

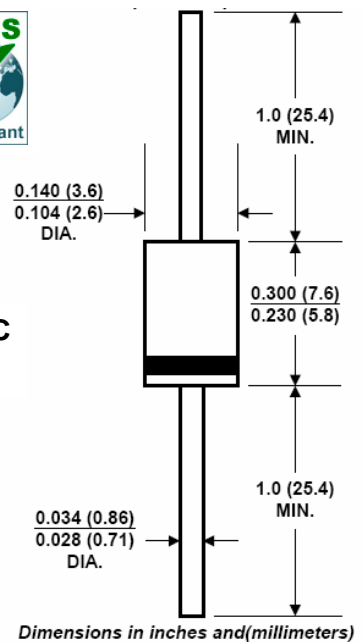
**500W Glass Passivated Junction Transient Voltage Suppressor**

**Features**

- Stand-off voltage from 5.0 to 180 volts
- 500W Peak Pulse Power capability on 10/1000  $\mu$ s waveform repetition Rate(duty cycle): 0.01%
- Fast response time: typically less than 1.0ps from 0v to VBR for Uni-directional and 5.0ns for Bi-directional
- Excellent clamping capability
- Low incremental surge resistance
- Typical  $I_R$  less than 1 mA above 10V
- High temperature soldering guaranteed 265°C/10 seconds / .037" (9.5mm) lead length, 5lbs (2.3kg),tension
- This series is UL recognized under component index. File number E315008
- RoHS Compliant



**DO204AC  
(DO-15)**



**Maximum Ratings** ( $T_{Ambient}=25^{\circ}C$  unless noted otherwise)

Symbol	Description	Value	Unit	Conditions
<b>V<sub>WM</sub></b>	Stand-Off Voltage	5.0 to 180	Volts	
<b>PPM</b>	Peak Pulse Power Dissipation on 10/1000 $\mu$ s waveform	Minimum 500	Watts	Non-repetitive current pulse
<b>IPPM</b>	Peak Pulse current on 10/1000 $\mu$ s waveform	See Table	Amps	Non-repetitive current pulse
<b>PM(AV)</b>	Steady State Power Dissipation	3	Watts	At TL(Lead Temperature)=75°C (1)
<b>IFSM</b>	Peak Forward Surge Current	70	Amps	8.3ms single half sine-wave superimposed on rated load (JEDEC method) (2)
<b>T<sub>J</sub>,T<sub>STG</sub></b>	Operating and Storage Temperature Range	-55 to 175	° C	

**Note:** 1. Mounted on copper pad area of 1.6" x 1.6" (40x40mm) per fig.5.  
2. Duty Cycle = 4 pulses per minute maximum.

# 500W Glass Passivated Junction Transient Voltage Suppressor

## SA5.0A~180CA

### Mechanical Data

<b>Case:</b>	JEDEC DO-204AC molded plastic over glass passivated junction
<b>Terminals:</b>	Plated axial leads, solderable per MIL-STD-750, Method 2026
<b>Polarity:</b>	Cathode indicated by color band except Bi-directionals
<b>Mounting position:</b>	Any
<b>Weight:</b>	0.015 Ounce, 0.4 gram

### Electrical Characteristics ( $T_{Ambient}=25^{\circ}C$ unless noted otherwise)

P/N		Stand-Off Voltage $V_{WM}$ (Volts)	Breakdown Voltage @ Test Curr.		$I_T$ (mA)	Max. Clamping Vltg. @ IPPM $V_C$ (Volts)	Max. Peak Pulse Current IPPM (Amps)	Max. Reverse Leakage Current @ $V_{WM}$ $I_D$ ( $\mu A$ ) (note1)
Uni-Polar	Bi-Polar		Min.	Max.				
SA5.0A	SA5.0CA	5.0	6.40	7.00	10	9.2	55.4	600/1200
SA6.0A	SA6.0CA	6.0	6.67	7.37		10.3	49.5	600/1200
SA6.5A	SA6.5CA	6.5	7.22	7.98		11.2	45.5	400/800
SA7.0A	SA7.0CA	7.0	7.78	8.60		12.0	42.5	150/300
SA7.5A	SA7.5CA	7.5	8.33	9.21	1	12.9	39.5	50/100
SA8.0A	SA8.0CA	8.0	8.89	9.83		13.6	37.5	25/50
SA8.5A	SA8.5CA	8.5	9.44	10.40		14.4	35.4	10/20
SA9.0A	SA9.0CA	9.0	10.0	11.10		15.4	33.1	5/10
SA10A	SA10CA	10.0	11.1	12.30	1	17.0	30.0	1
SA11A	SA11CA	11.0	12.2	13.50		18.2	28.0	
SA12A	SA12CA	12.0	13.3	14.70		19.9	25.6	
SA13A	SA13CA	13.0	14.4	15.90		21.5	23.7	
SA14A	SA14CA	14.0	15.6	17.20	1	23.2	22.0	1
SA15A	SA15CA	15.0	16.7	18.50		24.4	20.9	
SA16A	SA16CA	16.0	17.8	19.70		26.0	19.6	
SA17A	SA17CA	17.0	18.9	20.90		27.6	18.5	

# 500W Glass Passvated Junction Transient Voltage Suppressor

## SA5.0A~180CA

### Electrical Characteristics ( $T_{Ambient}=25^{\circ}C$ unless noted otherwise)

P/N		Stand-Off Voltage	Breakdown Voltage @ Test Curr.			Max. Clamping Vltg. @ IPPM	Max. Peak Pulse Current	Max. Reverse Leakage Current @ $V_{WM}$
			$V_{BR}$		$I_T$ (mA)			
Uni-Polar	Bi-Polar	$V_{WM}$ (Volts)	Min.	Max.			$V_C$ (Volts)	IPPM (Amps)
SA18A	SA18CA	18.0	20.0	22.10	1	29.2	17.5	1
SA20A	SA20CA	20.0	22.2	24.50		32.4	15.7	
SA22A	SA22CA	22.0	24.4	26.90		35.5	14.4	
SA24A	SA24CA	24.0	26.7	29.50		38.9	13.1	
SA26A	SA26CA	26.0	28.9	31.90	1	42.1	12.1	1
SA28A	SA28CA	28.0	31.1	34.40		45.4	11.2	
SA30A	SA30CA	30.0	33.3	36.80		48.4	10.5	
SA33A	SA33CA	33.0	36.7	40.60		53.3	9.6	
SA36A	SA36CA	36.0	40.0	44.20	1	58.1	8.8	1
SA40A	SA40CA	40.0	44.4	49.10		64.5	7.9	
SA43A	SA43CA	43.0	47.8	52.80		69.4	7.3	
SA45A	SA45CA	45.0	50.0	55.30		72.7	7.0	
SA48A	SA48CA	48.0	53.3	58.90	1	77.4	6.6	1
SA51A	SA51CA	51.0	56.7	62.7		82.4	6.2	
SA54A	SA54CA	54.0	60.0	66.30		87.1	5.9	
SA58A	SA58CA	58.0	64.4	71.20		93.6	5.4	
SA60A	SA60CA	60.0	66.7	73.70	1	96.8	5.3	1
SA64A	SA64CA	64.0	71.1	78.60		103.0	5.0	
SA70A	SA70CA	70.0	77.8	86.0		113.0	4.5	
SA75A	SA75CA	75.0	83.3	92.10		121.0	4.2	
SA78A	SA78CA	78.0	86.7	95.80	1	126.0	4.0	1
SA85A	SA85CA	85.0	94.4	104.0		137.0	3.7	
SA90A	SA90CA	90.0	100	111.0		146	3.5	

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## Electrical Characteristics ( $T_{Ambient}=25^{\circ}C$ unless noted otherwise)

P/N		Stand-Off Voltage	Breakdown Voltage @ Test Curr.		Max. Clamping Vltg. @ IPPM	Max. Peak Pulse Current	Max. Reverse Leakage Current @ $V_{WM}$	
			$V_{BR}$					
Uni-Polar	Bi-Polar	$V_{WM}$ (Volts)	Min.	Max.	IT(mA)	VC (Volts)	IPPM (Amps)	ID ( $\mu A$ )
SA100A	SA100CA	100.0	111.0	123.0		1	162.0	3.1
SA110A	SA110CA	110.0	122.0	135.0	177.0		2.9	
SA120A	SA120CA	120.0	133.0	147.0	193.0		2.6	
SA130A	SA130CA	130.0	144.0	159.0	209.0		2.4	
SA150A	SA150CA	150.0	167.0	185.0	1	243.0	2.1	1
SA160A	SA160CA	160.0	178.0	197.0		259.0	1.9	
SA170A	SA170CA	170.0	189.0	209.0		275.0	1.8	
SA180A	SA180CA	180.0	200.0	233.0		289.0	1.7	

- Note:** 1. For Bi-directional type having  $V_{WM}$  of 10V or less, the ID limit is double.  
 2. For parts with suffix A, the  $V_{BR}$  is +/- 5%.

## Typical Characteristics Curves

Fig.1- Peak Pulse Power Rating Curve

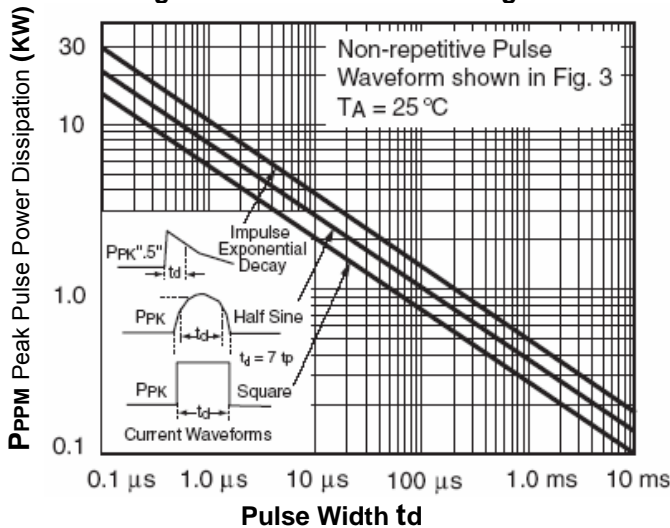
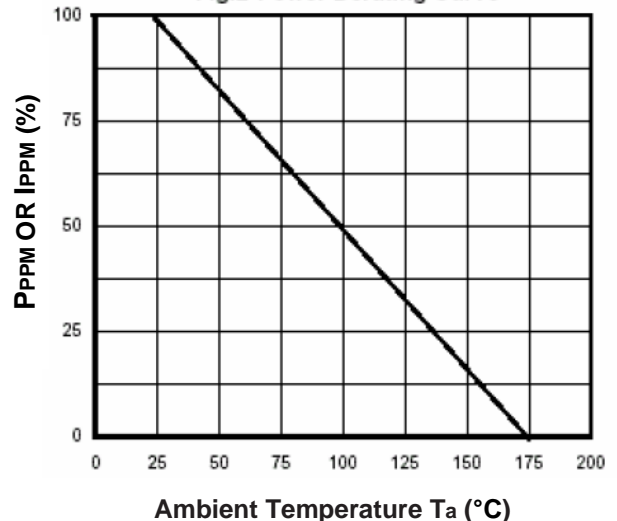


Fig.2-Power Derating Curve



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Fig.3- Pulse Waveform

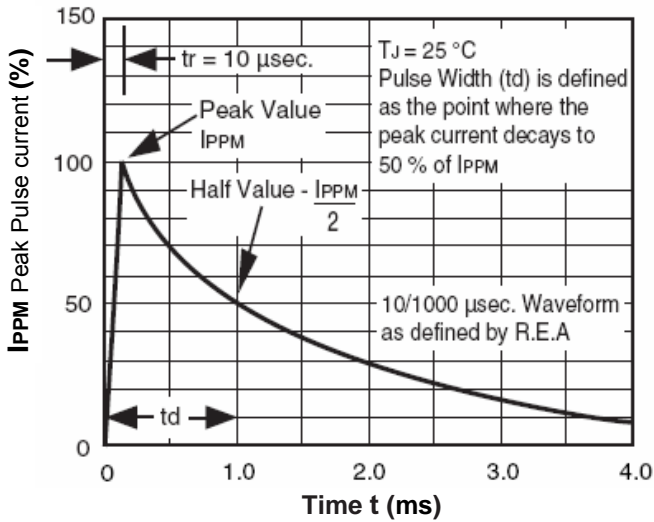


Fig.4- Max. Non-Repetitive Forward Surge Current Uni-directional only

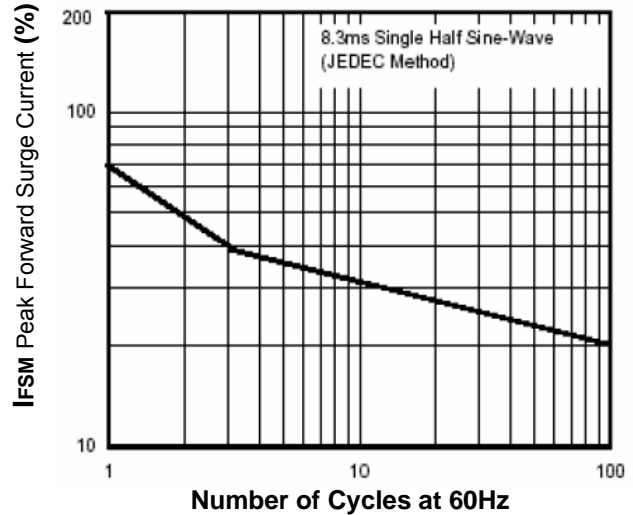


Fig.5- Steady State Power Derating Curve

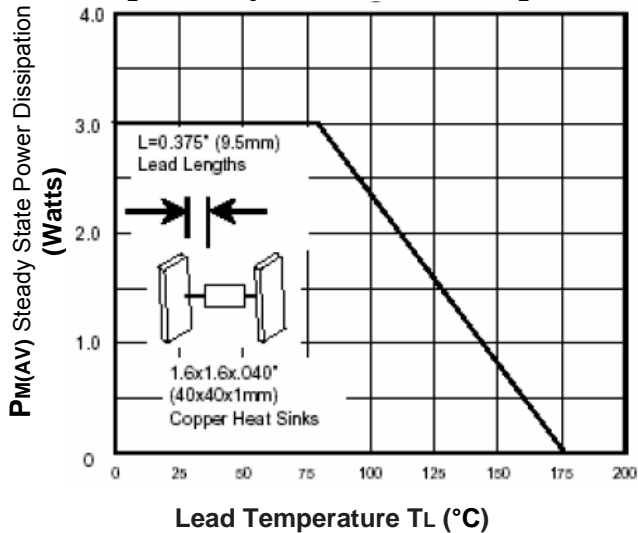
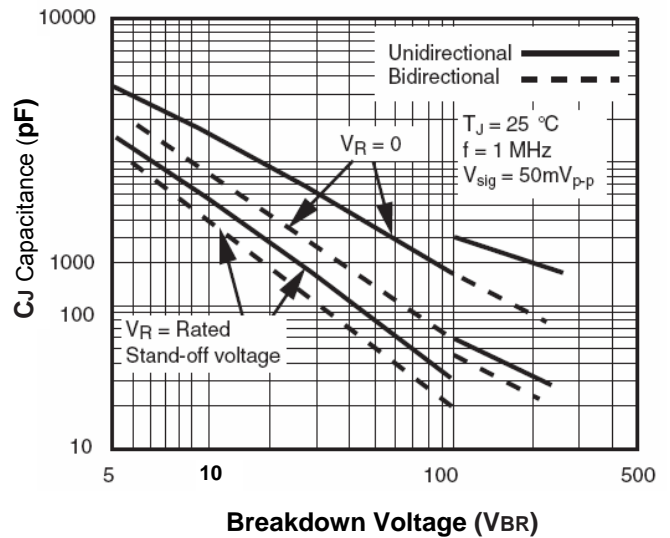


Fig.6- Capacitance



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## How to contact us:

### **US HEADQUARTERS**

28040 WEST HARRISON PARKWAY, VALENCIA, CA 91355-4162

Tel: (800) TAITRON (800) 247-2232 (661) 257-6060

Fax: (800) TAITFAX (800) 824-8329 (661) 257-6415

Email: [taitron@taitroncomponents.com](mailto:taitron@taitroncomponents.com)

Http://[www.taitroncomponents.com](http://www.taitroncomponents.com)

### **TAITRON COMPONENTS MEXICO, S.A .DE C.V.**

BOULEVARD CENTRAL 5000 INTERIOR 5 PARQUE INDUSTRIAL ATITALAQUIA, HIDALGO C.P.  
42970 MEXICO

Tel: +52-55-5560-1519

Fax: +52-55-5560-2190

### **TAITRON COMPONETS INCORPORATED E REPRESENTAÇÕES DO BRASIL LTDA**

RUA DOMINGOS DE MORAIS, 2777, 2.ANDAR, SALA 24 SAÚDE - SÃO PAULO-SP 04035-001 BRAZIL

Tel: +55-11-5574-7949

Fax: +55-11-5572-0052

### **TAITRON COMPONETS INCORPORATED, SHANGHAI REPRESENTATIVE OFFICE**

CROSS REGION PLAZA, 899 LINGLING ROAD, SUITE 18C, SHANGHAI, 200030, CHINA

Tel: +86-21-54249942

Fax: +86-21-5424-9931