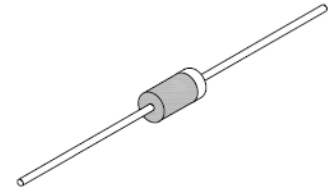


## 500W Glass Passivated Junction Transient Voltage Suppressor

### Features

- Stand-off voltage from 5.0 to 180 volts
- Glass passivated junction
- Excellent clamping capability
- Low incremental surge resistance
- 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 1mA 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



**DO204AC  
(DO-15)**



### Mechanical Data

<b>Case:</b>	JEDEC DO-15 molded plastic body over passivated junction
<b>Epoxy:</b>	Plastic package has UL flammability classification 94V-0
<b>Terminals:</b>	Solder 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

# 500W Glass Passivated Junction Transient Voltage Suppressor

## SA5.0A - 180CA

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

Symbol	Description	Value	Unit	Conditions
<b>PPPM</b>	Peak Pulse Power Dissipation on 10/1000 $\mu$ s waveform	500	W	Non-repetitive current pulse , per Fig. 3 and derated above TA=25° C per Fig.2
<b>IPPM</b>	Peak Pulse current on 10/1000 $\mu$ s waveform	See Table	A	Non-repetitive current pulse
<b>PM(AV)</b>	Steady State Power Dissipation	3	W	TL= 75° C with lead lengths or 0.375" (9.5mm)
<b>IFSM</b>	Peak Forward Surge Current	70	A	8.3ms single half sine-wave superimposed on rated load (JEDEC method)
<b>VF</b>	Maximum Instantaneous Forward Voltage at 35A for Unidirectional only	3.5/5.0	V	VF<3.5V for devices of VBR $\leq$ 200V and VF<5.0V for devices of VBR $\geq$ 201V.
<b>R<math>\theta</math>JA</b>	Typical Thermal Resistance Junction to Ambient	75	° C/W	
<b>R<math>\theta</math>JL</b>	Typical Thermal Resistance Junction to Lead	20	° C/W	
<b>TJ,TSTG</b>	Operating and Storage Temperature Range	-55 to 175	° C	

### 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
Uni-Polar	Bi-Polar		VBR		IT (mA)			
		VWM (Volts)	Min.	Max.		Vc (Volts)	IPPM (Amps)	ID ( $\mu$ A) (note1)
SA5.0A	SA5.0CA	5.0	6.40	7.00	10	9.2	55.4	600
SA6.0A	SA6.0CA	6.0	6.67	7.37	10	10.3	49.5	600
SA6.5A	SA6.5CA	6.5	7.22	7.98	10	11.2	45.5	400
SA7.0A	SA7.0CA	7.0	7.78	8.60	10	12.0	42.5	150
SA7.5A	SA7.5CA	7.5	8.33	9.21	1	12.9	39.5	50
SA8.0A	SA8.0CA	8.0	8.89	9.83	1	13.6	37.5	25
SA8.5A	SA8.5CA	8.5	9.44	10.40	1	14.4	35.4	10
SA9.0A	SA9.0CA	9.0	10.00	11.10	1	15.4	33.1	5
SA10A	SA10CA	10.0	11.10	12.30	1	17.0	30.0	3
SA11A	SA11CA	11.0	12.20	13.50	1	18.2	28.0	1
SA12A	SA12CA	12.0	13.30	14.70	1	19.9	25.6	1
SA13A	SA13CA	13.0	14.40	15.90	1	21.5	23.7	1
SA14A	SA14CA	14.0	15.60	17.20	1	23.2	22.0	1

# 500W Glass Passivated Junction Transient Voltage Suppressor

## SA5.0A - 180CA

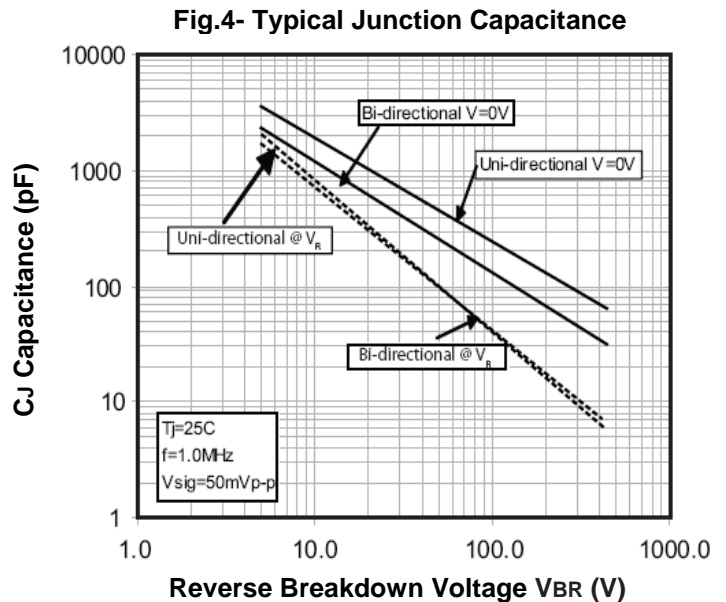
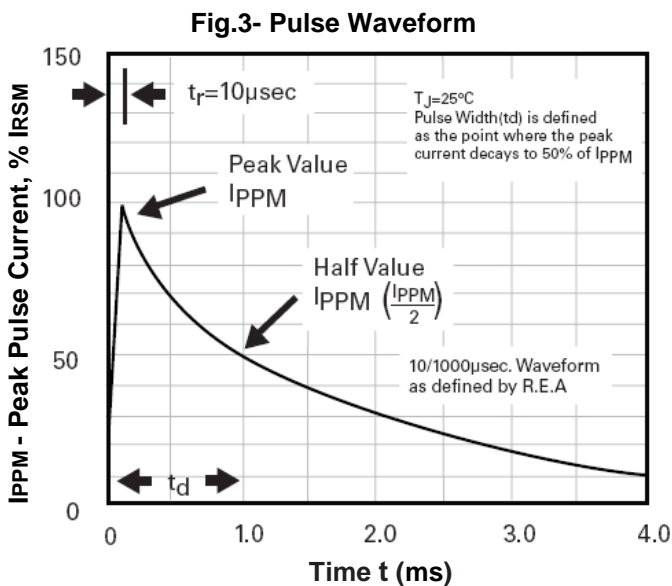
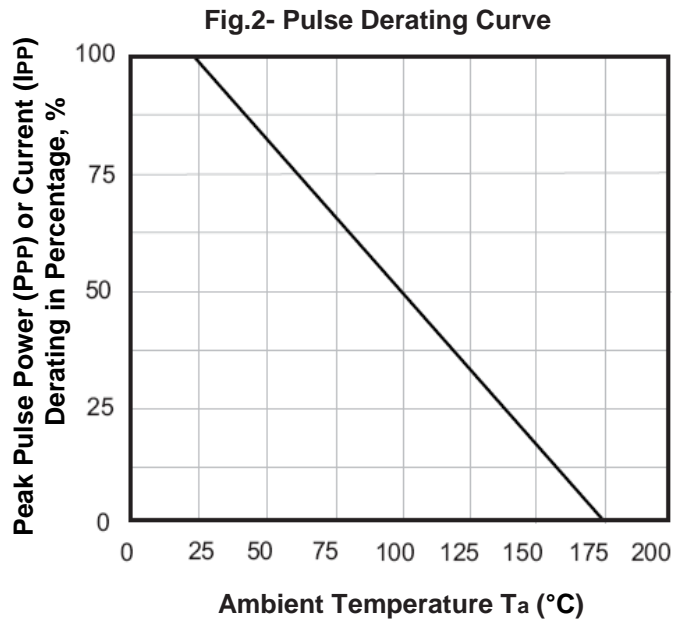
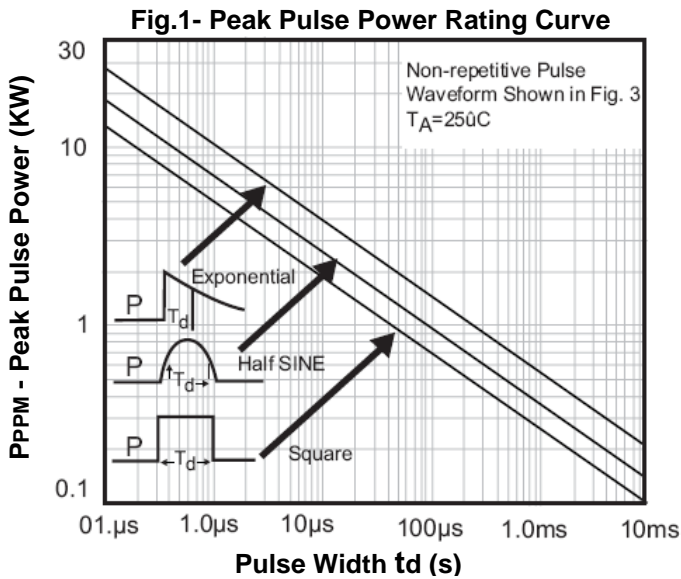
P/N		Stand-Off Voltage	Breakdown Voltage @ Test Curr.			Max. Clamping Vltg. @ IPPM	Max. Peak Pulse Current	Max. Reverse Leakage Current @ V <sub>WM</sub>
			V <sub>BR</sub>		I <sub>T</sub> (mA)			
Uni-Polar	Bi-Polar	V <sub>WM</sub> (Volts)	Min.	Max.			V <sub>C</sub> (Volts)	IPPM (Amps)
SA15A	SA15CA	15.0	16.70	18.50	1	24.4	20.9	1
SA16A	SA16CA	16.0	17.80	19.70	1	26.0	19.6	1
SA17A	SA17CA	17.0	18.90	20.90	1	27.6	18.5	1
SA18A	SA18CA	18.0	20.00	22.10	1	29.2	17.5	1
SA20A	SA20CA	20.0	22.20	24.50	1	32.4	15.7	1
SA22A	SA22CA	22.0	24.40	26.90	1	35.5	14.4	1
SA24A	SA24CA	24.0	26.70	29.50	1	38.9	13.1	1
SA26A	SA26CA	26.0	28.90	31.90	1	42.1	12.1	1
SA28A	SA28CA	28.0	31.10	34.40	1	45.4	11.2	1
SA30A	SA30CA	30.0	33.30	36.80	1	48.4	10.5	1
SA33A	SA33CA	33.0	36.70	40.60	1	53.3	9.6	1
SA36A	SA36CA	36.0	40.00	44.20	1	58.1	8.8	1
SA40A	SA40CA	40.0	44.40	49.10	1	64.5	7.9	1
SA43A	SA43CA	43.0	47.80	52.80	1	69.4	7.3	1
SA45A	SA45CA	45.0	50.00	55.30	1	72.7	7.0	1
SA48A	SA48CA	48.0	53.30	58.90	1	77.4	6.6	1
SA51A	SA51CA	51.0	56.70	62.7	1	82.4	6.2	1
SA54A	SA54CA	54.0	60.00	66.30	1	87.1	5.9	1
SA58A	SA58CA	58.0	64.40	71.20	1	93.6	5.4	1
SA60A	SA60CA	60.0	66.70	73.70	1	96.8	5.3	1
SA64A	SA64CA	64.0	71.10	78.60	1	103.0	5.0	1
SA70A	SA70CA	70.0	77.80	86.0	1	113.0	4.5	1
SA75A	SA75CA	75.0	83.30	92.10	1	121.0	4.2	1
SA78A	SA78CA	78.0	86.70	95.80	1	126.0	4.0	1
SA85A	SA85CA	85.0	94.40	104.0	1	137.0	3.7	1
SA90A	SA90CA	90.0	100.00	111.0	1	146	3.5	1
SA100A	SA100CA	100.0	111.00	123.0	1	162.0	3.1	1
SA110A	SA110CA	110.0	122.00	135.0	1	177.0	2.9	1
SA120A	SA120CA	120.0	133.00	147.0	1	193.0	2.6	1
SA130A	SA130CA	130.0	144.00	159.0	1	209.0	2.4	1
SA150A	SA150CA	150.0	167.00	185.0	1	243.0	2.1	1
SA160A	SA160CA	160.0	178.00	197.0	1	259.0	1.9	1
SA170A	SA170CA	170.0	189.00	209.0	1	275.0	1.8	1
SA180A	SA180CA	180.0	200.00	233.0	1	289.0	1.7	1

# 500W Glass Passivated Junction Transient Voltage Suppressor

SA5.0A - 180CA

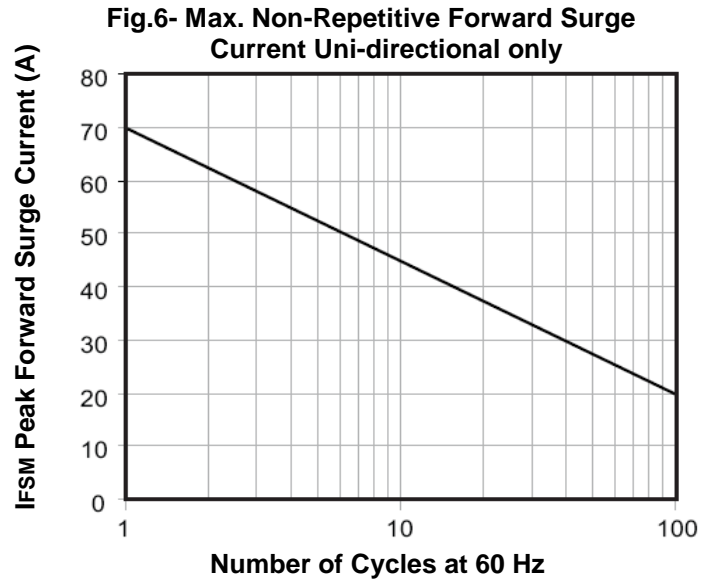
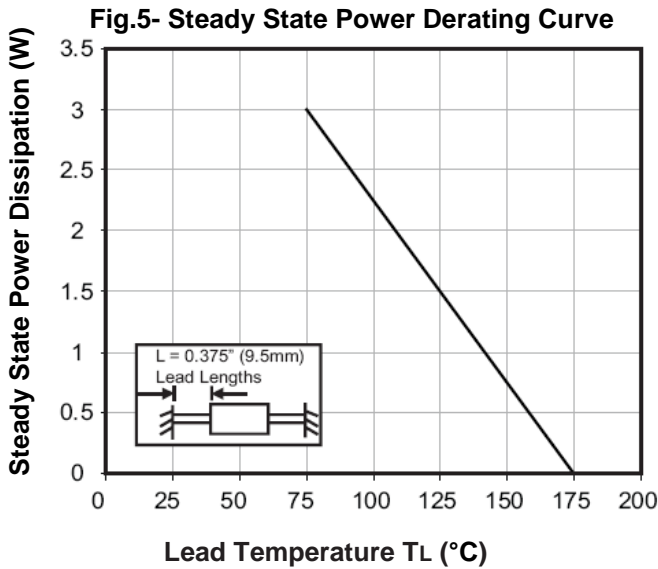
- Note:** 1. For Bi-directional type having  $V_{WM}$  of 10V or less, the  $I_D$  limit is double.  
 2. For parts with suffix A, the  $V_{BR}$  is +/- 10%.

## Typical Characteristics Curves



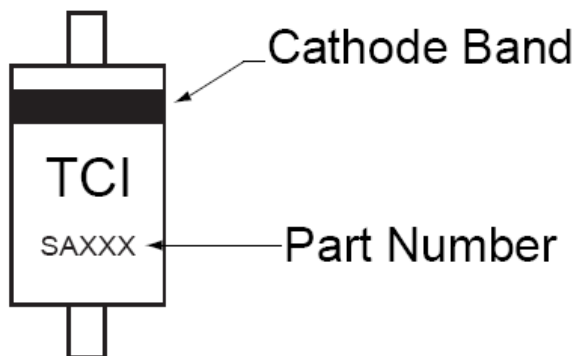
# 500W Glass Passivated Junction Transient Voltage Suppressor

SA5.0A - 180CA

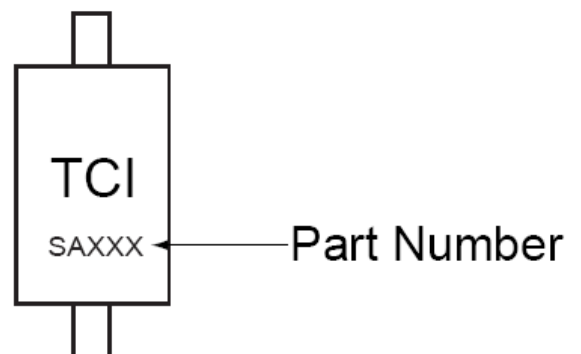


## Marking Information

Uni-directional



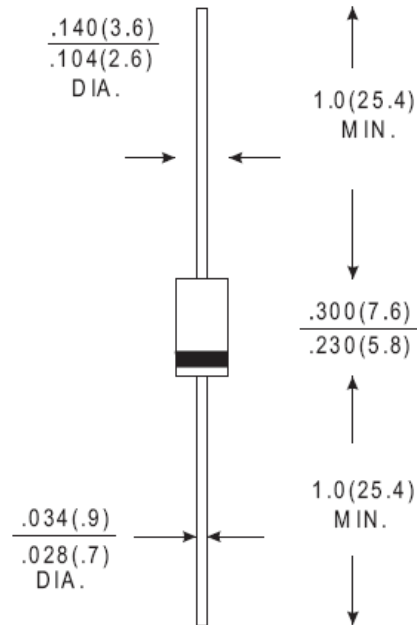
Bi-directional



# 500W Glass Passivated Junction Transient Voltage Suppressor

SA5.0A - 180CA

## Dimensions in inches (mm)



DO-15

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