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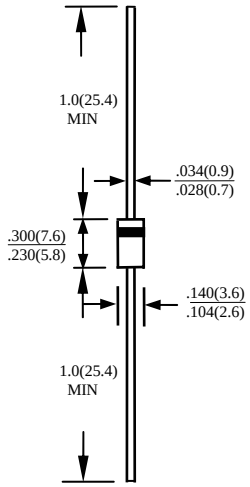
500W TRANSIENT VOLTAGE SUPPRESSOR
SA5.0(C) THRU SA170(C)A

FEATURES

- PLASTIC PACKAGE HAS UNDERWRITERS LABORATORY FLAMMABILITY CLASSIFICATION 94V-0
- 500W PEAK PULSE POWER CAPABILITY ON 10/1000μs WAVEFORM
- EXCELLENT CLAMPING CAPABILITY
- REPETITION RATE (DUTY CYCLE):0.01%
- LOW INCREMENTAL SURGE RESISTANCE
- FAST RESPONSE TIME: TYPICALLY LESS THAN 1.0 ps FROM 0 VOLTS TO BV FOR UNIDIRECTIONAL AND 5.0ns FOR BIDIRECTIONAL TYPES
- TYPICAL I_D LESS THAN 1μA ABOVE 10V
- HIGH TEMPERATURE SOLDERING :260°C /10S /0.375" (9.5mm) LEAD LENGTH/5LBS., (2.3KG) TENSION



MECHANICAL DATA

- CASE: MOLDED PLASTIC, DO15, DIMENSIONS IN INCHES AND (MILLIMETERS)
- TERMINALS: AXIAL LEADS, SOLDERABLE PER MIL-STD-202, METHOD 2026
- POLARITY :COLOR BAND DENOTES POSITIVE END EXCEPT BIDIRECTIONAL
- WEIGHT: 0.4 GRAMS

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS RATINGS AT 25°C AMBIENT TEMPERATURE UNLESS OTHERWISE SPECIFIED

RATINGS	SYMBOL	VALUE	UNITS
PEAK PULSE POWER DISSIPATION ON 10/1000μS WAVEFORM (NOTE 1, FIG. 1)	P_{PPM}	MINIMUM 500	WATTS
PEAK PULSE CURRENT OF 0N 10/1000μS WAVEFORM (NOTE 1,FIG. 3)	I_{PPM}	SEE TABLE 1	A
STEADY STATE POWER DISSIPATION AT T_L=75℃, LEAD LENGTHS 0.375" (9.5mm) (NOTE2)	$P_{M(AV)}$	3.0	WATTS
PEAK FORWARD SURGE CURRENT, 8.3ms SINGLE HALF SINE-WAVE SUPERIMPOSED ON RATED LOAD, UNIDIRECTIONAL ONLY(NOTE 3)	I_{FSM}	70	A
MAXIMUM INSTANTANEOUS FORWARD VOLTAGE AT 35.0A FOR UNIDIRECTIONAL ONLY (NOTE 3)	VF	3.5	V
OPERATING JUNCTION AND STORAGE TEMPERATURE RANGE	T_J,T_{STG}	- 55 TO + 175	°C

NOTE: 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" (40x40mm) PER FIG. 5
3. 8.3ms SINGLE HALF SINE-WAVE OR EQUIVALENT SQUARE WAVE, DUTY CYCLE=4 PULSES PER MINUTE MAXIMUM.
4. FOR BIDIRECTIONAL USE C SUFFIX FOR 10% TOLERANCE, CA SUFFIX FOR 5% TOLERANCE

DEVICE	BREAKDOWN VOLTAGE B_{BR}(VOLTS) MIN	BREAKDOWN VOLTAGE B_{BR}(VOLTS) MAX	@IT (mA)	WORKING PEAK REVERSE VOLTAGE V_{RWM}(VOLTS)	MAXIMUM REVERSE LEAKAGE AT V_{RWM} IR(μA)	MAXIMUM REVERSE CURRENT I_{RSM} (AMPS)	MAX CLAMPING VOLTAGE V_{RWM} (VOLTS)	MAXIMUM TEMPERATURE COEFICIENT OF V_{BR} (%C)
SA5.0(C)	6.40	7.30	10	5.0	600	52.0	9.6	5.0
SA5.0(C)A	6.40	7.00	10	5.0	600	54.3	9.2	5.0
SA6.0(C)	6.67	8.15	10	6.0	600	43.9	11.4	5.0
SA6.0(C)A	6.67	7.37	10	6.0	600	48.5	10.3	5.0
SA6.5(C)	7.22	8.82	10	6.5	400	40.7	12.3	5.0
SA6.5(C)A	7.22	7.98	10	6.5	400	44.7	11.2	5.0
SA7.0(C)	7.78	9.51	10	7.0	150	37.8	13.3	6.0
SA7.0(C)A	7.78	8.60	10	7.0	150	41.7	12.0	6.0
SA7.5(C)	8.33	10.2	1.0	7.5	50	35.0	14.3	7.0
SA7.5(C)A	8.33	9.21	1.0	7.5	50	38.8	12.9	7.0
SA8.0(C)	8.89	10.9	1.0	8.0	25	33.3	15.0	7.0
SA8.0(C)A	8.89	9.83	1.0	8.0	25	36.7	13.6	7.0
SA8.5(C)	9.44	11.5	1.0	8.5	10	31.4	15.9	8.0
SA8.5(C)A	9.44	10.4	1.0	8.5	10	34.7	14.4	8.0
SA9.0(C)	10.0	12.2	1.0	9.0	5.0	29.5	16.9	9.0
SA9.0(C)A	10.0	11.1	1.0	9.0	5.0	32.5	15.4	9.0
SA10(C)	11.1	13.6	1.0	10.0	1.0	26.6	18.8	10.0
SA10(C)A	11.1	12.3	1.0	10.0	1.0	29.4	17.0	10.0
SA11(C)	12.2	14.9	1.0	11.0	1.0	24.9	20.1	11.0
SA11(C)A	12.2	13.5	1.0	11.0	1.0	27.4	18.2	11.0
SA12(C)	13.3	16.3	1.0	12.0	1.0	22.7	22.0	12.0
SA12(C)A	13.3	14.7	1.0	12.0	1.0	25.1	19.9	12.0
SA13(C)	14.4	17.6	1.0	13.0	1.0	21.0	23.8	13.0
SA13(C)A	14.4	15.9	1.0	13.0	1.0	23.2	21.5	13.0
SA14(C)	15.6	19.1	1.0	14.0	1.0	19.4	25.8	14.0
SA14(C)A	15.6	17.2	1.0	14.0	1.0	21.5	23.2	14.0
SA15(C)	16.7	20.4	1.0	15.0	1.0	18.8	26.9	16.0
SA15(C)A	16.7	18.5	1.0	15.0	1.0	20.6	24.4	16.0
SA16(C)	17.8	21.8	1.0	16.0	1.0	17.6	28.8	19.0
SA16(C)A	17.8	19.7	1.0	16.0	1.0	19.2	26.0	17.0
SA17(C)	18.9	23.1	1.0	17.0	1.0	16.4	30.5	20.0
SA17(C)A	18.9	20.9	1.0	17.0	1.0	18.1	27.6	19.0
SA18(C)	20.0	24.4	1.0	18.0	1.0	15.5	32.2	21.0
SA18(C)A	20.0	22.1	1.0	18.0	1.0	17.2	29.2	20.0
SA20(C)	22.2	27.1	1.0	20.0	1.0	13.9	35.8	25.0
SA20(C)A	22.2	24.5	1.0	20.0	1.0	15.4	32.4	23.0
SA22(C)	24.4	29.8	1.0	22.0	1.0	12.7	39.4	28.0
SA22(C)A	24.4	26.9	1.0	22.0	1.0	14.1	35.5	25.0
SA24(C)	26.7	32.6	1.0	24.0	1.0	11.6	43.0	31.0
SA24(C)A	26.7	29.5	1.0	24.0	1.0	12.8	38.9	28.0
SA26(C)	28.9	35.3	1.0	26.0	1.0	10.7	46.6	31.0
SA26(C)A	28.9	31.9	1.0	26.0	1.0	11.9	42.1	30.0
SA28(C)	31.1	38.0	1.0	28.0	1.0	9.9	50.1	35.0
SA28(C)A	31.1	34.4	1.0	28.0	1.0	11.0	45.4	31.0
SA30(C)	33.3	40.7	1.0	30.0	1.0	9.3	53.5	39.0
SA30(C)A	33.3	36.8	1.0	30.0	1.0	10.3	48.4	36.0
SA33(C)	36.7	44.9	1.0	33.0	1.0	8.6	59.0	42.0
SA33(C)A	36.7	40.6	1.0	33.0	1.0	9.4	53.3	39.0
SA36(C)	40.0	48.9	1.0	36.0	1.0	7.8	64.3	46.0
SA36(C)A	40.0	44.2	1.0	36.0	1.0	8.6	58.1	41.0
SA40(C)	44.4	54.3	1.0	40.0	1.0	7.0	71.4	51.0
SA40(C)A	44.4	49.1	1.0	40.0	1.0	7.8	64.5	46.0
SA43(C)	47.8	58.4	1.0	43.0	1.0	6.5	76.7	55.0
SA43(C)A	47.8	52.8	1.0	43.0	1.0	7.2	69.4	50.0
SA45(C)	50.0	61.1	1.0	45.0	1.0	6.2	80.3	58.0
SA45(C)A	50.0	55.3	1.0	45.0	1.0	6.9	72.7	52.0
SA48(C)	53.3	65.2	1.0	48.0	1.0	5.8	85.5	63.0
SA48(C)A	53.3	58.9	1.0	48.0	1.0	6.5	77.4	56.0
SA51(C)	56.7	69.3	1.0	51.0	1.0	5.5	91.1	66.0
SA51(C)A	56.7	62.7	1.0	51.0	1.0	6.1	82.4	61.0
SA54(C)	60.0	73.3	1.0	54.0	1.0	5.2	96.3	71.0
SA54(C)A	60.0	66.3	1.0	54.0	1.0	5.7	87.1	65.0
SA58(C)	64.4	78.7	1.0	58.0	1.0	4.9	103.0	78.0
SA58(C)A	64.4	71.2	1.0	58.0	1.0	5.3	93.6	70.0
SA60(C)	66.7	81.5	1.0	60.0	1.0	4.7	107.0	80.0
SA60(C)A	66.7	73.7	1.0	60.0	1.0	5.2	96.8	71.0
SA64(C)	71.1	86.9	1.0	64.0	1.0	4.4	114.0	86.0
SA64(C)A	71.1	78.6	1.0	64.0	1.0	4.9	103.0	76.0
SA70(C)	77.8	95.1	1.0	70.0	1.0	4.0	125.0	94.0
SA70(C)A	77.8	86.0	1.0	70.0	1.0	4.4	113.0	85.0
SA75(C)	83.3	102.0	1.0	75.0	1.0	3.7	134.0	101
SA75(C)A	83.3	92.1	1.0	75.0	1.0	4.1	121.0	91.0
SA78(C)	86.7	106.0	1.0	78.0	1.0	3.6	139.0	105
SA78(C)A	86.7	95.8	1.0	78.0	1.0	4.0	126.0	95.0
SA85(C)	94.4	115.0	1.0	85.0	1.0	3.3	151.0	114
SA85(C)A	94.4	104.0	1.0	85.0	1.0	3.6	137.0	103
SA90(C)	100	122.0	1.0	90.0	1.0	3.1	160.0	121
SA90(C)A	100	111.0	1.0	90.0	1.0	3.4	146.0	110
SA100(C)	111	136.0	1.0	100.0	1.0	2.8	179.0	135
SA100(C)A	111	123.0	1.0	100.0	1.0	3.1	162.0	123
SA110(C)	122	149.0	1.0	110.0	1.0	2.6	196.0	148
SA110(C)A	122	135.0	1.0	110.0	1.0	2.8	177.0	133
SA120(C)	133	163.0	1.0	120.0	1.0	2.3	214.0	162
SA120(C)A	133	147.0	1.0	120.0	1.0	2.0	193.0	146
SA130(C)	144	176.0	1.0	130.0	1.0	2.2	230.0	175
SA130(C)A	144	159.0	1.0	130.0	1.0	2.4	209.0	158
SA150(C)	167	204.0	1.0	150.0	1.0	1.9	268.0	203
SA150(C)A	167	185.0	1.0	150.0	1.0	2.1	243.0	184
SA160(C)	178	218.0	1.0	160.0	1.0	1.7	257.0	217
SA160(C)A	178	197.0	1.0	160.0	1.0	1.9	259.0	196
SA170(C)	189	231.0	1.0	170.0	1.0	1.6	304.0	230
SA170(C)A	189	209.0	1.0	170.0	1.0	1.8	275.0	208

NOTES： 1. $V_{(BR)}$ MEASURED AFTER I_T APPLIED FOR 300μS, I_T=SQUARE WAVE PULSE OR EQUIVALENT
2. SURGE CURRENT WAVEFORM PER FIGURE 3 AND DERATE PER FIGURE 2.
3. FOR BIDIRECTIONAL TYPES WITH VR OF 10VOLTS AND LESS, THE I_D LIMIT IS DOUBLE
4. ALL TERMS AND SYMBOLS ARE CONSISTENT WITH ANSI/IEE C62.35

RATINGS AND CHRACTERISTIC CURVES SA5.0(C) THRU SA170(C)A

FIG. 7 - INCREMENTAL CLAMPING VOLTAGE CURVE
UNIDIRECTIONAL

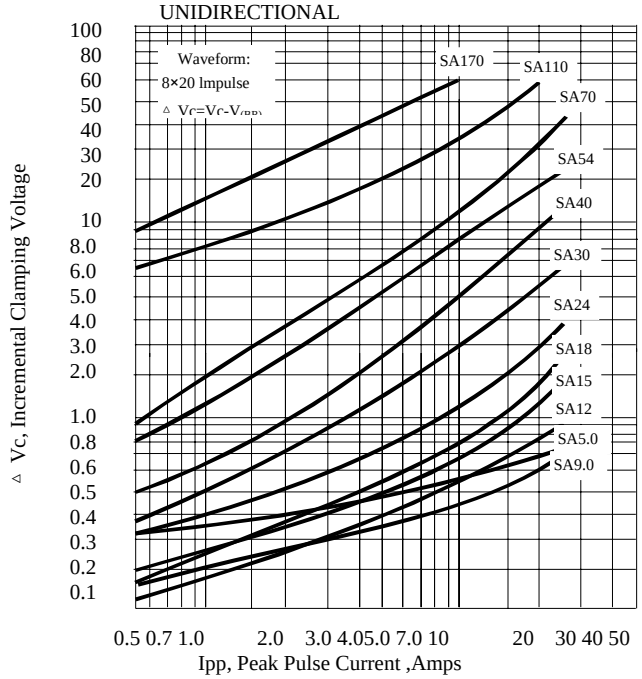


FIG. 8 - INCREMENTAL CLAMPING VOLTAGE CURVE
UNIDIRECTIONAL

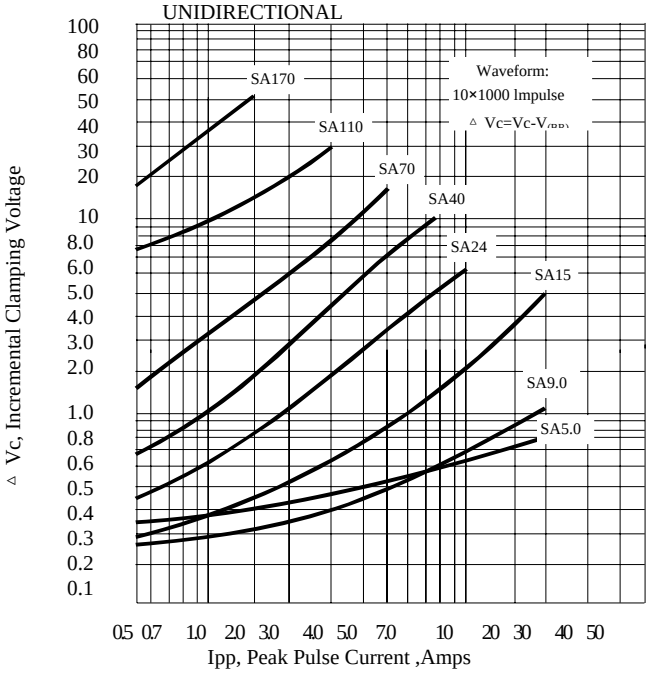


FIG. 9 - INCREMENTAL CLAMPING VOLTAGE CURVE
BIDIRECTIONAL

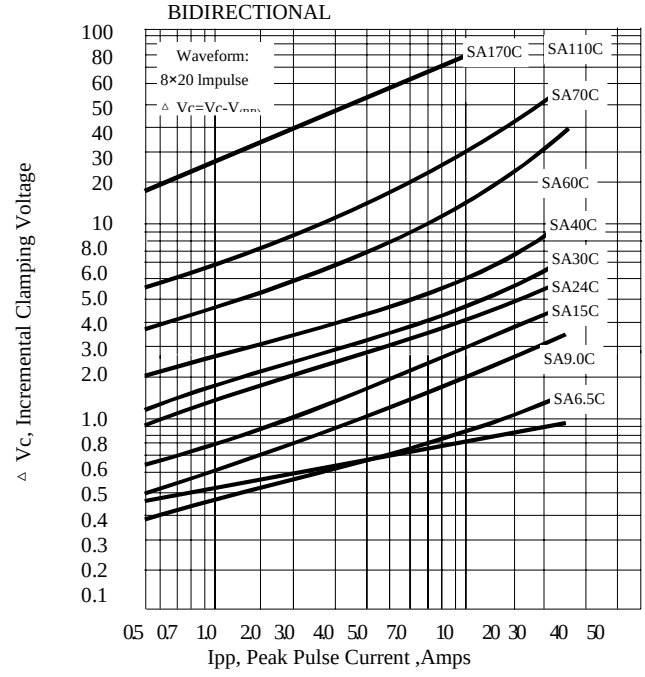
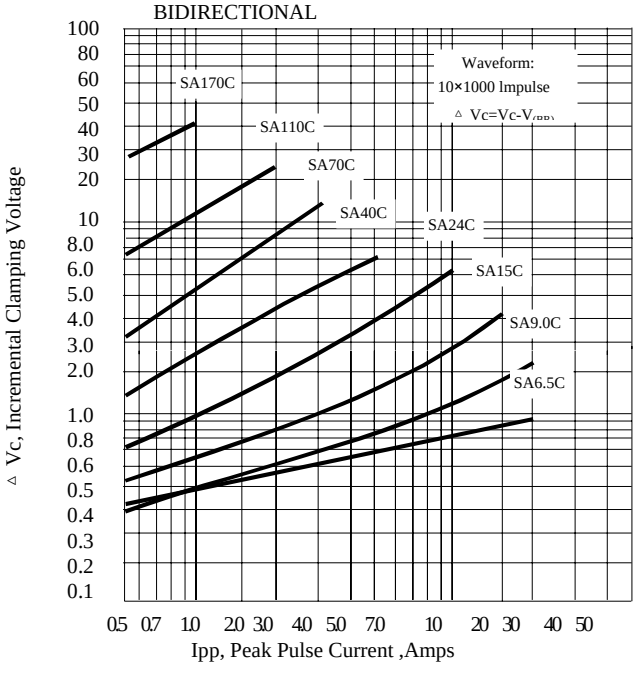


FIG. 10 - INCREMENTAL CLAMPING VOLTAGE CURVE
BIDIRECTIONAL



RATINGS AND CHRACTERISTIC CURVES SA5.0(C) THRU SA170(C)A

FIG. 11 - BREAKDOWN VOLTAGE