500 WATT TRANSIENT VOLTAGE
SSA-SERIES SUPPRESSOR DIODES
5.0V to 170V V_R
(B CASE)

FEATURES:

- 500 Watt Peak Power – 1 ms
- 1 Watt D.C. Power @ 75°C Lead Temp.
- Superfast Response ($1x10^{-12}$ sec.)
- High Temperature Operation
- Low Clamping Voltage
- Metallurgically Bonded

DESCRIPTION

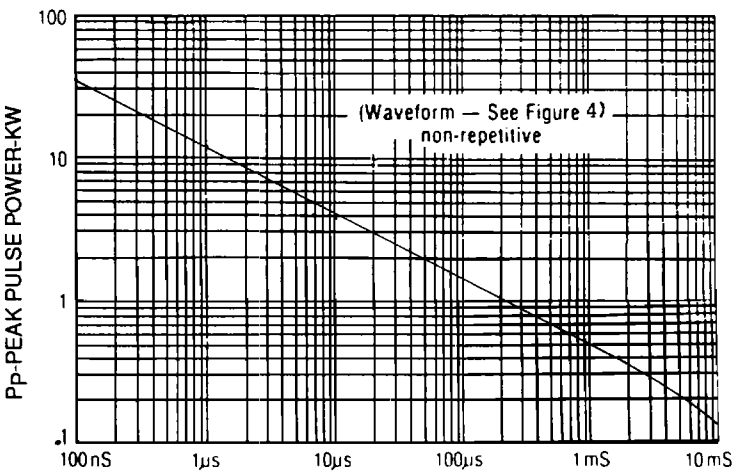
... a low cost commercial product for use in applications where large voltage transients can permanently damage voltage-sensitive components.
This series has a peak pulse power rating of 500 watts for one millisecond. The response time of the clamping action of these devices is theoretically instantaneous (1×10^{-12} sec); therefore, they are designed to protect integrated Circuits, MOS devices, Hybrids, and other voltage-sensitive semiconductors and components. This series of devices can also be used in series or parallel to increase the peak power ratings.

MAXIMUM RATINGS: (See Notes)

Maximum Temperatures		
Ambient Storage and Operating Range	Tstg T_A	-65°C to+175°C
Lead Temperature (For soldering 1/16 inch from case for 10 sec.)		230°C
Maximum Power		
Peak Power Dissipation (1.0 msec pulse width, T_A=25°C, Fig. 4)	P_P	500 Watts
DC Power Dissipation (T_L @ 3/8" from body = 75°C)	P_M	1 Watt
Maximum Currents		
Maximum Pulse Current	I_{PP}	See Table (Note 2)
Peak Forward One-Cycle Surge Current (1/2 60 Hz sine wave) T_A = 25°C	I_{FSM}	50.0 Amps (Note 3)
Maximum Forward Voltage T_A = 25°C @ 1.0 Amps DC	V_F	1.1 Volts

Notes:
(1) Exceeding these ratings may impair operation of the semiconductor device.
(2) The applied current pulse is as shown in the "Pulse Current vs. Time" plot. Maximum Rate of Applications is 2 pulses per minute.
(3) The applied current is 1/2 cycle of a 60 Hz waveform, with a maximum rate of application of 4 pulses per minute.

FIG 1



T_dPULSE TIME-SEC
PEAK PULSE POWER VS PULSE TIME

FIG 2
TEMPERATURE RATING CURVE

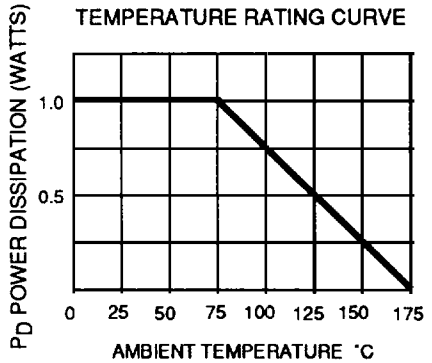


FIG 3
MAXIMUM ALLOWABLE PEAK PULSE CURRENT & POWER VS AMBIENT TEMPERATURE

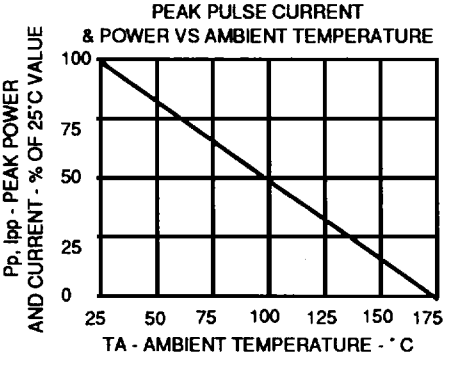
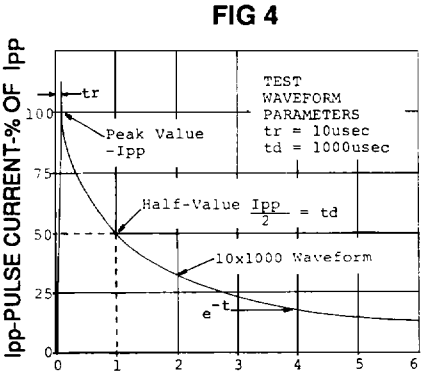


FIG 4



PULSE CURRENT VS TIME

TRANSIENT SUPPRESSORS
500 WATT PEAK POWER (B CASE)

TYPE NUMBER	(Note1) REVERSE STAND-OFF VOLTAGE V_R VOLTS	BREAKDOWN VOLTAGE @ BV VOLTS MIN	BREAKDOWN VOLTAGE @ BV VOLTS MAX	I_T mA	(Note 2) MAXIMUM CLAMPING VOLTAGE @ Ipp (1 mSEC) V_C VOLTS	MAXIMUM REVERSE LEAKAGE @ V_R I_R µA	MAXIMUM PEAK PULSE CURRENT Ipp A	MAXIMUM VOLTAGE TEMPERATURE VARIATION OF BV M_V/°C
SSA5.0	5.0	6.40	7.30	10	9.6	600	52.0	5.0
SSA5.0A	5.0	6.40	7.00	10	9.2	600	54.8	5.0
SSA6.0	6.0	6.67	8.15	10	11.4	600*	43.9	5.0
SSA6.0A	6.0	6.67	7.37	10	10.3	600*	48.5	5.0
SSA6.5	6.5	7.22	8.82	10	12.3	400*	40.7	5.0
SSA6.5A	6.5	7.22	7.98	10	11.2	400*	44.7	5.0
SSA7.0	7.0	7.78	9.51	10	13.3	150*	37.6	6.0
SSA7.0A	7.0	7.78	8.60	10	12.0	150*	41.7	6.0
SSA7.5	7.5	8.33	10.2	1	14.3	50*	35.0	7.0
SSA7.5A	7.5	8.33	9.21	1	12.9	50*	38.8	7.0
SSA8.0	8.0	8.89	10.9	1	15.0	25*	33.3	7.0
SSA8.0A	8.0	8.89	9.83	1	13.6	25*	36.7	7.0
SSA8.5	8.5	9.44	11.5	1	15.9	5*	31.4	8.0
SSA8.5A	8.5	9.44	10.4	1	14.4	5*	34.7	8.0
SSA9.0	9.0	10.0	12.2	1	16.0	1*	29.5	9.0
SSA9.0A	9.0	10.0	11.1	1	15.4	1*	32.5	9.0
SSA10	10	11.1	13.6	1	18.8	1*	26.6	10
SSA10A	10	11.1	12.3	1	17.0	1	29.4	10
SSA11	11	12.2	14.9	1	20.1	1	24.9	11
SSA11A	11	12.2	13.5	1	18.2	1	27.4	11
SSA12	12	13.3	16.3	1	22.0	1	22.7	12
SSA12A	12	13.3	14.7	1	19.9	1	25.1	12
SSA13	13	14.4	17.6	1	23.8	1	21.0	13
SSA13A	13	14.4	15.9	1	21.5	1	23.2	13
SSA14	14	15.6	19.1	1	25.8	1	19.4	14
SSA14A	14	15.6	17.2	1	23.2	1	21.5	14
SSA15	15	16.7	20.4	1	26.9	1	18.8	16
SSA15A	15	16.7	18.5	1	24.4	1	20.6	16
SSA16	16	17.8	21.8	1	28.8	1	17.6	19
SSA16A	16	17.8	19.7	1	26.0	1	19.2	17
SSA17	17	18.9	23.1	1	30.5	1	16.4	20
SSA17A	17	18.9	20.9	1	27.6	1	18.1	19
SSA18	18	20.0	24.4	1	32.2	1	15.5	21
SSA18A	18	20.0	22.1	1	29.2	1	17.2	20
SSA20	20	22.2	27.1	1	35.8	1	13.9	25
SSA20A	20	22.2	24.5	1	32.4	1	15.4	23
SSA22	22	24.4	29.8	1	39.4	1	12.7	28
SSA22A	22	24.4	26.9	1	35.5	1	14.1	25
SSA24	24	26.7	32.6	1	43.0	1	11.6	31
SSA24A	24	26.7	29.5	1	38.9	1	12.8	28
SSA26	26	28.9	35.3	1	46.6	1	10.7	31
SSA26A	26	28.9	31.9	1	42.1	1	11.9	30
SSA28	28	31.1	38.0	1	50.0	1	9.9	35
SSA28A	28	31.1	34.4	1	45.4	1	11.0	31
SSA30	30	33.3	40.7	1	53.5	1	9.3	39
SSA30A	30	33.3	36.8	1	48.4	1	10.3	36
SSA33	33	36.7	44.9	1	59.0	1	8.5	42
SSA33A	33	36.7	40.6	1	53.3	1	9.4	39
SSA36	36	40.0	48.9	1	64.3	1	7.8	46
SSA36A	36	40.0	44.2	1	58.1	1	8.6	41
SSA40	40	44.4	54.3	1	71.4	1	7.0	51
SSA40A	40	44.4	49.1	1	64.5	1	7.8	46
SSA43	43	47.8	58.4	1	76.7	1	6.5	55
SSA43A	43	47.8	52.8	1	60.4	1	7.2	50
SSA45	45	50.0	61.1	1	80.3	1	6.2	58
SSA45A	45	50.0	55.3	1	72.7	1	6.9	52
SSA48	48	53.3	65.1	1	85.5	1	5.8	63
SSA48A	48	53.3	58.9	1	77.4	1	6.5	56
SSA51	51	56.7	69.3	1	91.1	1	5.5	66
SSA51A	51	56.7	62.7	1	72.4	1	6.1	61
SSA54	54	60.0	73.3	1	96.3	1	5.2	71
SSA54A	54	60.0	66.3	1	87.1	1	5.7	65
SSA58	58	64.4	78.7	1	103	1	4.9	78
SSA58A	58	64.4	71.2	1	93.6	1	5.3	70
SSA60	60	66.7	81.5	1	107	1	4.7	80
SSA60A	60	66.7	73.7	1	96.8	1	5.2	71
SSA64	64	71.1	86.9	1	114	1	4.4	86
SSA64A	64	71.1	78.6	1	103	1	4.9	76
SSA70	70	77.8	95.1	1	125	1	4.0	94
SSA70A	70	77.8	86.0	1	113	1	4.4	85
SSA75	75	83.3	102	1	134	1	3.7	101
SSA75A	75	83.3	92.1	1	121	1	4.1	91
SSA78	78	86.7	106	1	139	1	3.6	105
SSA78A	78	86.7	95.8	1	126	1	4.0	95
SSA85	85	94.4	115	1	151	1	3.3	114
SSA85A	85	94.4	104	1	137	1	3.6	103
SSA90	90	100	122	1	160	1	3.1	121
SSA90A	90	100	111	1	146	1	3.4	110
SSA100	100	111	136	1	179	1	2.8	135
SSA100A	100	111	123	1	162	1	3.1	123
SSA110	110	122	149	1	196	1	2.6	148
SSA110A	110	122	135	1	177	1	2.8	133
SSA120	120	133	163	1	214	1	2.3	162
SSA120A	150	133	147	1	193	1	2.0	146
SSA130	130	144	176	1	231	1	2.2	175
SSA130A	130	144	159	1	209	1	2.4	158
SSA150	150	167	204	1	268	1	1.9	203
SSA150A	150	167	185	1	243	1	2.1	184
SSA160	160	178	218	1	287	1	1.7	217
SSA160A	160	178	197	1	259	1	1.9	196
SSA170	170	189	231	1	304	1	1.6	230
SSA170A	170	189	209	1	275	1	1.8	208

NOTES
1 - Available as Bi Polar (Add Suffix LTR "C" to Part Number)
2 - Clamping Voltage ≈ 1.3 X Max BV (Approx)

* I_R Double for Bi Polar Types