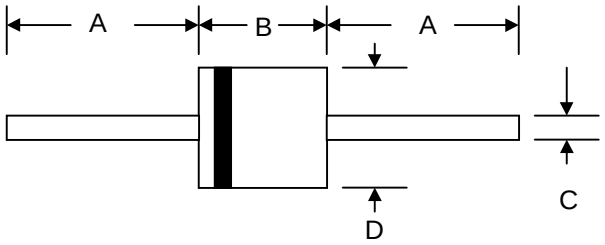
3KE SERIES

3000 Watts Axial Leaded Transient Voltage Suppressor

Features

- 3000W surge capability at 1ms
- Excellent clamping capability
- Low zener impedance
- Fast response time : typically less then 1.0 ps from 0 volt to $V_{BR(min.)}$
- Typical I_R less then 1μA above 22V
- Pb / RoHS Free



Mechanical Data

- Case : R-6 Molded plastic
- Epoxy : UL94V-O rate flame retardant
- Lead : Axial lead solderable per MIL-STD-202, method 208 guaranteed
- Polarity : Color band denotes cathode end except Bipolar.
- Mounting position : Any
- Weight : 0.93 grams

R-6		
Dim	**Min**	**Max**
A	25.4	—
B	8.60	9.10
C	1.20	1.30
D	8.60	9.10
All Dimensions in mm		

Maximum Ratings and Electrical Characteristics

@ T_A = 25°C unless otherwise specified

Rating	Symbol	Value	Unit
Peak Power Dissipation at Ta = 25 °C, Tp=1ms (Note1)	P_{PK}	Minimum 3000	W
Steady State Power Dissipation at TL = 75 °C Lead Lengths 0.375", (9.5mm) (Note 2)	P_D	5.0	W
Operating and Storage Temperature Range	T_J, T_{STG}	- 65 to + 175	°C

Note :

(1) Non-repetitive Current pulse, per Fig. 5 and derated above Ta = 25 °C per Fig. 1

(2) Mounted on Copper Leaf area of 1.57 in^2 (40mm^2).

(3) 8.3 ms single half sine-wave, duty cycle = 4 pulses per minutes maximum.

TYPE	Breakdown Voltage @ It (Note 1)			Working Peak Reverse Voltage	Maximum Reverse Leakage @ V_{RWM}	Maximum Reverse Current	Maximum Clamping Voltage @ I_{RSM}	Maximum Temperature Co-efficient of V_{BR}
	V_{BR} (V)		It	V_{RWM}	I_R	I_{RSM}	V_{RSM}	
	Min.	Max.	(mA)	(V)	(μA)	(A)	(V)	(% / °C)
3KE13CA	11.7	14.3	10	10.5	1000	158	19.0	0.081
3KE13A	12.4	13.7	10	11.1	1000	164	18.2	0.081
3KE15CA	13.5	16.5	10	12.1	500	136	22.0	0.084
3KE15A	14.3	15.8	10	12.8	500	142	21.2	0.084
3KE16CA	14.4	17.6	10	12.9	200	128	23.5	0.086
3KE16A	15.2	16.8	10	13.6	200	134	22.5	0.086
3KE18CA	16.2	19.8	1.0	14.5	50	113	26.5	0.088
3KE18A	17.1	18.9	1.0	15.3	50	119	25.2	0.088
3KE20CA	18.0	22.0	1.0	16.2	10	103	29.1	0.090
3KE20A	19.0	21.0	1.0	17.1	10	108	27.7	0.090
3KE22CA	19.8	24.2	1.0	17.8	5.0	94	31.9	0.092
3KE22A	20.9	23.1	1.0	18.8	5.0	98	30.6	0.092
3KE24CA	21.6	26.4	1.0	19.4	5.0	86	34.7	0.094
3KE24A	22.8	25.2	1.0	20.5	5.0	90	33.2	0.094
3KE27CA	24.3	29.7	1.0	21.8	5.0	77	39.1	0.096
3KE27A	25.7	28.4	1.0	23.1	5.0	80	37.5	0.096
3KE30CA	27.0	33.0	1.0	24.3	5.0	69	43.5	0.097
3KE30A	28.5	31.5	1.0	25.6	5.0	72	41.4	0.097
3KE33CA	29.7	36.3	1.0	26.8	5.0	63	47.7	0.098
3KE33A	31.4	34.7	1.0	28.2	5.0	66	45.7	0.098
3KE36CA	32.4	39.6	1.0	29.1	5.0	58	52.0	0.099
3KE36A	34.2	37.8	1.0	30.8	5.0	60	49.9	0.099
3KE39CA	35.1	42.9	1.0	31.6	5.0	53	56.4	0.100
3KE39A	37.1	41.0	1.0	33.3	5.0	56	53.9	0.100
3KE43CA	38.7	47.3	1.0	34.8	5.0	48	61.9	0.101
3KE43A	40.9	45.2	1.0	36.8	5.0	51	59.3	0.101
3KE47CA	42.3	51.7	1.0	38.1	5.0	44	67.8	0.101
3KE47A	44.7	49.4	1.0	40.2	5.0	46	64.8	0.101
3KE51CA	45.9	56.1	1.0	41.3	5.0	41	73.5	0.102
3KE51A	48.5	53.6	1.0	43.6	5.0	43	70.1	0.102
3KE56CA	50.4	61.6	1.0	45.4	5.0	37	80.5	0.103
3KE56A	53.2	58.8	1.0	47.8	5.0	39	77.0	0.103
3KE62CA	55.8	68.2	1.0	50.2	5.0	34	89.0	0.104
3KE62A	58.9	65.1	1.0	53.0	5.0	35.4	85.0	0.104
3KE68CA	61.2	74.8	1.0	55.1	5.0	30.6	98.0	0.104
3KE68A	64.6	71.4	1.0	58.1	5.0	32.6	92.0	0.104
3KE75CA	67.5	82.5	1.0	60.7	5.0	27.8	108	0.105
3KE75A	71.3	78.8	1.0	64.1	5.0	29.2	103	0.105
3KE82CA	73.8	90.2	1.0	66.4	5.0	25.4	118	0.105
3KE82A	77.9	86.1	1.0	70.1	5.0	26.6	113	0.105

TYPE	Breakdown Voltage @ It (Note 1)			Working Peak Reverse Voltage	Maximum Reverse Leakage @ V_{RWM}	Maximum Reverse Current	Maximum Clamping Voltage @ I_{RSM}	Maximum Temperature Co-efficient of V_{BR}
	V_{BR} (V)		It	V_{RWM}	I_R	I_{RSM}	V_{RSM}	
	Min.	Max.	(mA)	(V)	(μA)	(A)	(V)	(% / °C)
3KE91CA	81.9	100	1.0	73.7	5.0	22.8	131	0.106
3KE91A	86.5	95.5	1.0	77.8	5.0	24.0	125	0.106
3KE100CA	90.0	110	1.0	81.0	5.0	20.8	144	0.106
3KE100A	95.0	105	1.0	85.5	5.0	22.0	137	0.106
3KE110CA	99.0	121	1.0	89.2	5.0	19.0	158	0.107
3KE110A	105	116	1.0	94.0	5.0	19.8	152	0.107
3KE120CA	108	132	1.0	97.2	5.0	17.4	173	0.107
3KE120A	114	126	1.0	102	5.0	18.2	165	0.107
3KE130CA	117	143	1.0	105	5.0	16.0	187	0.107
3KE130A	124	137	1.0	111	5.0	16.8	179	0.107
3KE150CA	135	165	1.0	121	5.0	14.0	215	0.108
3KE150A	143	158	1.0	128	5.0	14.4	207	0.108
3KE160CA	144	176	1.0	130	5.0	13.0	230	0.108
3KE160A	152	168	1.0	136	5.0	13.6	219	0.108
3KE170CA	153	187	1.0	138	5.0	12.4	244	0.108
3KE170A	162	179	1.0	145	5.0	12.8	234	0.108
3KE180CA	162	198	1.0	146	5.0	11.6	258	0.108
3KE180A	171	189	1.0	154	5.0	12.2	246	0.108
3KE200CA	180	220	1.0	162	5.0	10.4	287	0.108
3KE200A	190	210	1.0	171	5.0	11.0	274	0.108
3KE220CA	198	242	1.0	175	5.0	8.6	344	0.108
3KE220A	209	231	1.0	185	5.0	9.2	328	0.108
3KE250CA	225	275	1.0	202	5.0	10	360	0.110
3KE250A	237	263	1.0	214	5.0	10	344	0.110
3KE300CA	270	330	1.0	243	5.0	10	430	0.110
3KE300A	285	315	1.0	256	5.0	10	414	0.110
3KE350CA	315	385	1.0	284	5.0	8.0	504	0.110
3KE350A	332	368	1.0	300	5.0	8.0	482	0.110
3KE400CA	360	440	1.0	324	5.0	8.0	574	0.110
3KE400A	380	420	1.0	342	5.0	8.0	548	0.110
3KE440CA	396	484	1.0	356	5.0	4.8	631	0.110
3KE440A	418	462	1.0	376	5.0	5.0	602	0.110

Note:

(1) V_{BR} measured after It applied for 300 μs., It = square wave pulse or equivalent.

(2) V_F = 5.0 Vmax., I_F = 100 Amps. per 1/2 square or equivalent sine wave.
PW = 8.3 ms, duty cycle = 4 pulses per minute maximum.

FIG.1 - PULSE DERATING CURVE

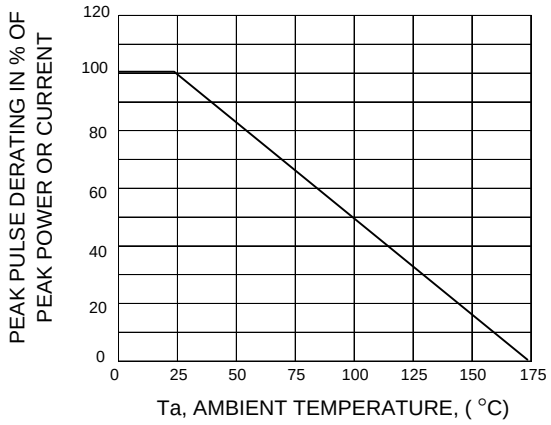


FIG.2 - MAXIMUM NON-REPETITIVE SURGE CURRENT

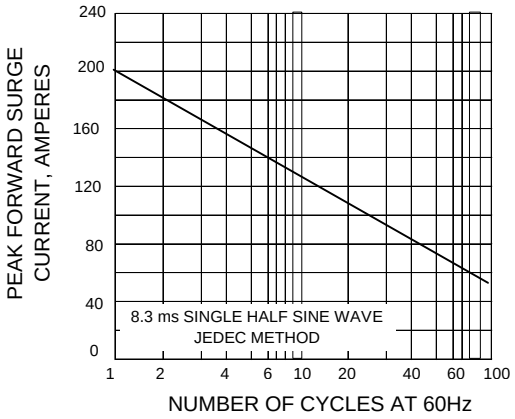


FIG.3 - STEADY STATE POWER DERATING

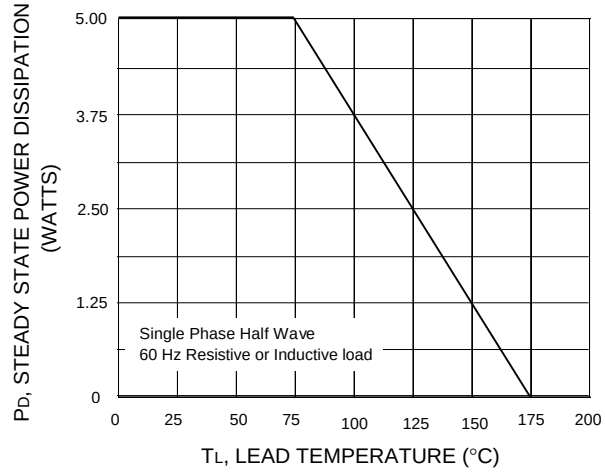


FIG.4 - PULSE RATING CURVE

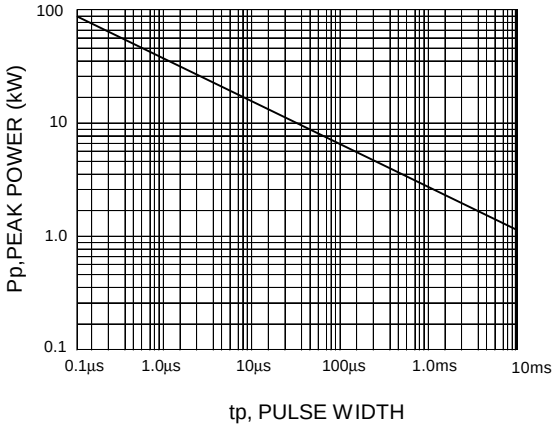


FIG.5 - PULSE WAVEFORM