

# Transient Voltage Suppressors DO-204AC/DO-15

SA Series

MERITEK

## FEATURE

- Peak Pulse Power Dissipation: 500W
- Fast response time.  $I_R$  less than  $1\mu A$  above 10V. Duty cycle: 0.01%
- Excellent clamping capability, Low incremental surge resistance
- Glass passivated junction
- High Temperature soldering guaranteed: 265°C, 10 seconds.
- Terminals: Axial leads, solderable per MIL-STD-750, Method 2026
- UL Flammability Classification Rating 94V-0
- UL safety approved: certification No: E223045



## MAXIMUM RATINGS AND CHARACTERISTICS

Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation on 10/1000 $\mu s$ waveform. (Note 1, Fig. 1)	$P_{PPM}$	Minimum 500	Watts
Peak Pulse Current on 10/1000 $\mu s$ waveform. (Note 1, Fig. 3)	$I_{PPM}$	See Table	Amps
Steady State Power Dissipation at $T_L = 75^\circ C$ , Lead length .375" (9.5mm). (Fig. 5)	$P_{M(AV)}$	3.0	Watts
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load	$I_{FSM}$	70	Amps
Operating junction and Storage Temperature Range.	$T_J, T_{STG}$	-55 to +175	$^\circ C$

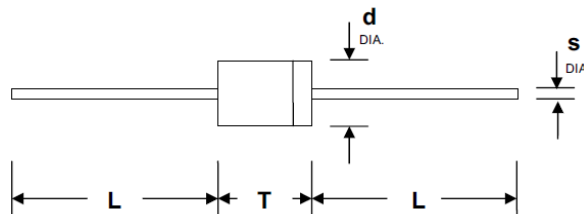
Ratings at 25°C ambient temperature unless otherwise specified

1. Non-repetitive current pulse, per Fig. 3 and derated above  $T_A = 25^\circ C$  per Fig. 2.

2. 8.3ms single half sine-wave, or equivalent square wave, Duty cycle = 4 pulses per minute maximum.

## DIMENSIONS

Item	DO-204AC/DO-15 (mm)	
	Min.	Max.
L	25.40	-
T	5.80	7.60
d	2.60	3.60
S	0.71	0.86



## SPECIFICATIONS

Part Number		Reverse Stand-Off Voltage	Breakdown Voltage Min. @ $I_T$	Breakdown Voltage Max. @ $I_T$	Test Current	Maximum Clamping Voltage @ $I_{PP}$	Peak Pulse Current	Reverse Leakage @ $V_{RWM}$
Uni-Polar	Bi-Polar	$V_{RWM}(V)$	$V_{BR MIN.}(V)$	$V_{BR MAX.}(V)$	$I_T(mA)$	$V_C(V)$	$I_{PP}(A)$	$I_R(\mu A)$
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	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	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

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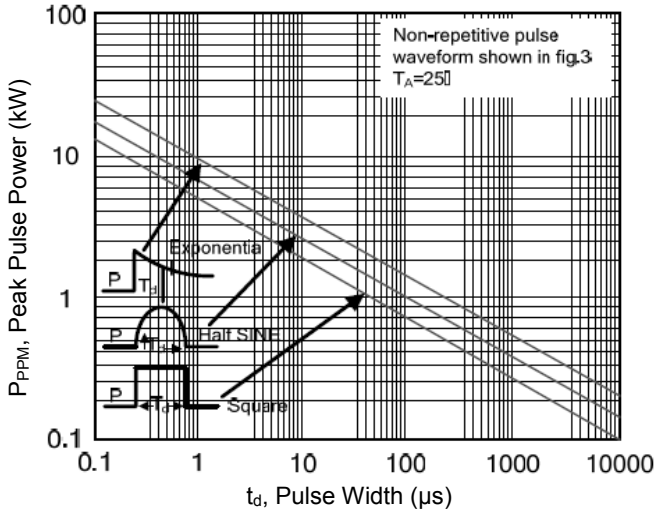
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## SPECIFICATIONS (CONTINUED)

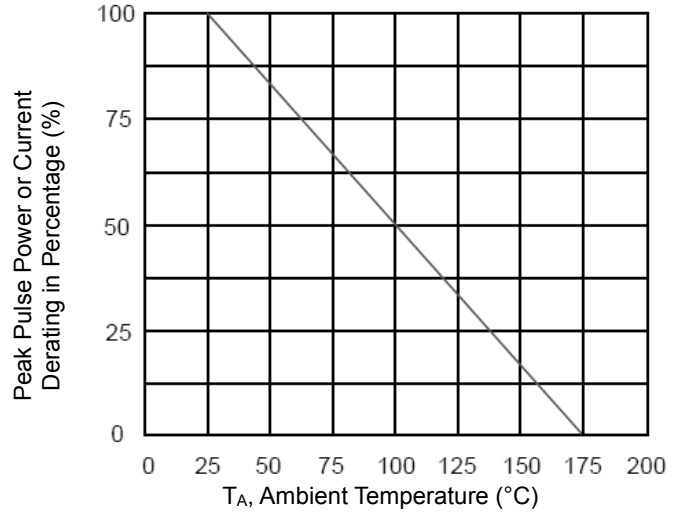
Part Number		Reverse Stand-Off Voltage	Breakdown Voltage Min.@I <sub>T</sub>	Breakdown Voltage Max.@I <sub>T</sub>	Test Current	Maximum Clamping Voltage @I <sub>PP</sub>	Peak Pulse Current	Reverse Leakage @V <sub>RWM</sub>
Uni-Polar	Bi-Polar	V <sub>RWM</sub> (V)	V <sub>BR MIN.</sub> (V)	V <sub>BR MAX.</sub> (V)	I <sub>T</sub> (mA)	V <sub>C</sub> (V)	I <sub>PP</sub> (A)	I <sub>R</sub> (μA)
SA14A	SA14CA	14.0	15.60	17.20	1	23.2	22.0	1
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	62.70	1	82.4	6.2	1
SA54A	SA54CA	54.0	60.00	66.30	1	87.1	5.9	1
SA58A	SA58CA	58.0	54.40	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	86.00	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	104.00	1	137.0	3.7	1
SA90A	SA90CA	90.0	100.00	111.00	1	146.0	3.5	1
SA100A	SA100CA	100.0	111.00	123.00	1	162.0	3.1	1
SA110A	SA110CA	110.0	122.00	135.00	1	177.0	2.9	1
SA120A	SA120CA	120.0	133.00	147.00	1	193.0	2.6	1
SA130A	SA130CA	130.0	144.00	159.00	1	209.0	2.4	1
SA150A	SA150CA	150.0	167.00	185.00	1	243.0	2.1	1
SA160A	SA160CA	160.0	178.00	197.00	1	259.0	2.0	1
SA170A	SA170CA	170.0	189.00	209.00	1	275.0	1.9	1
SA180A	SA180CA	180.0	198.00	233.00	1	289.0	1.7	1
SA190A	SA190CA	190.0	209.00	243.20	1	308.0	1.6	1
SA200A	SA200CA	200.0	220.00	256.00	1	324.0	1.5	1
SA210A	SA210CA	210.0	231.00	268.80	1	340.0	1.5	1
SA220A	SA220CA	220.0	242.00	281.60	1	356.0	1.4	1

## CHARACTERISTIC CURVES

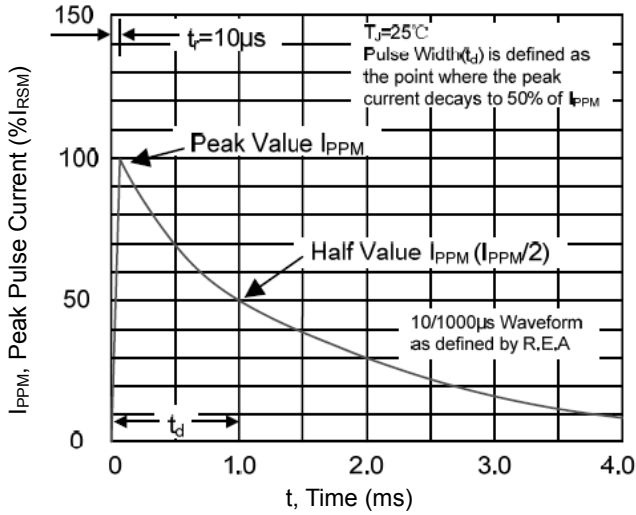
**Peak Pulse Power Rating Curve**



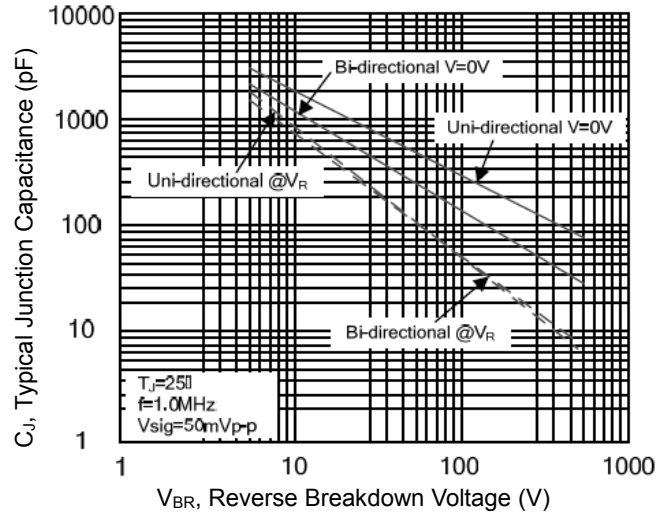
**Pulse Derating Curve**



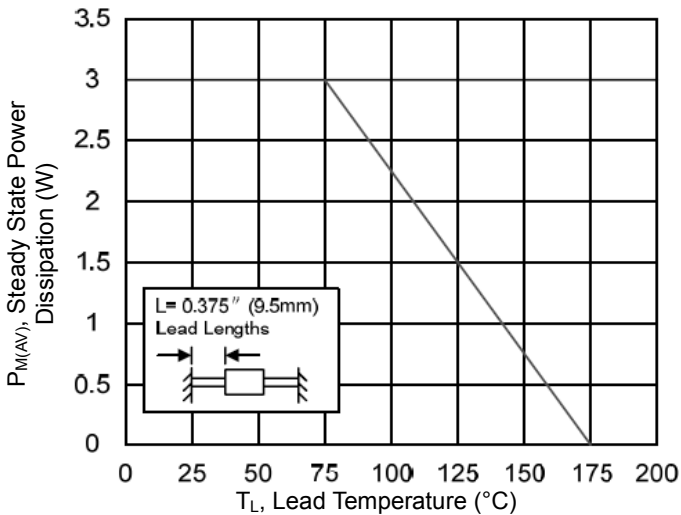
**Pulse Waveform**



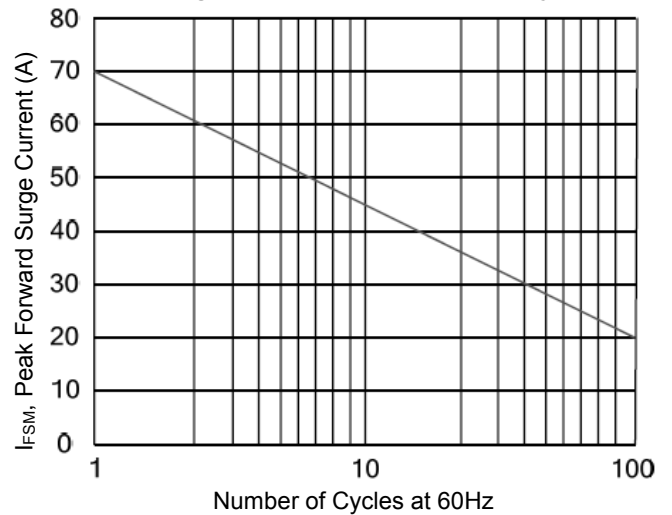
**Typical Junction Capacitance**



**Steady State Power Dissipation Derating Curve**



**Maximum Non-Repetitive Forward Surge Current Uni-Directional Only**



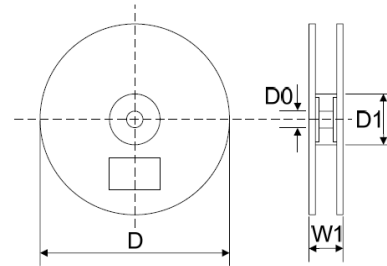
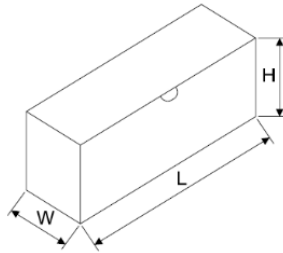
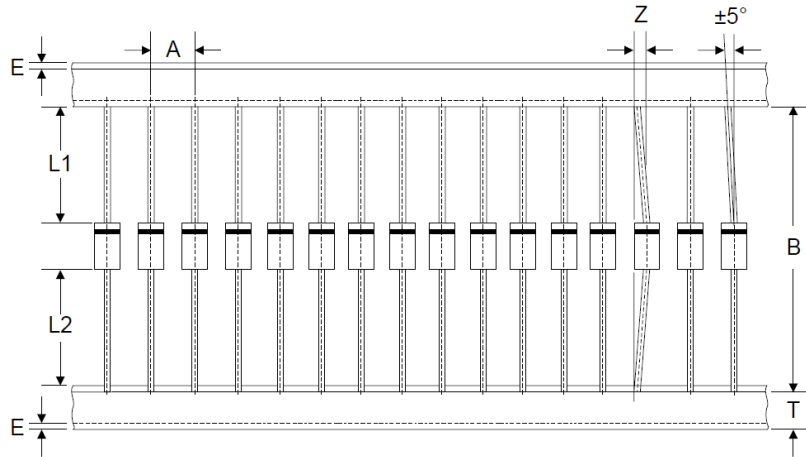
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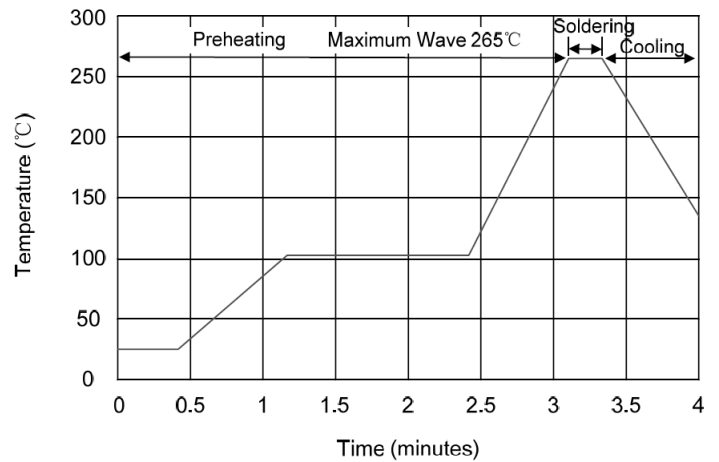
## PACKAGING SPECIFICATION

Tape	
Symbol	Dimension(mm)
A	10.0±0.5
B	53.0±1.0
Z	1.2Max.
T	6.0±0.4
E	0.8Max.
L1-L2	1.0Max.
Box	
Symbol	Dimension(mm)
L	250.0±5.0
W	75.0±5.0
H	114.0±5.0
Quantity: 2000PCS	
Reel	
Symbol	Dimension(mm)
D	330.0±3.0
D0	16.4±2.0
D1	86.0±2.0
W1	76.0±3.0
Quantity: 4000PCS	



## Wave SOLDERING RECOMMENDATION

Item	Conditions
Peak Temperature	265°C
Dipping Time	10 Seconds
Soldering	1 time



\*Specifications subject to change without notice.