

**Working Voltage: 10 to 43 V**  
**Peak Pulse Power: 3000 W**

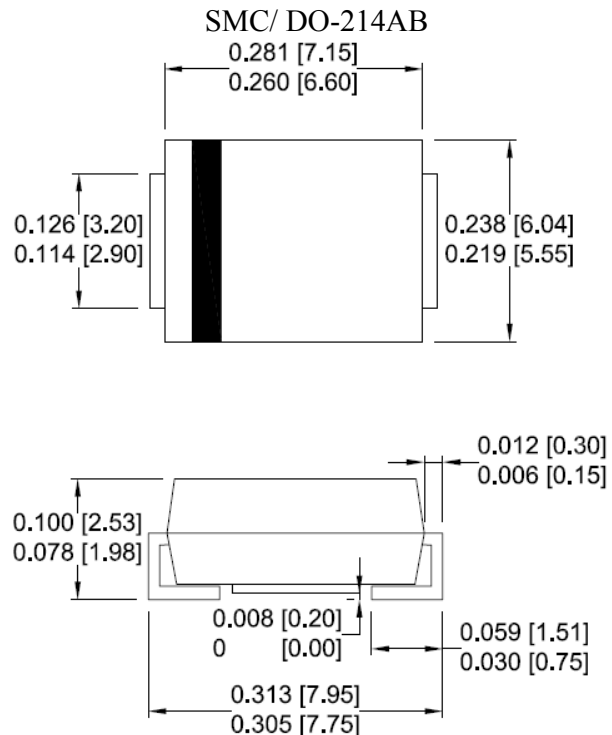
## Surface Mount Transient Voltage Suppressors

### Features

- Glass passivated chip
- 3000 W peak pulse power capability with a 10/1000  $\mu$ s waveform, repetitive rate (duty cycle):0.01 %
- High reliability application and automotive grade AEC Q101 qualified
- Low leakage
- Uni and Bidirectional unit
- Excellent clamping capability
- Very fast response time
- RoHS compliant

### Mechanical Data

- Case: Molded plastic
- Epoxy: UL 94V-0 rate flame retardant
- Lead: Solderable per MIL-STD-750, method 2026
- Polarity: Color band denotes cathode end except Bipolar
- Mounting position: Any



Dimensions: inch[mm]

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

Parameter	Symbol	Value	Unit
Peak power dissipation with a 10/1000 $\mu$ s waveform <sup>(1)</sup>	$P_{PP}$	3000	W
Peak pulse current with a 10/1000 $\mu$ s waveform <sup>(1)</sup>	$I_{PP}$	See Next Table	A
Power dissipation on infinite heatsink at $T_L = 50^\circ\text{C}$	$P_D$	6.5	W
Peak forward surge current, 8.3 ms single half sine-wave unidirectional only <sup>(2)</sup>	$I_{FSM}$	300	A
Maximum instantaneous forward voltage at 100A for unidirectional only <sup>(3)</sup>	$V_F$	3.5/5.0	V
Operating junction and storage temperature range	$T_J, T_{STG}$	- 55 to +150	$^\circ\text{C}$

**Note:**

- (1)Non-repetitive current pulse per Fig.5 and derated above  $T_A = 25^\circ\text{C}$  per Fig.1
- (2)Measured on 8.3 ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum
- (3) $V_F < 3.5\text{V}$  for devices of  $V_{BR} < 200\text{V}$  and  $V_F < 5.0\text{V}$  for devices of  $V_{BR} > 201\text{V}$

**Ratings and Characteristics Curves ( $T_A=25^\circ\text{C}$  unless otherwise noted)**

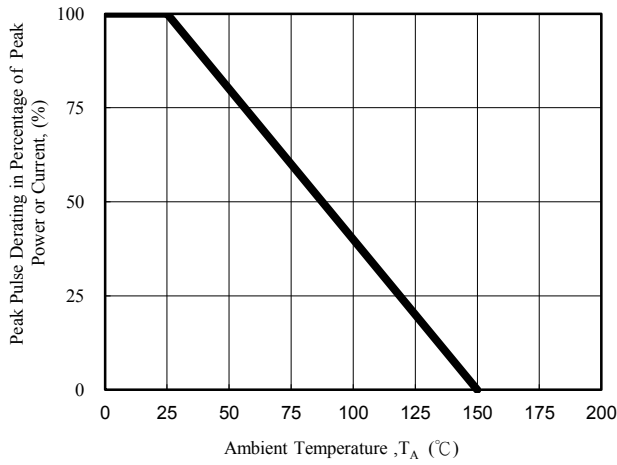


Fig. 1 - Pulse Derating Curve

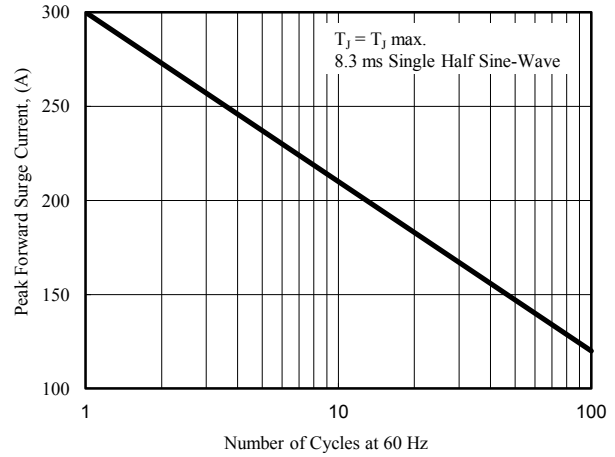


Fig. 2 - Maximum Non-Repetitive Surge Current

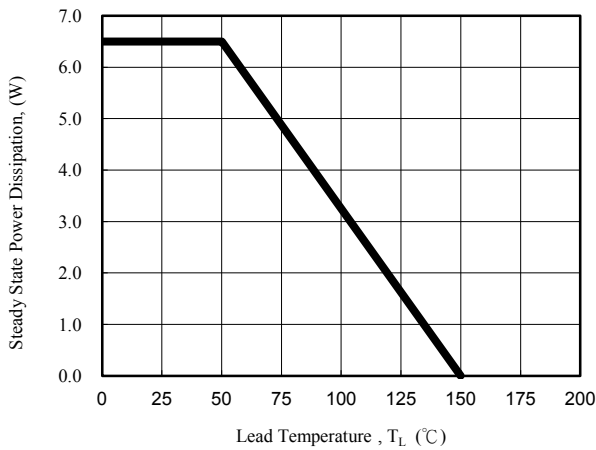


Fig. 3 - Steady State Power Derating Curve

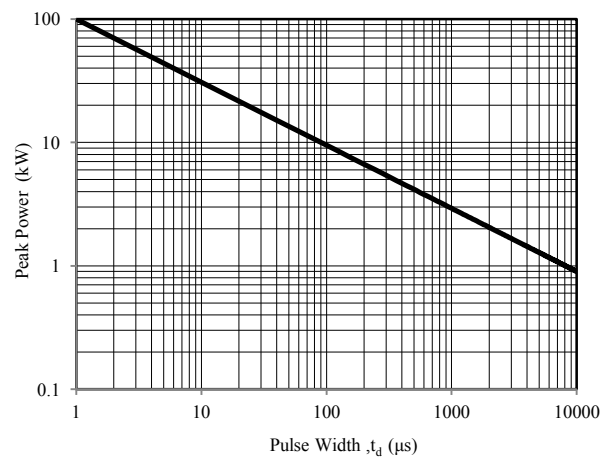


Fig. 4 - Peak Pulse Power Rating Curve

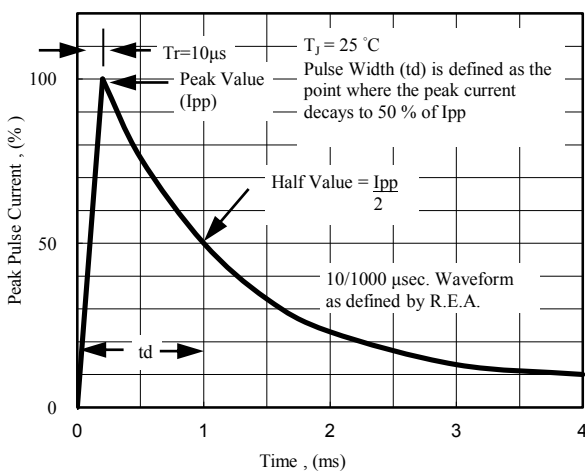


Fig. 5 - Pulse Waveform

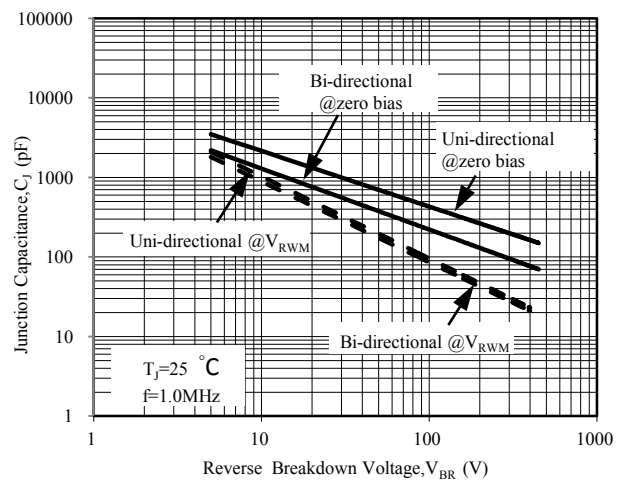


Fig. 6 - Typical Junction Capacitance

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

Part Number (Uni)	Part Number (Bi)	Device Marking Code		Breakdown Voltage $V_{BR}$ @ $I_T$			Maximum Reverse Leakage $I_R$ @ $V_{RWM}$ ( $\mu\text{A}$ )	Working Peak Reverse Voltage $V_{RWM}$ (V)	Maximum Reverse Surge Current $I_{PP}$ (A)	Maximum Clamping Voltage $V_C$ @ $I_{PP}$ (V)
		Uni	Bi	Min (V)	Max (V)	$I_T$ (mA)				
TPSMDJ10A	TPSMDJ10CA	PDXA	DDXA	11.10	12.30	1	15	10.0	176.47	17.0
TPSMDJ11A	TPSMDJ11CA	PDZA	DDZA	12.20	13.50	1	2	11.0	164.84	18.2
TPSMDJ12A	TPSMDJ12CA	PEEA	DEEA	13.30	14.70	1	2	12.0	150.75	19.9
TPSMDJ13A	TPSMDJ13CA	PEGA	DEGA	14.40	15.90	1	2	13.0	139.53	21.5
TPSMDJ14A	TPSMDJ14CA	PEKA	DEKA	15.60	17.20	1	2	14.0	129.31	23.2
TPSMDJ15A	TPSMDJ15CA	PEMA	DEMA	16.70	18.50	1	2	15.0	122.95	24.4
TPSMDJ16A	TPSMDJ16CA	PEPA	DEPA	17.80	19.70	1	2	16.0	115.38	26.0
TPSMDJ17A	TPSMDJ17CA	PERA	DERA	18.90	20.90	1	2	17.0	108.70	27.6
TPSMDJ18A	TPSMDJ18CA	PETA	DETA	20.00	22.10	1	2	18.0	102.74	29.2
TPSMDJ19A	TPSMDJ19CA	PEBA	DEBA	21.10	23.30	1	2	19.0	97.47	30.8
TPSMDJ20A	TPSMDJ20CA	PEVA	DEVA	22.20	24.50	1	2	20.0	92.59	32.4
TPSMDJ22A	TPSMDJ22CA	PEXA	DEXA	24.40	26.90	1	2	22.0	84.51	35.5
TPSMDJ24A	TPSMDJ24CA	PEZA	DEZA	26.70	29.50	1	2	24.0	77.12	38.9
TPSMDJ26A	TPSMDJ26CA	PFEA	DFEA	28.90	31.90	1	2	26.0	71.26	42.1
TPSMDJ28A	TPSMDJ28CA	PFGA	DFGA	31.10	34.40	1	2	28.0	66.08	45.4
TPSMDJ30A	TPSMDJ30CA	PFKA	DFKA	33.30	36.80	1	2	30.0	61.98	48.4
TPSMDJ33A	TPSMDJ33CA	PFMA	DFMA	36.70	40.60	1	2	33.0	56.29	53.3
TPSMDJ36A	TPSMDJ36CA	PFPA	DFPA	40.00	44.20	1	2	36.0	51.64	58.1
TPSMDJ40A	TPSMDJ40CA	PFRA	DFRA	44.40	49.10	1	2	40.0	46.51	64.5
TPSMDJ43A	TPSMDJ43CA	PFTA	DFTA	47.80	52.80	1	2	43.0	43.23	69.4

**Note:**

1. Add suffix 'C' or 'CA' after part number to specify Bi-directional devices
2. For Bi-Directional devices having  $V_R$  of 10 volts and under, the  $I_R$  limit is double