	95.0	105	1.0	5	5	137	11.0	DO-201AE
1.5KE110(C)	89.2	99.0	121	1.0	5	5	158	9.5	DO-201AE
1.5KE110(C)A	94.0	105	116	1.0	5	5	152	9.9	DO-201AE
1.5KE120(C)	97.2	108	132	1.0	5	5	173	8.7	DO-201AE
1.5KE120(C)A	102	114	126	1.0	5	5	165	9.1	DO-201AE
1.5KE130(C)	105	117	143	1.0	5	5	187	8.0	DO-201AE
1.5KE130(C)A	111	124	137	1.0	5	5	179	8.4	DO-201AE
1.5KE150(C)	121	135	165	1.0	5	5	215	7.0	DO-201AE
1.5KE150(C)A	128	143	158	1.0	5	5	207	7.2	DO-201AE
1.5KE160(C)	130	144	176	1.0	5	5	230	6.5	DO-201AE
1.5KE160(C)A	136	152	168	1.0	5	5	219	6.8	DO-201AE
1.5KE170(C)	138	153	187	1.0	5	5	244	6.2	DO-201AE
1.5KE170(C)A	145	162	179	1.0	5	5	234	6.4	DO-201AE
1.5KE180(C)	146	162	198	1.0	5	5	258	5.8	DO-201AE
1.5KE180(C)A	154	171	189	1.0	5	5	246	6.1	DO-201AE
1.5KE200(C)	162	180	220	1.0	5	5	287	5.2	DO-201AE
1.5KE200(C)A	171	190	210	1.0	5	5	274	5.5	DO-201AE
1.5KE220(C)	175	198	242	1.0	5	5	344	4.3	DO-201AE
1.5KE220(C)A	185	209	231	1.0	5	5	328	4.6	DO-201AE
1.5KE250(C)	202	225	275	1.0	5	5	360	4.3	DO-201AE
1.5KE250(C)A	214	237	263	1.0	5	5	344	4.5	DO-201AE
1.5KE300(C)	243	270	330	1.0	5	5	430	3.6	DO-201AE
1.5KE300(C)A	256	285	315	1.0	5	5	414	3.8	DO-201AE
1.5KE350(C)	284	315	385	1.0	5	5	504	3.1	DO-201AE
1.5KE350(C)A	300	332	368	1.0	5	5	482	3.2	DO-201AE
1.5KE400(C)	324	360	440	1.0	5	5	574	2.7	DO-201AE
1.5KE400(C)A	342	380	420	1.0	5	5	548	2.8	DO-201AE
1.5KE440(C)	356	396	484	1.0	5	5	630	2.4	DO-201AE
1.5KE440(C)A	376	418	462	1.0	5	5	600	2.6	DO-201AE

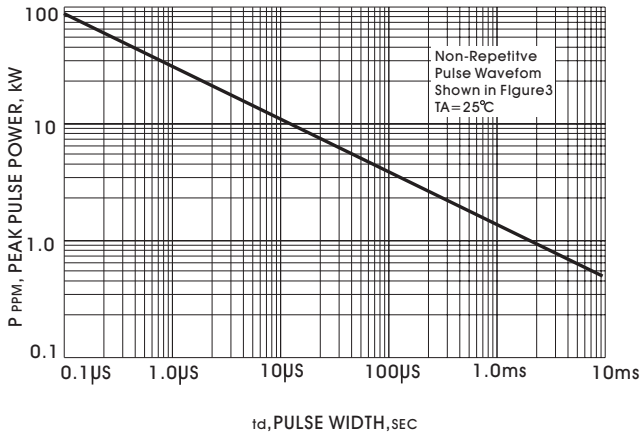


FIGURE 1-PEAK PULSE POWER RATING VERSUS PULSE TIME CURVE

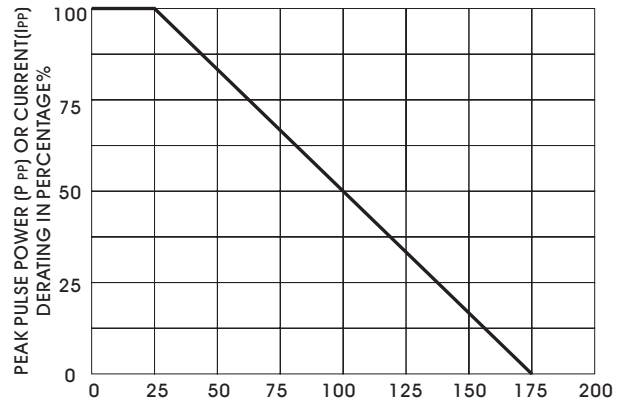


FIGURE 2-PULSE DERATING CURVE

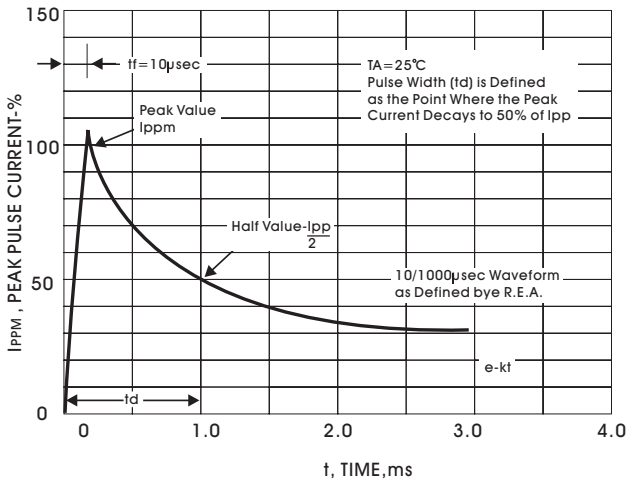


FIGURE 3-PULSE WAVEFORM

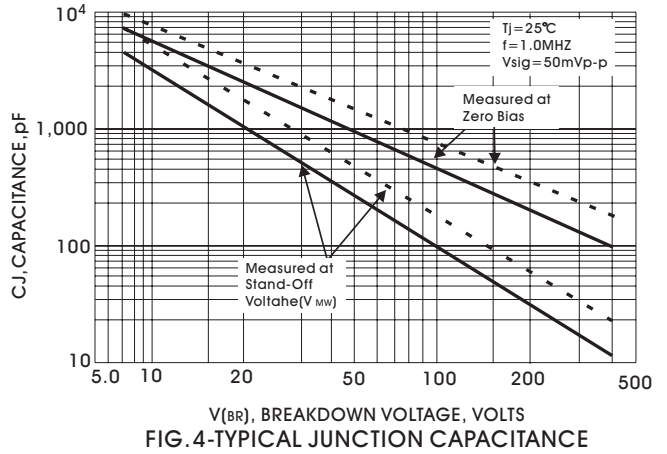


FIG. 4-TYPICAL JUNCTION CAPACITANCE

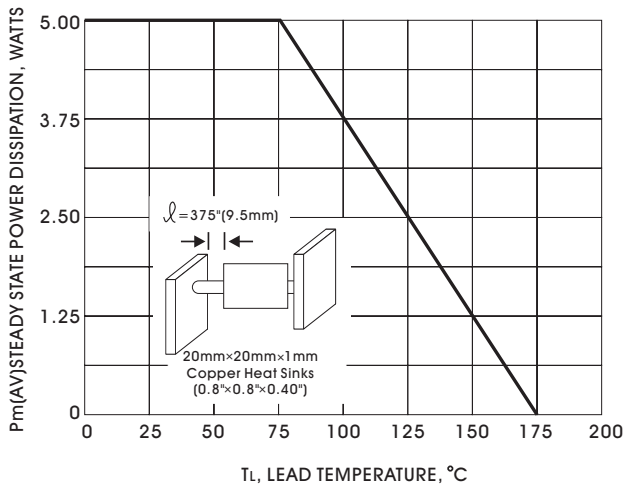


FIG. 5-STEADY STATE POWER DERATING

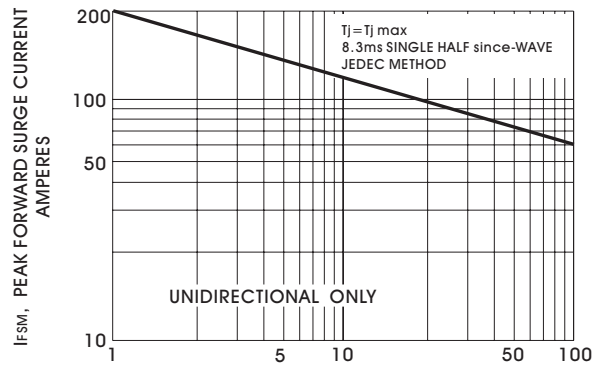


FIG. 6-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT UNIDIRECTIONAL