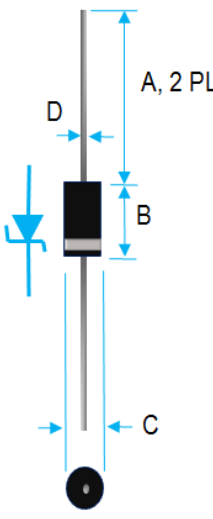


500W AXIAL LEADED TRANSIENT VOLTAGE SUPPRESSORS, 5.0V – 220V

 <table border="1" data-bbox="349 441 738 619"> <thead> <tr> <th rowspan="2">Dim.</th> <th colspan="2">Value Inch[mm]</th> </tr> <tr> <th>Min.</th> <th>Max.</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>1.000[25.40]</td> <td>---</td> </tr> <tr> <td>B</td> <td>0.230[5.84]</td> <td>0.300[7.62]</td> </tr> <tr> <td>C</td> <td>0.104[2.64]</td> <td>0.140[3.56]</td> </tr> <tr> <td>D</td> <td>0.028[0.71]</td> <td>0.034[0.86]</td> </tr> </tbody> </table>	Dim.	Value Inch[mm]		Min.	Max.	A	1.000[25.40]	---	B	0.230[5.84]	0.300[7.62]	C	0.104[2.64]	0.140[3.56]	D	0.028[0.71]	0.034[0.86]	<h3>PRODUCT FEATURES</h3> <ol style="list-style-type: none"> 1. FLAMMABILITY CLASSIFICATION 94V-0 2. GLASS PASSIVATED CHIP JUNCTION 3. 500W PEAK PULSE POWER CAPABILITY WITH A 10/1000 μS WAVEFORM, REPETITION RATE (DUTY CYCLE): 0.01%. 4. EXCELLENT CLAMPING CAPABILITY 5. FAST RESPONSE TIME FROM 0V TO V_{BR}, TYPICALLY <1 pS FOR UNI-DIRECTIONAL & <5nS FOR BI-DIRECTIONAL 6. POLARITY: INDICATED BY CATHODE BAND 7. MOLDED PLASTIC CASE DO-15 8. DIMENSIONS IN INCHES AND (MILLIMETERS) 9. LEADS: SOLDERABILITY PER MIL-STD-202 METHOD 208 10. WEIGHT: 0.40 GRAMS 11. RoHS COMPLIANT. ADD SUFFIX "-H" FOR HALOGEN FREE PART. i.e. SA5.0A-H.
Dim.		Value Inch[mm]																
	Min.	Max.																
A	1.000[25.40]	---																
B	0.230[5.84]	0.300[7.62]																
C	0.104[2.64]	0.140[3.56]																
D	0.028[0.71]	0.034[0.86]																

ELECTRICAL CHARACTERISTICS

MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)

PARAMETER	CONDITIONS	SYMBOL		UNIT
PEAK POWER DISSIPATION	WITH A 10/1000 μ S WAVEFORM, SEE NOTE 1 & FIG.1	P_{PPM}	500	W
PEAK PULSE CURRENT	WITH A 10/1000 μ S WAVEFORM, SEE NOTE 1 & FIG.1	I_{PPM}	SEE TABLE	A
STEADY STATE POWER DISSIPATION	AT $T_L = 75^\circ\text{C}$, LEAD LENGTH 0.375" (9.5mm)	$P_{M(AV)}$	3.0	W
PEAK FORWARD SURGE CURRENT	8.3mS SINGLE HALF SINE-WAVE (JEDEC METHOD), SEE NOTE 2	I_{FSM}	70	A
MAXIMUM INSTANTANEOUS FORWARD VOLTAGE	AT 25A FOR UNI-DIRECTIONAL ONLY, SEE NOTE 3	V_F	3.5/5.0	V
OPERATING JUNCTION TEMPERATURE RANGE		T_J	-55 TO +150	$^\circ\text{C}$
STORAGE TEMPERATURE RANGE		T_{STG}	-55 TO +150	$^\circ\text{C}$

Note : 1. Non-repetitive current pulse, per fig. 3 and derated above $T_A = 25^\circ\text{C}$ per fig. 2

2. Measured on 8.3 ms single half sine-wave or equivalent square wave, duty cycle=4 pulses per minute maximum

3. $V_F < 3.5$ V max. for devices of $V_{BR} < 200$ V, and $V_F < 5.0$ V max. for devices of $V_{BR} > 201$ V



SA_SERIES SPECIFICATION

Rev. A

Part No.	Reverse Stand-off Voltage	Breakdown Voltage @I _r		Test Current	Maximum Clamping Voltage @I _{PP}		Maximum Reverse Leakage Current
	V _{RWM}	V _{BR Min}	V _{BR Max}	I _T	V _{C@I_{PP}}		I _{R@V_{RWM}}
	Volts	Volts	Volts	mA	Volts	I _{PP} (A)	uA
SA5.0(C)A	5.0	6.40	7.00	10	9.2	54.3	600
SA6.0(C)A	6.0	6.67	7.37	10	10.3	48.5	600
SA6.5(C)A	6.5	7.22	7.98	10	11.2	44.7	400
SA7.0(C)A	7.0	7.78	8.60	10	12.0	41.7	150
SA7.5(C)A	7.5	8.33	9.21	1.0	12.9	38.8	50
SA8.0(C)A	8.0	8.89	9.83	1.0	13.6	36.7	25
SA8.5(C)A	8.5	9.44	10.4	1.0	14.4	34.7	10
SA9.0(C)A	9.0	10.0	11.1	1.0	15.4	32.5	5
SA10(C)A	10.0	11.1	12.3	1.0	17.0	29.4	3
SA11(C)A	11.0	12.2	13.5	1.0	18.2	27.4	3
SA12(C)A	12.0	13.3	14.7	1.0	19.9	25.1	3
SA13(C)A	13.0	14.4	15.9	1.0	21.5	23.2	3
SA14(C)A	14.0	15.6	17.2	1.0	23.2	21.5	3
SA15(C)A	15.0	16.7	18.5	1.0	24.4	20.6	3
SA16(C)A	16.0	17.8	19.7	1.0	26.0	19.2	3
SA17(C)A	17.0	18.9	20.9	1.0	27.6	18.1	3
SA18(C)A	18.0	20.0	22.1	1.0	29.2	17.2	3
SA20(C)A	20.0	22.2	24.5	1.0	32.4	15.4	3
SA22(C)A	22.0	24.4	26.9	1.0	35.5	14.4	3
SA24(C)A	24.0	26.7	29.5	1.0	38.9	12.8	3
SA26(C)A	26.0	28.9	31.9	1.0	42.1	11.9	3
SA28(C)A	28.0	31.1	34.4	1.0	45.4	11.0	3
SA30(C)A	30.0	33.3	36.8	1.0	48.4	10.3	3
SA33(C)A	33.0	36.7	40.6	1.0	53.3	9.4	3
SA36(C)A	36.0	40.0	44.2	1.0	58.1	8.6	3
SA40(C)A	40.0	44.4	49.1	1.0	64.5	7.8	3
SA43(C)A	43.0	47.8	52.8	1.0	69.4	7.2	3
SA45(C)A	45.0	50.0	55.3	1.0	72.7	6.9	3
SA48(C)A	48.0	53.3	58.9	1.0	77.4	6.5	3
SA51(C)A	51.0	56.7	62.7	1.0	82.4	6.1	3
SA54(C)A	54.0	60.0	66.3	1.0	87.1	5.7	3
SA58(C)A	58.0	64.4	71.2	1.0	93.6	5.3	3
SA60(C)A	60.0	66.7	73.7	1.0	96.8	5.2	3
SA64(C)A	64.0	71.1	78.6	1.0	103	4.9	3
SA70(C)A	70.0	77.8	86.0	1.0	113	4.4	3
SA75(C)A	75.0	83.3	92.1	1.0	121	4.1	3
SA78(C)A	78.0	86.7	95.8	1.0	126	4.0	3
SA85(C)A	85.0	94.4	104	1.0	137	3.6	3
SA90(C)A	90.0	100.0	111	1.0	146	3.4	3
SA100(C)A	100.0	111.0	123	1.0	162	3.1	3
SA110(C)A	110.0	122.0	135	1.0	177	2.8	3



Part No.	Reverse Stand-off Voltage	Breakdown Voltage @ I_T		Test Current	Maximum Clamping Voltage @ I_{PP}		Maximum Reverse Leakage Current
	V_{RWM}	V_{BR} Min	V_{BR} Max	I_T	$V_C @ I_{PP}$		$I_R @ V_{RWM}$
	Volts	Volts	Volts	mA	Volts	$I_{PP}(A)$	μA
SA120(C)A	120	133	147	1.0	193	2.0	3
SA130(C)A	130	144	159	1.0	209	2.4	3
SA150(C)A	150	167	185	1.0	243	2.1	3
SA160(C)A	160	178	197	1.0	259	1.9	3
SA170(C)A	170	189	209	1.0	275	1.8	3
SA180(C)A	180	201	222	1.0	292	1.7	3
SA190(C)A	190	211	233	1.0	308	1.6	3
SA200(C)A	200	224	247	1.0	324	1.5	3
SA210(C)A	210	237	263	1.0	340	1.5	3
SA220(C)A	220	246	272	1.0	356	1.4	3

- Note: 1. V_{BR} measured after I_T applied for 300 μs , I_T =square wave pulse or equivalent
 2. Surge current waveform per Fig. 3 and derated per Fig. 2
 3. For bi-directional types having V_{RWM} of 10 volts and less, the I_R limit is doubled
 4. Suffix 'C' denotes bi-directional devices. Suffix 'A' denotes 5% tolerance devices, no suffix denotes 10% tolerance devices.
 5. All terms and symbols are consistent with ANS/IEEE C62.35

RATINGS AND CHARACTERISTIC CURVES

Fig. A - Transients of several thousand volts can be clamped to a safe level by the TVS

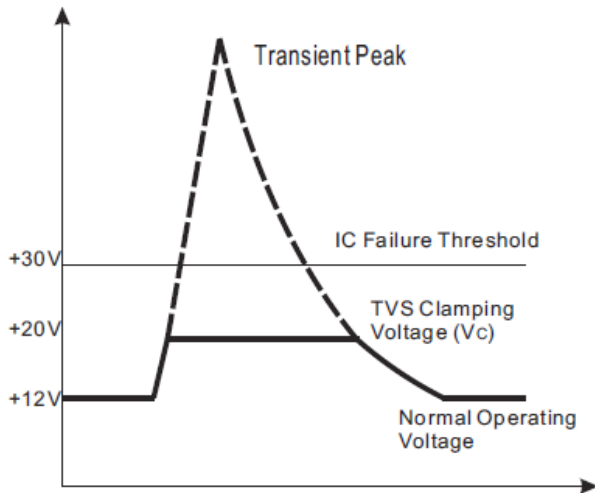
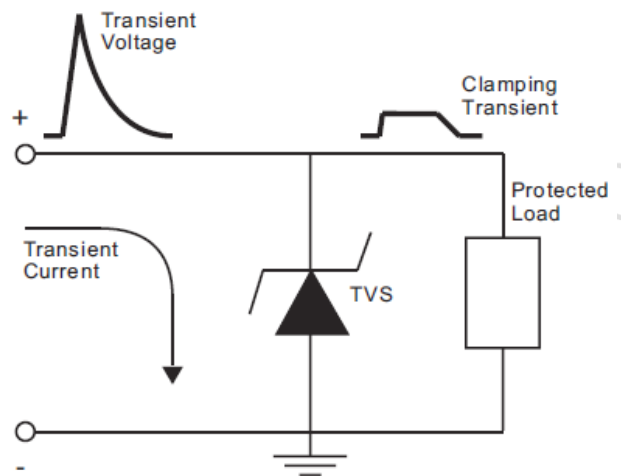


Fig. B - Transient current is diverted to ground thru TVS; the voltage seen by the protected load is limited to the clamping voltage level





SA_SERIES SPECIFICATION

Rev. A

FIG. 1 - PEAK PULSE POWER RATING CURVE

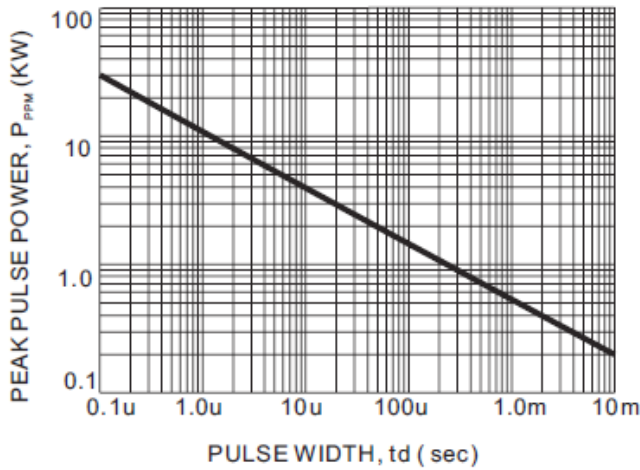


FIG. 2 - PULSE DERATING CURVE

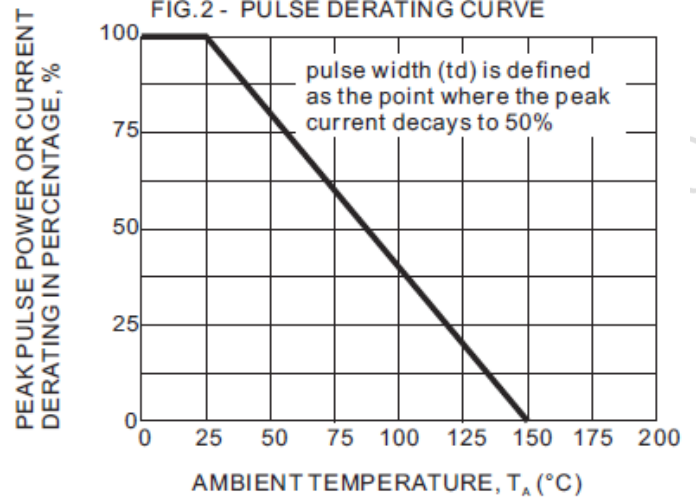


FIG. 3 - PULSE WAVEFORM

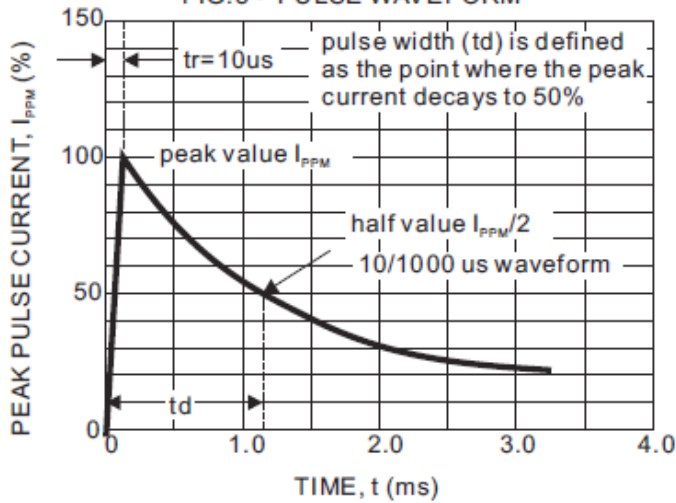


FIG. 4 - TYPICAL JUNCTION CAPACITANCE

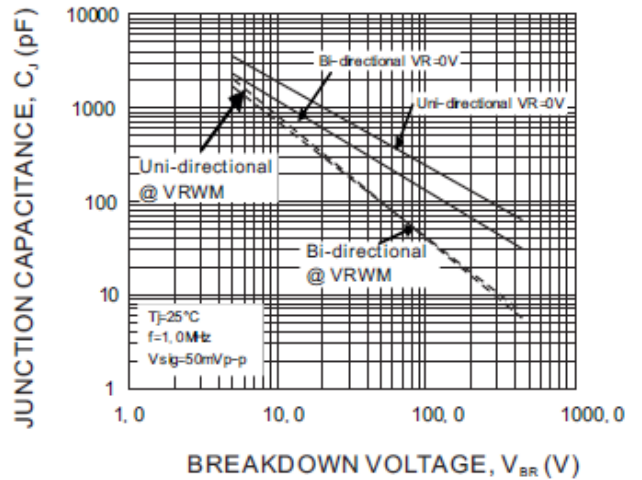


FIG. 5 - STEADY STATE POWER DERATING CURVE

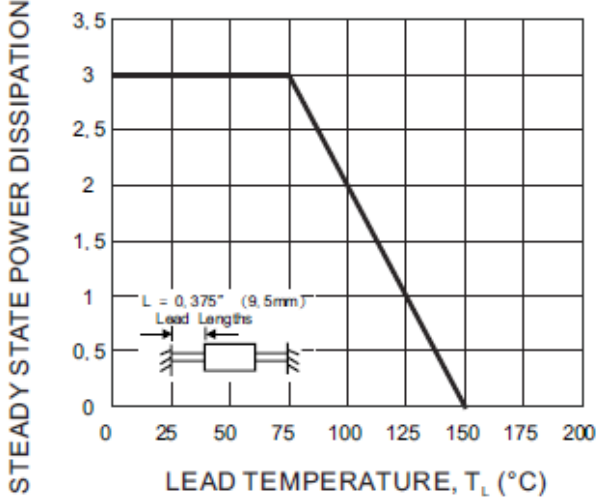


FIG. 6 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

