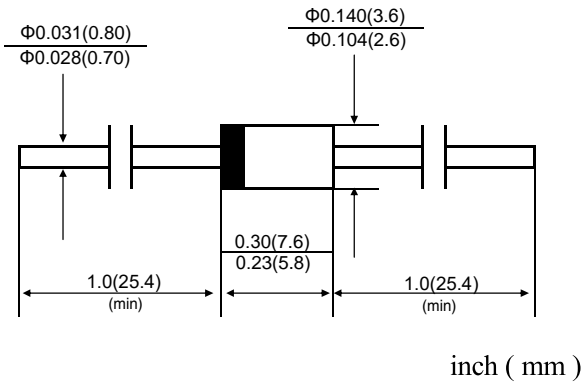


**Outline Dimensions and Mark**  
DO-15



**Features**

**P<sub>PPM</sub> 500W**  
**V<sub>RWM</sub> 5-220V**

- 500W Peak pulse power capability at 10/1000μs waveform
- Typical IR less than 1uA above 12V
- High temperature soldering: 260°C/10s
- Meet UL flammability classification 94V-0

**Maximum Ratings** (T<sub>a</sub>=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	Max
Peak power dissipation, with a 10/1000us waveform <sup>(1)</sup>	P <sub>PPM</sub>	W	500
Peak pulse current, with a 10/1000us waveform <sup>(1)</sup>	I <sub>PPM</sub>	A	See Next Table
Power dissipation, on infinite heat sink at T <sub>L</sub> =75°C	P <sub>D</sub>	W	3
Peak forward surge current, 8.3 ms single half sine-wave unidirectional only <sup>(2)</sup>	I <sub>FSM</sub>	A	70
Operating junction and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	°C	-55 to +150

**Electrical Characteristics** (T<sub>a</sub>=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	VALUE
Maximum instantaneous forward voltage at 35A for unidirectional only	V <sub>FM</sub>	V	3.5

Notes:

- (1) Non-repetitive current pulse, per Fig. 3 and derated above T<sub>A</sub>= 25°C per Fig.2.
- (2) Measured on 8.3ms single half sine-wave or equivalent square wave, duty cycle=4 pulses per minute maximum.

## SA Series 500W Transient Voltage Suppressor

### ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C)



Part Number		V <sub>RWM</sub>	I <sub>R@V<sub>RWM</sub></sub>	V <sub>BR@I<sub>T</sub></sub>		I <sub>T</sub>	V <sub>C@I<sub>PP</sub></sub>	I <sub>PP</sub> <sup>①</sup>
Uni-Polar	Bi-Polar	V	max(μA)	min(V)	max(V)	mA	max(V)	A
SA5.0A	SA5.0CA	5.0	1000	6.40	7.00	10	9.2	55.4
SA6.0A	SA6.0CA	6.0	500	6.67	7.37	10	10.3	49.5
SA6.5A	SA6.5CA	6.5	200	7.22	7.98	10	11.2	45.5
SA7.0A	SA7.0CA	7.0	50	7.78	8.60	10	12.0	42.5
SA7.5A	SA7.5CA	7.5	20	8.33	9.21	1	12.9	39.5
SA8.0A	SA8.0CA	8.0	10	8.89	9.83	1	13.6	37.5
SA8.5A	SA8.5CA	8.5	10	9.44	10.40	1	14.4	35.5
SA9.0A	SA9.0CA	9.0	5	10.00	11.10	1	15.4	33.1
SA10A	SA10CA	10.0	5	11.10	12.30	1	17.0	30.0
SA11A	SA11CA	11.0	1	12.20	13.50	1	18.2	28.0
SA12A	SA12CA	12.0	1	13.30	14.70	1	19.9	25.6
SA13A	SA13CA	13.0	1	14.40	15.90	1	21.5	23.7
SA14A	SA14CA	14.0	1	15.60	17.20	1	23.2	22.0
SA15A	SA15CA	15.0	1	16.70	18.50	1	24.4	20.9
SA16A	SA16CA	16.0	1	17.80	19.70	1	26.0	19.6
SA17A	SA17CA	17.0	1	18.90	20.90	1	27.6	18.5
SA18A	SA18CA	18.0	1	20.00	22.10	1	29.2	17.5
SA20A	SA20CA	20.0	1	22.20	24.50	1	32.4	15.7
SA22A	SA22CA	22.0	1	24.40	26.90	1	35.5	14.4
SA24A	SA24CA	24.0	1	26.70	29.50	1	38.9	13.1
SA26A	SA26CA	26.0	1	28.90	31.90	1	42.1	12.1

**SA Series 500W Transient Voltage Suppressor**
**ELECTRICAL CHARACTERISTICS** ( $T_A=25^\circ\text{C}$ )

Part Number		$V_{RWM}$	$I_R@V_{RWM}$	$V_{BR}@I_T$		$I_T$	$V_C@I_{PP}$	$I_{PP}^{\text{①}}$
Uni-Polar	Bi-Polar	V	max( $\mu\text{A}$ )	min(V)	max(V)	mA	max(V)	A
SA28A	SA28CA	28.0	1	31.10	34.40	1	45.4	11.2
SA30A	SA30CA	30.0	1	33.30	36.80	1	48.4	10.5
SA33A	SA33CA	33.0	1	36.70	40.60	1	53.3	9.6
SA36A	SA36CA	36.0	1	40.00	44.20	1	58.1	8.8
SA40A	SA40CA	40.0	1	44.40	49.10	1	64.5	7.9
SA43A	SA43CA	43.0	1	47.80	52.80	1	69.4	7.3
SA45A	SA45CA	45.0	1	50.00	55.30	1	72.7	7.0
SA48A	SA48CA	48.0	1	53.30	58.90	1	77.4	6.6
SA51A	SA51CA	51.0	1	56.70	62.70	1	82.4	6.2
SA54A	SA54CA	54.0	1	60.00	66.30	1	87.1	5.9
SA58A	SA58CA	58.0	1	64.40	71.20	1	93.6	5.4
SA60A	SA60CA	60.0	1	66.70	73.70	1	96.8	5.3
SA64A	SA64CA	64.0	1	71.10	78.60	1	103.0	5.0
SA70A	SA70CA	70.0	1	77.80	86.00	1	113.0	4.5
SA75A	SA75CA	75.0	1	83.30	92.10	1	121.0	4.2
SA78A	SA78CA	78.0	1	86.70	95.80	1	126.0	4.0
SA85A	SA85CA	85.0	1	94.40	104.0	1	137.0	3.7
SA90A	SA90CA	90.0	1	100.0	111.0	1	146.0	3.5
SA100A	SA100CA	100.0	1	111.0	123.0	1	162.0	3.1
SA110A	SA110CA	110.0	1	122.0	135.0	1	177.0	2.9
SA120A	SA120CA	120.0	1	133.0	147.0	1	193.0	2.6
SA130A	SA130CA	130.0	1	144.0	159.0	1	209.0	2.4
SA150A	SA150CA	150.0	1	167.0	185.0	1	243.0	2.1
SA160A	SA160CA	160.0	1	178.0	197.0	1	259.0	2.0
SA170A	SA170CA	170.0	1	189.0	209.0	1	275.0	1.9
SA180A	SA180CA	180.0	1	201.0	222.0	1	292.0	1.7
SA200A	SA200CA	200.0	1	224.0	247.0	1	324.0	1.5
SA220A	SA220CA	220.0	1	246.0	272.0	1	356.0	1.4

① Surge waveform: 10/1000 $\mu\text{s}$

$V_{RWM}$  : Stand-off voltage -- maximum voltage that can be applied

$V_{BR}$ : Breakdown voltage

$V_C$ : Clamping voltage -- peak voltage measured across the suppressor at a specified  $I_{PP}$

$I_R$ : Reverse leakage current

■ Characteristics(Typical)

FIG1: Peak Pulse Power Rating Curve

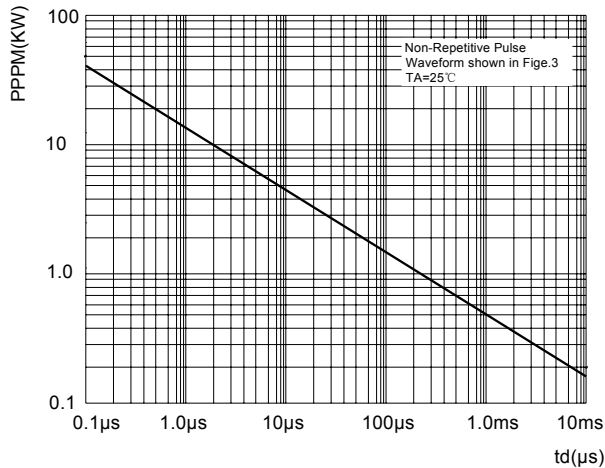


FIG2: Pulse Power or Current vs. Initial Junction Temperature

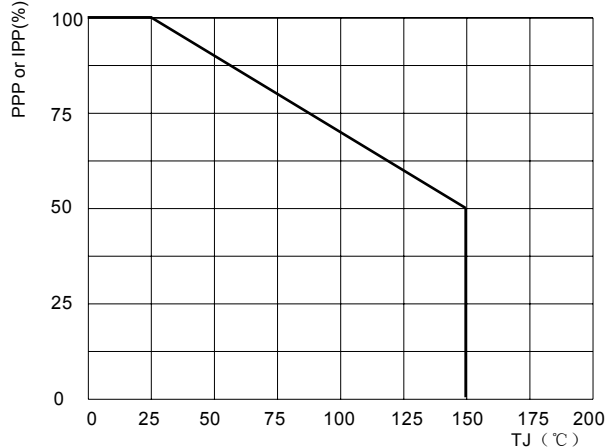


FIG3: Pulse Waveform

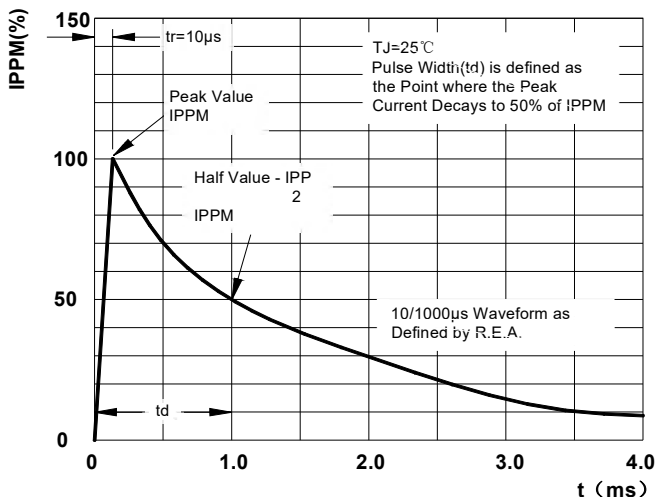


FIG4: Power Derating Curve

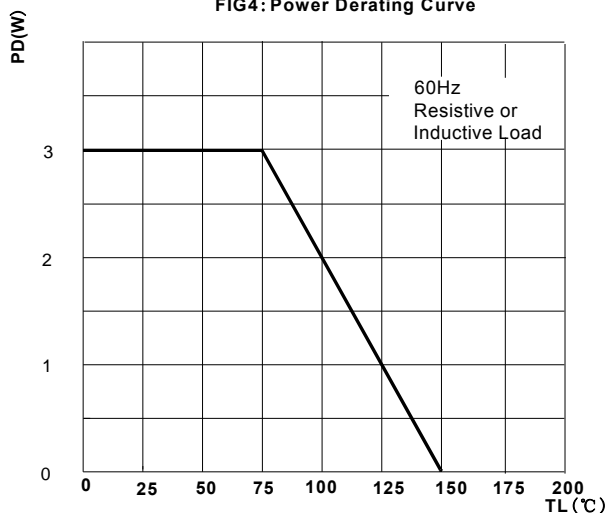
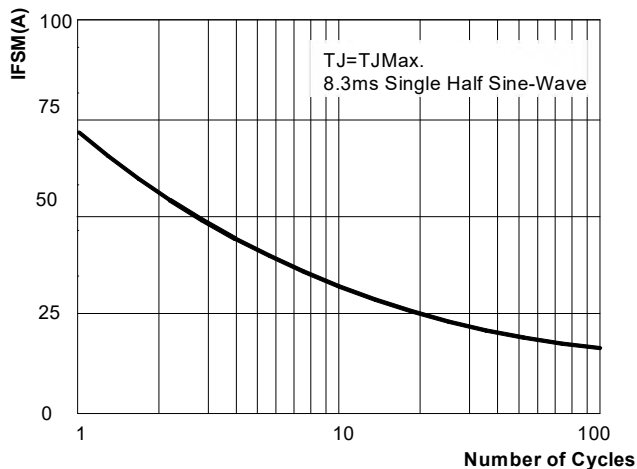


FIG5: Maximum Non-Repetitive Surge Current



The curve above is for reference only.

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