

Data Sheet

Customer: _____

Product: Transient Voltage Suppressors 1500W – 1.5KE Series _____

Package : DO-201AE _____

Issued Date: 10-Feb.-2015 _____

Edition: Ver. 1 _____

Record of change

Date	Ver.	Description	Page
10-Feb.-2015	1		

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10-Feb.-2015	10-Feb.-2015	10-Feb.-2015	
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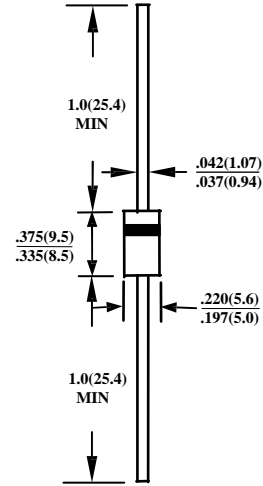
1500W TRANSIENT VOLTAGE SUPPRESSOR

FEATURES

- PLASTIC PACKAGE HAS UNDERWRITERS LABORATORY FLAMMABILITY CLASSIFICATION 94V-0.
- 1500W PEAK PULSE POWER CAPABILITY WITH A 10/1000 μ s WAVEFORM , REPETITIVE RATE (DUTY CYCLE) : 0.01 %.
- 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 1 μ A ABOVE 10V.
- HIGH TEMPERATURE SOLDERING GUARANTEED:260 $^{\circ}$ C/10S / $.375''$ (9.5mm) LEAD LENGTH/5LBS., (2.3KG) TENSION.
- ROHS&REACH COMPLIANT.

MECHANICAL DATA

- CASE : MOLDED PLASTIC
- TERMINALS : AXIAL LEADS, SOLDERABLE PER MIL-STD-202 , METHOD 208
- POLARITY : COLOR BAND DENOTED CATHODE END EXCEPT BIPOLAR
- WEIGHT : 1.2 GRAMS



CASE : DO-201AE
DIMENSIONS IN INCHES AND (MILLIMETERS)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS
RATINGS AT 25 $^{\circ}$ C AMBIENT TEMPERATURE UNLESS OTHERWISE SPECIFIED

RATINGS	SYMBOL	VALUE	UNITS
PEAK POWER DISSIPATION AT TA=25 $^{\circ}$ C , TP=1ms(NOTE 1)	P _{PK}	MINIMUM 1500	WATTS
PEAK PULSE CURRENT WITH A 10/1000 μ s WAVEFORM(NOTE 1)	I _{PPM}	SEE NEXT TABLE	A
STEADY STATE POWER DISSIPATION AT T _L =75 $^{\circ}$ C , LEAD LENGTHS $.375''$ (9.5mm)	P _{M(AV)}	6.5	WATTS
OPERATING AND STORAGE TEMPERATURE RANGE	T _J ,T _{STG}	- 55 TO + 150	$^{\circ}$ C

- NOTE : 1. NON-REPETITIVE CURRENT PULSE, PER FIG.5 AND DERATED ABOVE TA=25 $^{\circ}$ C PER FIG 1.
2. 8.3ms SINGLE HALF SINE-WAVE, DUTY CYCLE=4 PULSES PER MINUTES MAXIMUM.

DEVICE TYPE		BREAKDOWN VOLTAGE			WORKING PEAK REVERSE VOLTAGE V_{RWM} (VOLTS)	MAXIMUM REVERSE LEAKAGE AT V_{RWM} IR(μ A)	MAXIMUM REVERSE SURGE CURRENT I_{RSM} (AMPS)	MAX CLAMPING VOLTAGE V_{RWM} (VOLTS)	MAXIMUM TEMPERATURE COEFFICIENT OF V_{BR} (%C) V_{RSM} (VOLTS)
		V_{BR} (VOLTS)		@IT (mA)					
UNI	BI	MIN	MAX						
1.5KE6.8	1.5KE6.8C	6.12	7.48	10	5.50	1000	139	10.8	0.057
1.5KE6.8A	1.5KE6.8CA	6.45	7.14	10	5.80	1000	143	10.5	0.057
1.5KE7.5	1.5KE7.5C	6.75	8.25	10	6.05	500	128	11.7	0.061
1.5KE7.5A	1.5KE7.5CA	7.13	7.88	10	6.40	500	132	11.3	0.061
1.5KE8.2	1.5KE8.2C	7.38	9.02	10	6.63	200	120	12.5	0.065
1.5KE8.2A	1.5KE8.2CA	7.79	8.61	10	7.02	200	124	12.1	0.065
1.5KE9.1	1.5KE9.1C	8.19	10.0	1.0	7.37	50	109	13.8	0.068
1.5KE9.1A	1.5KE9.1CA	8.65	9.55	1.0	7.78	50	112	13.4	0.068
1.5KE10	1.5KE10C	9.00	11.0	1.0	8.10	10	100	15.0	0.073
1.5KE10A	1.5KE10CA	9.50	10.5	1.0	8.55	10	103	14.5	0.073
1.5KE11	1.5KE11C	9.90	12.1	1.0	8.92	5.0	93.0	16.2	0.075
1.5KE11A	1.5KE11CA	10.5	11.6	1.0	9.40	5.0	96.0	15.6	0.075
1.5KE12	1.5KE12C	10.8	13.2	1.0	9.72	5.0	87.0	17.3	0.078
1.5KE12A	1.5KE12CA	11.4	12.6	1.0	10.2	5.0	90.0	16.7	0.078
1.5KE13	1.5KE13C	11.7	14.3	1.0	10.5	5.0	79.0	19.0	0.081
1.5KE13A	1.5KE13CA	12.4	13.7	1.0	11.1	5.0	82.0	18.2	0.081
1.5KE15	1.5KE15C	13.5	16.5	1.0	12.1	5.0	68.0	22.0	0.084
1.5KE15A	1.5KE15CA	14.3	15.8	1.0	12.8	5.0	71.0	21.2	0.084
1.5KE16	1.5KE16C	14.4	17.6	1.0	12.9	5.0	64.0	23.5	0.086
1.5KE16A	1.5KE16CA	15.2	16.8	1.0	13.6	5.0	67.0	22.5	0.086
1.5KE18	1.5KE18C	16.2	19.8	1.0	14.5	5.0	56.5	26.5	0.088
1.5KE18A	1.5KE18CA	17.1	18.9	1.0	15.3	5.0	59.5	25.2	0.088
1.5KE20	1.5KE20C	18.0	22.0	1.0	16.2	5.0	51.5	29.1	0.090
1.5KE20A	1.5KE20CA	19.0	21.0	1.0	17.1	5.0	54.0	27.7	0.090
1.5KE22	1.5KE22C	19.8	24.2	1.0	17.8	5.0	47.0	31.9	0.092
1.5KE22A	1.5KE22CA	20.9	23.1	1.0	18.8	5.0	49.0	30.6	0.092
1.5KE24	1.5KE24C	21.6	26.4	1.0	19.4	5.0	43.0	34.7	0.094
1.5KE24A	1.5KE24CA	22.8	25.2	1.0	20.5	5.0	45.0	33.2	0.094
1.5KE27	1.5KE27C	24.3	29.7	1.0	21.8	5.0	38.5	39.1	0.096
1.5KE27A	1.5KE27CA	25.7	28.4	1.0	23.1	5.0	40.0	37.5	0.096
1.5KE30	1.5KE30C	27.0	33.0	1.0	24.3	5.0	34.5	43.5	0.097
1.5KE30A	1.5KE30CA	28.5	31.5	1.0	25.6	5.0	36.0	41.4	0.097
1.5KE33	1.5KE33C	29.7	36.3	1.0	26.8	5.0	31.5	47.7	0.098
1.5KE33A	1.5KE33CA	31.4	34.7	1.0	28.2	5.0	33.0	45.7	0.098
1.5KE36	1.5KE36C	32.4	39.6	1.0	29.1	5.0	29.0	52.0	0.099
1.5KE36A	1.5KE36CA	34.2	37.8	1.0	30.8	5.0	30.0	49.9	0.099
1.5KE39	1.5KE39C	35.1	42.9	1.0	31.6	5.0	26.5	56.4	0.100
1.5KE39A	1.5KE39CA	37.1	41.0	1.0	33.3	5.0	28.0	53.9	0.100
1.5KE43	1.5KE43C	38.7	47.3	1.0	34.8	5.0	24.0	61.9	0.101
1.5KE43A	1.5KE43CA	40.9	45.2	1.0	36.8	5.0	25.3	59.3	0.101
1.5KE47	1.5KE47C	42.3	51.7	1.0	36.1	5.0	22.2	67.8	0.101
1.5KE47A	1.5KE47CA	44.7	49.4	1.0	40.2	5.0	23.2	64.8	0.101
1.5KE51	1.5KE51C	45.9	56.1	1.0	41.3	5.0	20.4	73.5	0.102
1.5KE51A	1.5KE51CA	48.5	53.6	1.0	43.6	5.0	21.4	70.1	0.102
1.5KE56	1.5KE56C	50.4	61.8	1.0	45.4	5.0	18.6	80.5	0.103
1.5KE56A	1.5KE56CA	53.2	58.8	1.0	47.8	5.0	19.5	77.0	0.103
1.5KE62	1.5KE62C	55.8	68.2	1.0	50.2	5.0	16.9	89.0	0.104
1.5KE62A	1.5KE62CA	58.9	65.1	1.0	53.0	5.0	17.7	85.0	0.104
1.5KE68	1.5KE68C	61.2	74.8	1.0	55.1	5.0	15.3	98.0	0.104
1.5KE68A	1.5KE68CA	64.6	71.4	1.0	58.1	5.0	16.3	92.0	0.104
1.5KE75	1.5KE75C	67.5	82.5	1.0	60.7	5.0	13.9	108.0	0.105
1.5KE75A	1.5KE75CA	71.3	78.8	1.0	64.1	5.0	14.6	103.0	0.105
1.5KE82	1.5KE82C	73.8	90.2	1.0	66.4	5.0	12.7	118.0	0.105
1.5KE82A	1.5KE82CA	77.9	86.1	1.0	70.1	5.0	13.3	113.0	0.105

DEVICE TYPE		BREAKDOWN VOLTAGE			WORKING PEAK REVERSE VOLTAGE V_{RWM} (VOLTS)	MAXIMUM REVERSE LEAKAGE AT V_{RWM} I_R (μ A)	MAXIMUM REVERSE CURRENT I_{RSM} (AMPS)	MAX CLAMPING VOLTAGE V_{RWM} (VOLTS)	MAXIMUM TEMPERATURE COEFFICIENT OF V_{BR} (%C) V_{RSM} (VOLTS)
		V_{BR} (VOLTS)		@IT (mA)					
UNI	BI	MIN	MAX						
1.5KE91	1.5KE91C	81.9	100.0	1.0	73.7	5.0	11.4	131.8	0.106
1.5KE91A	1.5KE91CA	86.5	95.50	1.0	77.8	5.0	12.0	125.0	0.106
1.5KE100	1.5KE100C	90.0	110.0	1.0	81.0	5.0	10.4	144.0	0.106
1.5KE100A	1.5KE100CA	95.0	105.0	1.0	85.5	5.0	11.0	137.0	0.106
1.5KE110	1.5KE110C	99.0	121.0	1.0	89.2	5.0	9.5	158.0	0.107
1.5KE110A	1.5KE110CA	106.0	116.0	1.0	94.0	5.0	9.9	152.0	0.107
1.5KE120	1.5KE120C	108.0	132.0	1.0	97.2	5.0	8.7	173.0	0.107
1.5KE120A	1.5KE120CA	114.0	126.0	1.0	102.0	5.0	9.1	165.0	0.107
1.5KE130	1.5KE130C	117.0	143.0	1.0	106.0	5.0	8.0	187.0	0.107
1.5KE130A	1.5KE130CA	124.0	137.0	1.0	111.0	5.0	8.4	179.0	0.107
1.5KE150	1.5KE150C	136.0	165.0	1.0	121.0	5.0	7.0	215.0	0.108
1.5KE150A	1.5KE150CA	143.0	158.0	1.0	128.0	5.0	7.2	207.0	0.108
1.5KE160	1.5KE160C	144.0	176.0	1.0	130.0	5.0	6.5	230.0	0.108
1.5KE160A	1.5KE160CA	152.0	168.0	1.0	136.0	5.0	6.8	219.0	0.108
1.5KE170	1.5KE170C	153.0	187.0	1.0	138.0	5.0	6.2	244.0	0.108
1.5KE170A	1.5KE170CA	162.0	179.0	1.0	145.0	5.0	6.4	234.0	0.108
1.5KE180	1.5KE180C	162.0	198.0	1.0	146.0	5.0	5.8	258.0	0.108
1.5KE180A	1.5KE180CA	171.0	189.0	1.0	154.0	5.0	6.1	246.0	0.108
1.5KE200	1.5KE200C	180.0	220.0	1.0	162.0	5.0	5.2	287.0	0.108
1.5KE200A	1.5KE200CA	190.0	210.0	1.0	171.0	5.0	5.5	274.0	0.108
1.5KE220	1.5KE220C	196.0	242.0	1.0	175.0	5.0	4.4	344.0	0.108
1.5KE220A	1.5KE220CA	209.0	231.0	1.0	185.0	5.0	4.6	328.0	0.108
1.5KE250	1.5KE250C	225.0	275.0	1.0	202.0	5.0	4.2	360.0	0.110
1.5KE250A	1.5KE250CA	237.0	263.0	1.0	214.0	5.0	4.4	344.0	0.110
1.5KE300	1.5KE300C	270.0	330.0	1.0	243.0	5.0	3.5	430.0	0.110
1.5KE300A	1.5KE300CA	285.0	315.0	1.0	256.0	5.0	3.6	414.0	0.110
1.5KE350	1.5KE350C	315.0	385.0	1.0	284.0	5.0	3.0	504.0	0.110
1.5KE350A	1.5KE350CA	333.0	368.0	1.0	300.0	5.0	3.1	482.0	0.110
1.5KE400	1.5KE400C	360.0	440.0	1.0	324.0	5.0	2.6	574.0	0.110
1.5KE400A	1.5KE400CA	380.0	420.0	1.0	342.0	5.0	2.7	548.0	0.110
1.5KE440	1.5KE440C	396.0	484.0	1.0	356.0	5.0	2.4	631.0	0.110
1.5KE440A	1.5KE440CA	418.0	462.0	1.0	376.0	5.0	2.5	602.0	0.110
1.5KE480	1.5KE480C	432.0	528.0	1.0	389.0	5.0	2.19	686.0	0.110
1.5KE480A	1.5KE480CA	456.0	504.0	1.0	408.0	5.0	2.28	658.0	0.110
1.5KE510	1.5KE510C	459.0	561.0	1.0	413.0	5.0	2.06	729.0	0.110
1.5KE510A	1.5KE510CA	485.0	535.0	1.0	434.0	5.0	2.15	698.0	0.110
1.5KE540	1.5KE540C	486.0	594.0	1.0	437.0	5.0	1.94	772.0	0.110
1.5KE540A	1.5KE540CA	513.0	567.0	1.0	459.0	5.0	2.03	740.0	0.110

- NOTES :
1. Suffix 'A' denotes 5% tolerance device. Without 'A' denotes 10% tolerance device.
 2. Add suffix 'C' or 'CA' after part number to specify Bi-directional devices.
 3. For Bi-Directional devices having V_R of 10 volts and under, the I_R limit is double.

RATINGS AND CHARACTERISTIC CURVES 1.5KE6.8(C)A THRU 1.5KE540(C)A

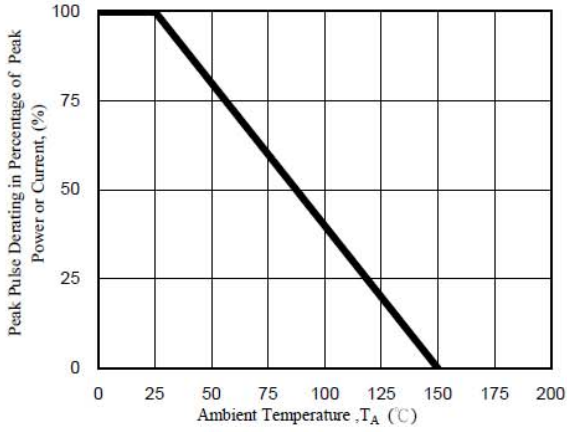


Fig. 1 - Pulse Derating Curve

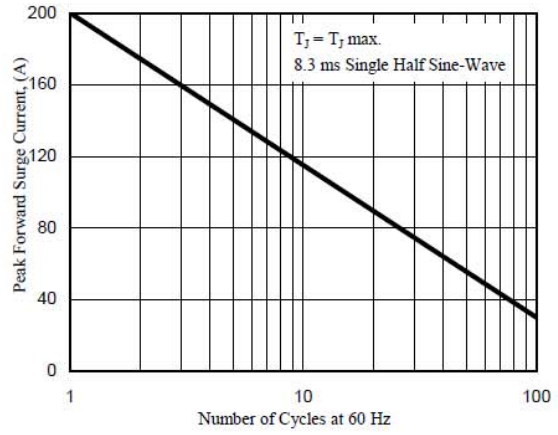


Fig. 2 - Maximum Non-Repetitive Surge Current

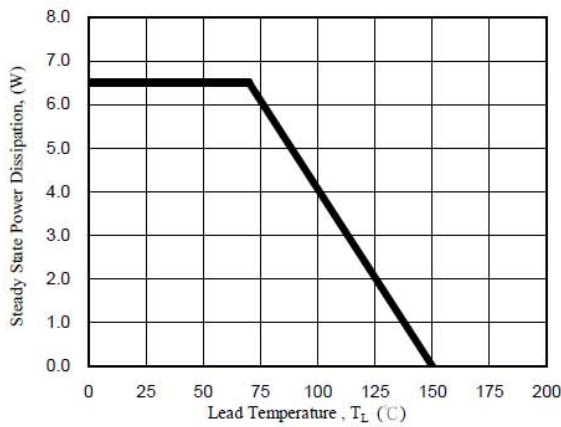


Fig. 3 - Steady State Power Derating Curve

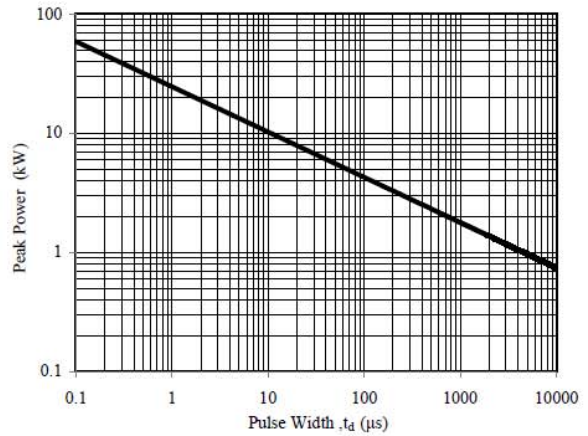


Fig. 4 - Peak Pulse Power Rating Curve

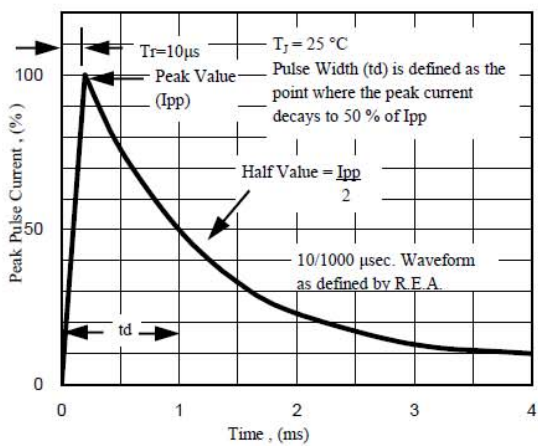


Fig. 5 - Pulse Waveform

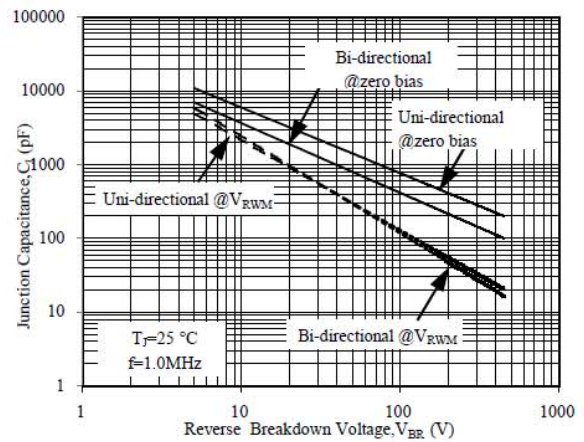


Fig. 6 - Typical Junction Capacitance