

**500 Watt Peak Power Transient Voltage Suppressors**  
Reverse Stand-off Voltage 5.0 to 180 V



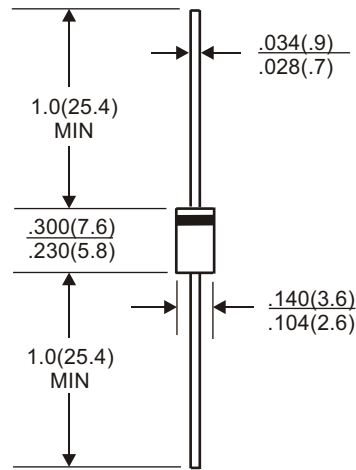
**Features**

- 500 Watts surge capability at 1ms
- Excellent clamping capability
- Low zener impedance
- Fast response time: typically less than 1.0ps from 0 Volt to 8 Volt min.
- Typical IR less than 1μA above 10 V
- High temperature soldering guaranteed 265°C/10 seconds at 5 lbs (2.3kg) tension

**Mechanical Data**

Case: Molded plastic  
 Terminals: Solder plated solderable per MIL-STD-202, Method 208  
 Polarity: Cathode band  
 Mounting Position: Any  
 Weight: 0.3grams (approx)

DO-15



All dimensions inches and (millimeters)

**Maximum Ratings & Electrical Characteristics**

Rating at 25°C ambient temperature unless otherwise specified, Resistive or Inductive load, 60 Hz.  
 For Capacitive load derate current by 20%.

Ratings	Symble	Value	Unit
Minimum Peak Power Dissipation at TA = 25 °C, TP = 1ms(Note 1)	PPK	500	W
Steady State Power Dissipation at TL = 75 °C Lead Length .375"(9.5mm)(Note 2)	PD	3.0	W
Peak Forward Surge Current at 8.3ms Single Half Sine-Wave superimposed on rated load(JEDEC method)(Note 3)	IFSM	70	A
Operating and Storage Temperature Range	Tj, Ts	-55 to 175	°C

Notes:

- 1.Non-repetitive current pulse per fig.3 and derated above TA = 25 °C per fig.2
- 2.Mounted on copper pad area 1.6"X1.6"(40mmX40mm) per fig.5
- 3.8.3ms single half sine-wave,duty cycle=4pulses per minute maximum.

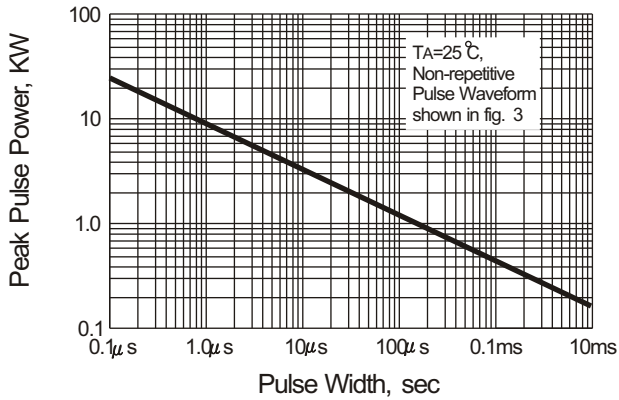
## SA / 500 W Axial Lead TVS

Part Number		Reverse Stand-off Voltage V <sub>RWM</sub> (V)	Breakdown Voltage V <sub>BR</sub> (V) Min.@I <sub>T</sub>	Breakdown Voltage V <sub>BR</sub> (V) Max.@I <sub>T</sub>	Test Current I <sub>T</sub> (mA)	Maximum Clamping Voltage @I <sub>PP</sub> V <sub>c</sub> (V)	Peak Pulse Current I <sub>PP</sub> (A)	Reverse Leakage @ V <sub>RWM</sub> I <sub>R</sub> ( $\mu$ A)
UNI-POLAR	BI-POLAR							
SA5.0A	SA5.0CA	5.00	6.40	7.07	10	9.2	54.3	600
SA6.0A	SA6.0CA	6.00	6.67	7.37	10	10.3	48.5	600
SA6.5A	SA6.5CA	6.50	7.22	7.98	10	11.2	44.6	400
SA7.0A	SA7.0CA	7.00	7.78	8.60	10	12.0	41.7	150
SA7.5A	SA7.5CA	7.50	8.33	9.21	1	12.9	38.8	50
SA8.0A	SA8.0CA	8.00	8.89	9.83	1	13.6	36.8	25
SA8.5A	SA8.5CA	8.50	9.44	10.43	1	14.4	34.7	10
SA9.0A	SA9.0CA	9.00	10.00	11.10	1	15.4	32.5	5
SA10A	SA10CA	10.00	11.10	12.30	1	17.0	29.4	3
SA11A	SA11CA	11.00	12.20	13.50	1	18.2	27.5	3
SA12A	SA12CA	12.00	13.30	14.70	1	19.9	25.1	3
SA13A	SA13CA	13.00	14.40	15.90	1	21.5	23.3	3
SA14A	SA14CA	14.00	15.60	17.20	1	23.2	21.6	3
SA15A	SA15CA	15.00	16.70	18.50	1	24.4	20.5	3
SA16A	SA16CA	16.00	17.80	19.70	1	26.0	19.2	3
SA17A	SA17CA	17.00	18.90	20.90	1	27.6	18.1	3
SA18A	SA18CA	18.00	20.00	22.10	1	29.2	17.1	3
SA20A	SA20CA	20.00	22.20	24.50	1	32.4	15.4	3
SA22A	SA22CA	22.00	24.40	27.00	1	35.5	14.1	3
SA24A	SA24CA	24.00	26.70	29.50	1	38.9	12.9	3
SA26A	SA26CA	26.00	28.90	31.90	1	42.1	11.9	3
SA28A	SA28CA	28.00	31.10	34.40	1	45.4	11.0	3
SA30A	SA30CA	30.00	33.30	36.80	1	48.4	10.3	3
SA33A	SA33CA	33.00	36.70	40.60	1	53.3	9.4	3
SA36A	SA36CA	36.00	40.00	44.20	1	58.1	8.6	3
SA40A	SA40CA	40.00	44.40	49.10	1	64.5	7.8	3
SA43A	SA43CA	43.00	47.80	52.80	1	69.4	7.2	3
SA45A	SA45CA	45.00	50.00	55.30	1	72.7	6.9	3
SA48A	SA48CA	48.00	53.30	58.90	1	77.4	6.5	3
SA51A	SA51CA	51.00	56.70	62.70	1	82.4	6.1	3
SA54A	SA54CA	54.00	60.00	66.30	1	87.1	5.7	3
SA58A	SA58CA	58.00	64.40	71.20	1	93.6	5.3	3
SA60A	SA60CA	60.00	66.70	73.70	1	96.8	5.2	3
SA64A	SA64CA	64.00	71.10	78.60	1	103.0	4.9	3
SA70A	SA70CA	70.00	77.80	86.00	1	113.0	4.4	3
SA75A	SA75CA	75.00	83.30	92.10	1	121.0	4.1	3
SA78A	SA78CA	78.00	86.70	95.80	1	126.0	4.0	3
SA85A	SA85CA	85.00	94.40	104.30	1	137.0	3.6	3
SA90A	SA90CA	90.00	100.00	110.50	1	146.0	3.4	3
SA100A	SA100CA	100.00	111.00	122.70	1	162.0	3.1	3
SA110A	SA110CA	110.00	122.00	134.80	1	177.0	2.8	3
SA120A	SA120CA	120.00	133.00	147.00	1	193.0	2.6	3
SA130A	SA130CA	130.00	144.00	159.20	1	209.0	2.4	3
SA150A	SA150CA	150.00	167.00	184.60	1	243.0	2.1	3
SA160A	SA160CA	160.00	178.00	196.70	1	259.0	1.9	3
SA170A	SA170CA	170.00	189.00	208.90	1	275.0	1.8	3

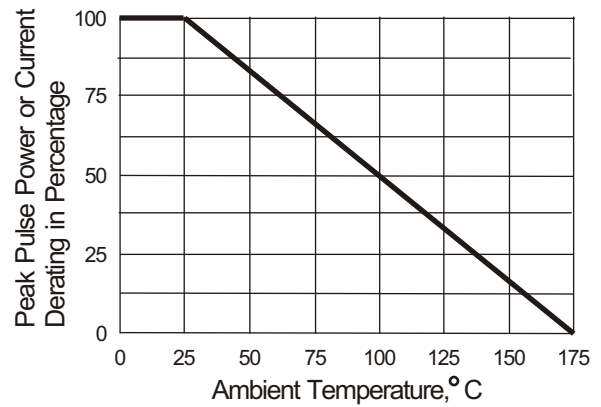
# Rating and Characteristic Curves ( $T_A=25\text{ }^\circ\text{C}$ Unless otherwise noted )

## SA Series

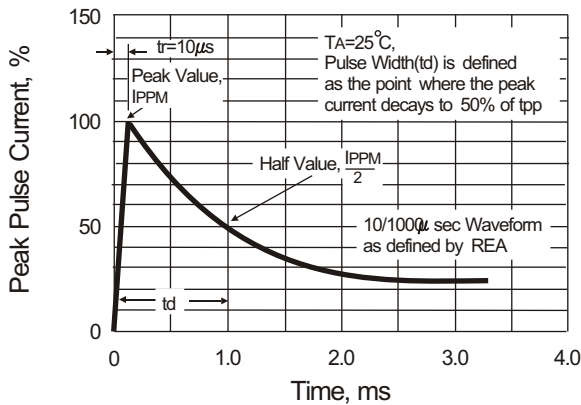
**Fig. 1 Peak Pulse Power Derating Curve**



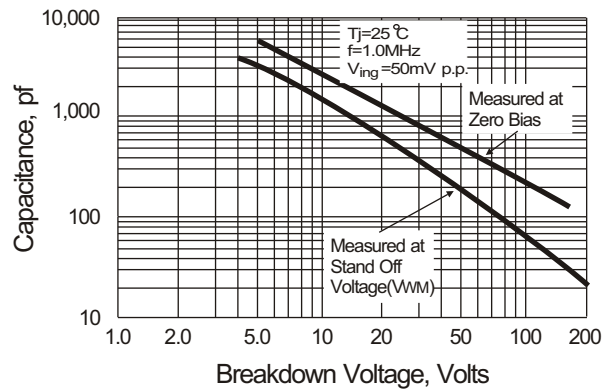
**Fig. 2 Pulse Derating Curve**



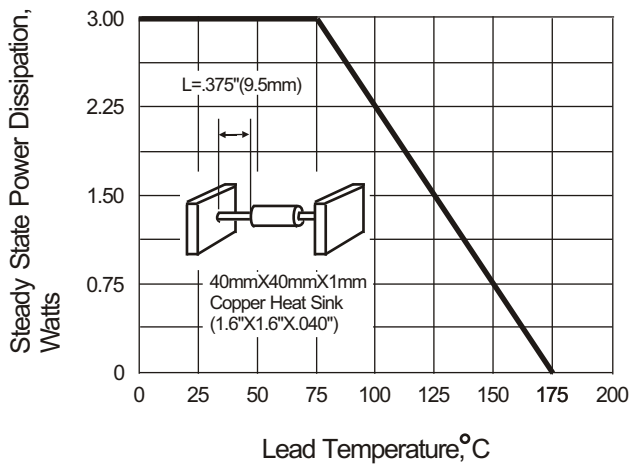
**Fig. 3 Pulse Wave Form**



**Fig. 4 Typical Junction Capacitance**



**Fig. 5 Steady State Power Derating Curve**



**Fig. 6 Maximum Non-repetitive Peak Forward Surge current, unidirectional**

