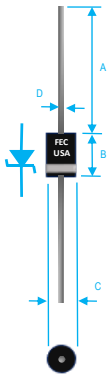
1.5KE6.8(C) THRU 1.5KE540(C)A SPECIFICATIONS

Rev. A

1500W TRANSIENT VOLTAGE SUPPRESSOR



Dim.	Value In[mm] Min.	Max.
A	1000[25.40]	---
B	0.285[7.24]	0.375[9.52]
C	0.197[5.00]	0.220[5.59]
D	0.037[0.94]	0.042[107]

PRODUCT FEATURES

1. FLAMMABILITY CLASSIFICATION 94V-0
2. 1500W SURGE CAPABILITY AT 1ms
3. FAST RESPONSE TIME: 1.0 pS FROM 0 VOLTS TO V(BR)
4. IR LESS THAN 1mA ABOVE 10V
5. CASE: MOLDED PLASTIC, DO-201AE
6. DIMENSIONS IN INCHES AND (MILLIMETERS)
7. POLARITY: INDICATED BY CATHODE BAND
8. WEIGHT: 1.2 GRAMS
9. MIL-STD-202, METHOD 208
10. PULLING FORCE: 2.3 Kg
11. ROHS

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS RATINGS AT 25°C AMBIENT TEMPERATURE UNLESS OTHERWISE SPECIFIED STORAGE AND OPERATING TEMPERATURE RANGE -55°C TO + 150°C

RATINGS	SYMBOL	VALUE	UNITS
PEAK POWER DISSIPATION AT TA=25ºC, TP=1ms(NOTE1)	PPK	MIN. 1500	W
PEAK PULSE CURRENT WITH A 10/1000us WAVEFORM(NOTE 1)	IPPM	SEE TABLE	A
STEADY STATE POWER DISSIPATION AT TL=75°C, LEADS LENGTH 0.375" (NOTE2)	PM(AV)	6.5	W
PEAK FWD SURGE CURRENT, 8.3ms HALF SINE-WAVE SUPERIMPOSED ON RATED LOAD(NOTE 3)	IFSM	200	A
TYPICAL THERMAL RESISTANCE JUNCTUION-TO-AMBIENT	RθJA	75	°C/W

1. NON-REPETITIVE CURRENT PULSE, PER FIG.3 AND DERATED ABOVE TA=25°C PER FIG 2.
2. MOUNTED ON COPPER PAD AREA OF 1.6x1.6" (40×40mm) PER FIG. 5
3. 8.3ms SINGLE HALF SINE-WAVE, DUTY CYCLE=4 PULSES PER MINUTES MAXIMUM
4. FOR BIDIRECTIONAL USE C SUFFIX FOR 10%TOLERANCE, CA SUFFIX FOR 5%TOLERANCE
5. BREAK DOWN VOLTAGE AND PEAK REVERSE VOLTAGE ARE MEASURED @ IT

PART NUMBER	MIN BREAK DOWN VOLTAGE VBR(V)	MAX BREAK DOWN VOLTAGE VBR(V)	TEST CURRENT IT(mA)	PK REV VOLTAGE VRWM (V)	MAX REV LEAKAGE IR(uA)	MAX REV SURGE CURRENT IRSM(A)	MAX CLAMPING VOLTAGE VC(V)	MAX TEMP. COEFF. VBR(%C)
1.5KE6.8(C)	6.12	7.48	10	5.5	1000	139	10.8	0.057
1.5KE6.8(C)A	6.45	7.14	10	5.8	1000	143	10.5	0.057
1.5KE7.5(C)	6.75	8.25	10	6.05	500	128	11.7	0.061
1.5KE7.5(C)A	7.13	7.88	10	6.4	500	132	11.3	0.061
1.5KE8.2(C)	7.38	9.02	10	6.63	200	120	12.5	0.065
1.5KE8.2(C)A	7.79	8.61	10	7.02	200	124	12.1	0.065
1.5KE9.1(C)	8.19	10	1	7.37	50	109	13.8	0.068
1.5KE9.1(C)A	8.65	9.55	1	7.78	50	112	13.4	0.068
1.5KE10(C)	9	11	1	8.1	10	100	15	0.073
1.5KE10(C)A	9.5	10.5	1	8.55	10	103	14.5	0.073
1.5KE11(C)	9.9	12.1	1	8.92	5	93	16.2	0.075
1.5KE11(C)A	10.5	11.6	1	9.4	5	96	15.6	0.075
1.5KE12(C)	10.8	13.2	1	9.72	5	87	17.3	0.078
1.5KE12(C)A	11.4	12.6	1	10.2	5	90	16.7	0.078

1.5KE6.8(C) THRU 1.5KE540(C)A SPECIFICATIONS

Rev. A

PART NUMBER	MIN BREAK DOWN VOLTAGE VBR(V)	MAX BREAK DOWN VOLTAGE VBR(V)	TEST CURRENT IT(mA)	PK REV VOLTAGE VRWM (V)	MAX REV LEAKAGE IR(uA)	MAX REV SURGE CURRENT IRSM(A)	MAX CLAMPING VOLTAGE VC(V)	MAX TEMP. COEFF. VBR(%C)
1.5KE13(C)	11.7	14.3	1	10.5	5	79	19	0.081
1.5KE13(C)A	12.4	13.7	1	11.1	5	82	18.2	0.081
1.5KE15(C)	13.5	16.5	1	12.1	5	68	22	0.084
1.5KE15(C)A	14.3	15.8	1	12.8	5	71	21.2	0.084
1.5KE16(C)	14.4	17.6	1	12.9	5	64	23.5	0.086
1.5KE16(C)A	15.2	16.8	1	13.6	5	67	22.5	0.086
1.5KE18(C)	16.2	19.8	1	14.5	5	56.5	26.5	0.088
1.5KE18(C)A	17.1	18.9	1	15.3	5	59.5	25.2	0.088
1.5KE20(C)	18	22	1	16.2	5	51.5	29.1	0.09
1.5KE20(C)A	19	21	1	17.1	5	54	27.7	0.09
1.5KE22(C)	19.8	24.2	1	17.8	5	47	31.9	0.092
1.5KE22(C)A	20.9	23.1	1	18.8	5	49	30.6	0.092
1.5KE24(C)	21.6	26.4	1	19.4	5	43	34.7	0.094
1.5KE24(C)A	22.8	25.2	1	20.5	5	45	33.2	0.094
1.5KE27(C)	24.3	29.7	1	21.8	5	38.5	39.1	0.096
1.5KE27(C)A	25.7	28.4	1	23.1	5	40	37.5	0.096
1.5KE30(C)	27	33	1	24.3	5	34.5	43.5	0.097
1.5KE30(C)A	28.5	31.5	1	25.6	5	36	41.4	0.097
1.5KE33(C)	29.7	36.3	1	26.8	5	31.5	47.7	0.098
1.5KE33(C)A	31.4	34.7	1	28.2	5	33	45.7	0.098
1.5KE36(C)	32.4	39.6	1	29.1	5	29	52	0.099
1.5KE36(C)A	34.2	37.8	1	30.8	5	30	49.9	0.099
1.5KE39(C)	35.1	42.9	1	31.6	5	26.5	56.4	0.1
1.5KE39(C)A	37.1	41	1	33.3	5	28	53.9	0.1
1.5KE43(C)	38.7	47.3	1	34.8	5	24	61.9	0.101
1.5KE43(C)A	40.9	45.2	1	36.8	5	25.3	59.3	0.101
1.5KE47(C)	42.3	51.7	1	36.1	5	22.2	67.8	0.101
1.5KE47(C)A	44.7	49.4	1	40.2	5	23.2	64.8	0.101
1.5KE51(C)	45.9	56.1	1	41.3	5	20.4	73.5	0.102
1.5KE51(C)A	48.5	53.6	1	43.6	5	21.4	70.1	0.102
1.5KE56(C)	50.4	61.8	1	45.4	5	18.6	80.5	0.103
1.5KE56(C)A	53.2	58.8	1	47.8	5	19.5	77	0.103
1.5KE62(C)	55.8	68.2	1	50.2	5	16.9	89	0.104
1.5KE62(C)A	58.9	65.1	1	53	5	17.7	85	0.104
1.5KE68(C)	61.2	74.8	1	55.1	5	15.3	98	0.104
1.5KE68(C)A	64.6	71.4	1	58.1	5	16.3	92	0.104
1.5KE75(C)	67.5	82.5	1	60.7	5	13.9	108	0.105
1.5KE75(C)A	71.3	78.8	1	64.1	5	14.6	103	0.105
1.5KE82(C)	73.8	90.2	1	66.4	5	12.7	118	0.105
1.5KE82(C)A	77.9	86.1	1	70.1	5	13.3	113	0.105
1.5KE91(C)	81.9	100	1	73.7	5	11.4	131.8	0.106
1.5KE91(C)A	86.5	95.5	1	77.8	5	12	125	0.106
1.5KE100(C)	90	110	1	81	5	10.4	144	0.106
1.5KE100(C)A	95	105	1	85.5	5	11	137	0.106
1.5KE110(C)	99	121	1	89.2	5	9.5	158	0.107
1.5KE110(C)A	106	116	1	94	5	9.9	152	0.107
1.5KE120(C)	108	132	1	97.2	5	8.7	173	0.107
1.5KE120(C)A	114	126	1	102	5	9.1	165	0.107
1.5KE130(C)	117	143	1	106	5	8	187	0.107

1.5KE6.8(C) THRU 1.5KE540(C)A SPECIFICATIONS

Rev. A

PART NUMBER	MIN BREAK DOWN VOLTAGE VBR(V)	MAX BREAK DOWN VOLTAGE VBR(V)	TEST CURRENT IT(mA)	PK REV VOLTAGE VRWM (V)	MAX REV LEAKAGE IR(uA)	MAX REV SURGE CURRENT IRSM(A)	MAX CLAMPING VOLTAGE VC(V)	MAX TEMP. COEFF. VBR(%C)
1.5KE130(C)A	124	137	1	111	5	8.4	179	0.107
1.5KE150(C)	136	165	1	121	5	7	215	0.108
1.5KE150(C)A	143	158	1	128	5	7.2	207	0.108
1.5KE160(C)	144	176	1	130	5	6.5	230	0.108
1.5KE160(C)A	152	168	1	136	5	6.8	219	0.108
1.5KE170(C)	153	187	1	138	5	6.2	244	0.108
1.5KE170(C)A	162	179	1	145	5	6.4	234	0.108
1.5KE180(C)	162	198	1	146	5	5.8	258	0.108
1.5KE180(C)A	171	189	1	154	5	6.1	246	0.108
1.5KE200(C)	180	220	1	162	5	5.2	287	0.108
1.5KE200(C)A	190	210	1	171	5	5.5	274	0.108
1.5KE220(C)	196	242	1	175	5	4.4	344	0.108
1.5KE220(C)A	209	231	1	185	5	4.6	328	0.108
1.5KE250(C)	225	275	1	202	5	4.2	360	0.11
1.5KE250(C)A	237	263	1	214	5	4.4	344	0.11
1.5KE300(C)	270	330	1	243	5	3.5	430	0.11
1.5KE300(C)A	285	315	1	256	5	3.6	414	0.11
1.5KE350(C)	315	385	1	284	5	3	504	0.11
1.5KE350(C)A	333	368	1	300	5	3.1	482	0.11
1.5KE400(C)	360	440	1	324	5	2.6	574	0.11
1.5KE400(C)A	380	420	1	342	5	2.7	548	0.11
1.5KE440(C)	396	484	1	356	5	2.4	631	0.11
1.5KE440(C)A	418	462	1	376	5	2.5	602	0.11
1.5KE480(C)	432	528	1	389	5	2.19	686	0.11
1.5KE480(C)A	456	504	1	408	5	2.28	658	0.11
1.5KE510(C)	459	561	1	413	5	2.06	729	0.11
1.5KE510(C)A	485	535	1	434	5	2.15	698	0.11
1.5KE540(C)	486	594	1	437	5	1.94	772	0.11
1.5KE540(C)A	513	567	1	459	5	2.03	740	0.11

1. VBR MEASURED AFTER IT APPLIED FOR 300 µS, IT=SQUARE WAVE PULSE OR EQUIVALENT
2. SURGE CURRENT WAVEFORM PER FIGURE 3 AND DERATED PER FIGURE 2.
3. VF=3.5V MAX, IF=100A [1.5KE6.8(C) THRU 1.5KE200(C)A]
VF=6.5V MAX, IF=100A [1.5KE220(C) THRU 1.5KE540(C)A] PER 1/2 SQUARE OR EQUIVALENT SINE WAVE
PW=8.3ms, DUTY CYCLE=4 PULSES PER MINUTE MAXIMUM
4. FOR BIPOLAR TYPES HAVING VRWM OF 10 VOLTS AND UNDER, THE IR LIMIT IS DOUBLED

RATING AND CHARACTERISTIC CURVES

FIG. 1 - PEAK PULSE POWER RATING CURVE

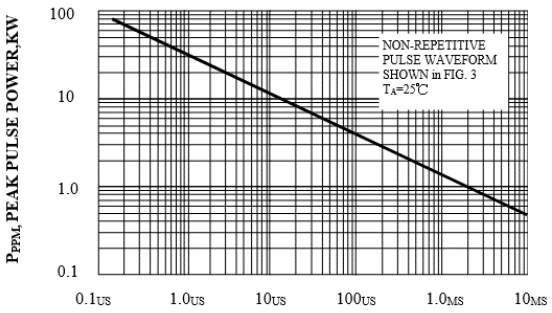
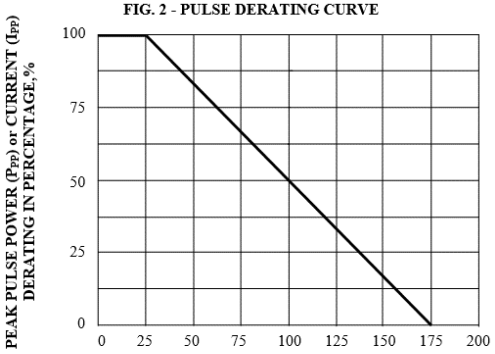


FIG. 2 - PULSE DERATING CURVE



td, PULSE WIDTH, sec

FIG. 3 - PULSE WAVEFORM

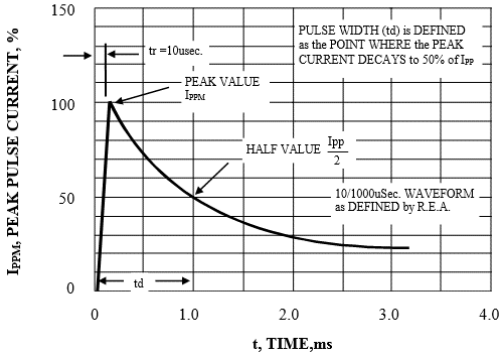


FIG. 4 - TYPICAL JUNCTION CAPACITANCE

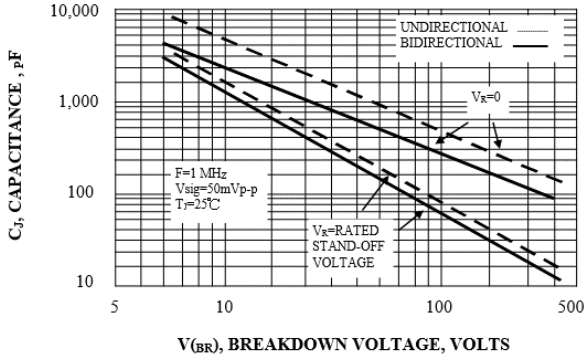


FIG. 5 – STEADY STATE POWER DERATING CURVE

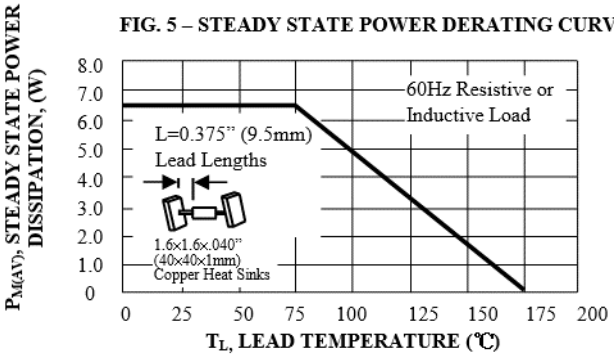


FIG. 6 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT UNIDIRECTIONAL ONLY

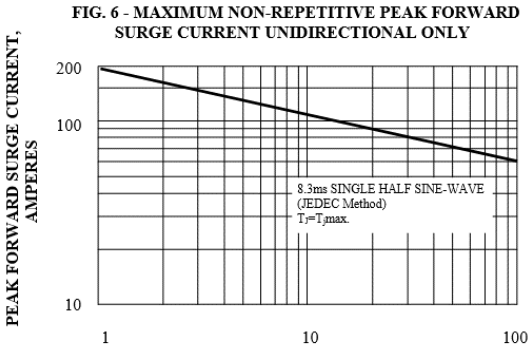


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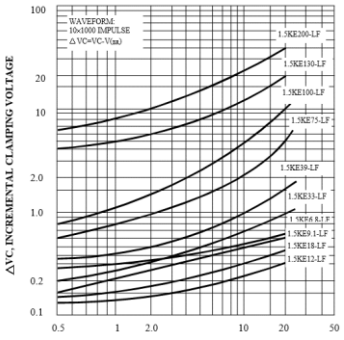
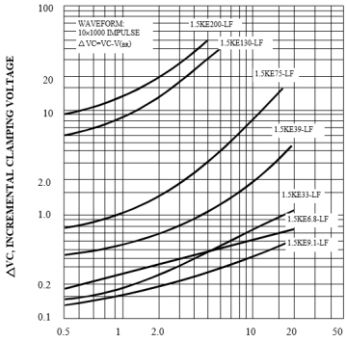
FIG. 7 - INCREMENTAL CLAMPING VOLTAGE CURVE
UNIDIRECTIONAL



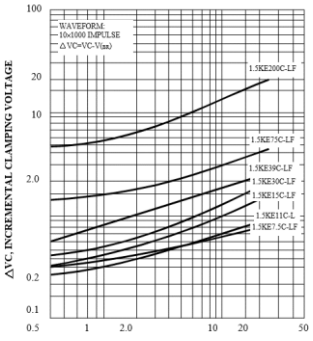
I_{PP}, PEAK PULSE CURRENT, AMPS

FIG. 8 - INCREMENTAL CLAMPING VOLTAGE CURVE
UNIDIRECTIONAL



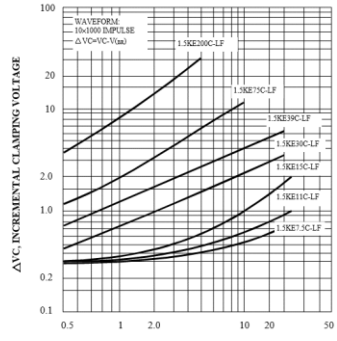
I_{PP}, PEAK PULSE CURRENT, AMPS

FIG. 9 - INCREMENTAL CLAMPING VOLTAGE CURVE



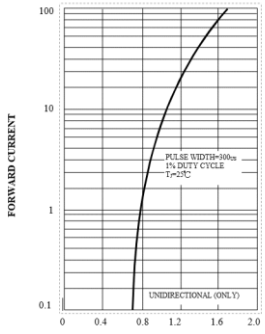
I_{PP}, PEAK PULSE CURRENT, AMPS

FIG. 10 - INCREMENTAL CLMPING VOLTAGE CURVE
BIDIRECTIONAL



I_{PP}, PEAK PULSE CURRENT, AMPS

FIG. 11 - INSTANTANEOUS FORWARD
VOLTAGE CHARACTERISTIS CURVE



INSTANTANEOUS FORWARD CURRENT, AMPERES