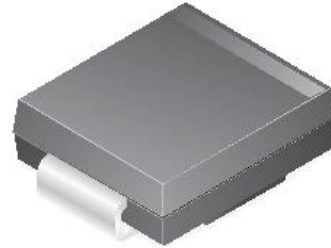


## 1500W Transient Voltage Suppressor

### FEATURES

- Glass passivated junction
- 1500W peak pulse power capability on 10/1000 $\mu$ s waveform
- Excellent clamping capability
- Low-Incremental surge resistance
- Fast response time: Typically less than 1.0ps from 0V to BV minimum for unidirectional and 5.0ns for bidirectional
- Typical  $I_R$  less than 1 $\mu$ A above 10V
- UL certificate #E258596
- UL94V-0 flammability classification



**SMC/DO-214AB**

Band denotes cathode on unidirectional devices only.  
No band on bi-directional devices. Bi-directional types have CA suffix where electrical characteristics apply in both directions suitable for bi-directional applications.

### ABSOLUTE MAXIMUM RATINGS

Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only. Values are at  $T_A = 25^\circ\text{C}$  unless otherwise noted.

PARAMETER	SYMBOL	VALUE	UNIT
Peak pulse power dissipation $t_p=1\text{ms}$	$P_{PPM}$	1500	W
Peak pulse current on 10/1000 $\mu$ s waveform	$I_{PPM}$	see table	A
Non-Repetitive Peak Forward Surge Current Superimposed on Rated Load (JEDEC Method) <sup>(1)</sup>	$I_{FSM}$	200	A
Junction temperature	$T_J$	-55 to +150	$^\circ\text{C}$
Storage temperature	$T_{STG}$	-55 to +150	$^\circ\text{C}$

**Note:**

1. Measured on 8.3ms single half-sine wave; duty cycle = 4 pulses per minute maximum.

**ELECTRICAL SPECIFICATIONS** ( $T_A = 25^\circ\text{C}$  unless otherwise noted)

Uni-directional Bi-directional (C) Device	Part Marking <sup>(2)</sup>	Reverse Stand-Off Voltage $V_{RWM}$ (V)	Breakdown Voltage $V_{BR}$ (V)		Test Current $I_T$ (mA)	Clamping Voltage at $I_{PPM}$ $V_C$ (V)	Peak Pulse Current $I_{PPM}$ (A)	Reverse Leakage Current at $V_{RWM}$ $I_R$ ( $\mu\text{A}$ ) <sup>(3)</sup>
			Min.	Max.				
SMCJ5V0(C)A	GDE	5.0	6.40	7.00	10	9.2	163.0	1000
SMCJ6V0(C)A	GDG	6.0	6.67	7.37	10	10.3	145.6	1000
SMCJ6V5(C)A	GDK	6.5	7.22	7.98	10	11.2	133.9	500
SMCJ7V0(C)A	GDM	7.0	7.78	8.60	10	12.0	125.0	200
SMCJ7V5(C)A	GDP	7.5	8.33	9.21	1	12.9	116.3	100
SMCJ8V0(C)A	GDR	8.0	8.89	9.83	1	13.6	110.3	50
SMCJ8V5(C)A	GDT	8.5	9.44	10.4	1	14.4	104.2	20
SMCJ9V0(C)A	GDV	9.0	10.0	11.1	1	15.4	97.4	10
SMCJ10(C)A	GDX	10	11.1	12.3	1	17.0	88.2	5
SMCJ11(C)A	GDZ	11	12.2	13.5	1	18.2	82.4	5
SMCJ12(C)A	GEE	12	13.3	14.7	1	19.9	75.3	5
SMCJ13(C)A	GEG	13	14.4	15.9	1	21.5	69.8	5
SMCJ14(C)A	GEK	14	15.6	17.2	1	23.2	64.7	5
SMCJ15(C)A	GEM	15	16.7	18.5	1	24.4	61.5	5
SMCJ16(C)A	GEP	16	17.8	19.7	1	26.0	57.7	5
SMCJ17(C)A	GER	17	18.9	20.9	1	27.6	54.3	5
SMCJ18(C)A	GET	18	20.0	22.1	1	29.2	51.4	5
SMCJ20(C)A	GEV	20	22.2	24.5	1	32.4	46.3	5
SMCJ22(C)A	GEX	22	24.4	26.9	1	35.5	42.3	5
SMCJ24(C)A	GEZ	24	26.7	29.5	1	38.9	38.6	5
SMCJ26(C)A	GFE	26	28.9	31.9	1	42.1	35.6	5
SMCJ28(C)A	GFG	28	31.1	34.4	1	45.4	33.0	5
SMCJ30(C)A	GFK	30	33.3	36.8	1	48.4	31.0	5
SMCJ33(C)A	GFM	33	36.7	40.6	1	53.3	28.1	5
SMCJ36(C)A	GFP	36	40.0	44.2	1	58.1	25.8	5
SMCJ40(C)A	GFR	40	44.4	49.1	1	64.5	23.3	5
SMCJ43(C)A	GFT	43	47.8	52.8	1	69.4	21.6	5
SMCJ45(C)A	GFV	45	50.0	55.3	1	72.7	20.6	5
SMCJ48(C)A	GFX	48	53.3	58.9	1	77.4	19.4	5
SMCJ51(C)A	GFZ	51	56.7	62.7	1	82.4	18.2	5
SMCJ54(C)A	GGE	54	60.0	66.3	1	87.1	17.2	5
SMCJ58(C)A	GGG	58	64.4	71.2	1	93.6	16.0	5
SMCJ60(C)A	GGK	60	66.7	73.7	1	96.8	15.5	5
SMCJ64(C)A	GGM	64	71.1	78.6	1	103.0	14.6	5
SMCJ70(C)A	GGP	70	77.8	86.0	1	113.0	13.3	5
SMCJ75(C)A	GGR	75	83.3	92.1	1	121.0	12.4	5
SMCJ78(C)A	GGT	78	86.7	95.8	1	126.0	11.9	5

<b>ELECTRICAL SPECIFICATIONS</b> ( $T_A = 25^\circ\text{C}$ unless otherwise noted)								
Uni-directional Bi-directional (C) Device	Part Marking <sup>(2)</sup>	Reverse Stand-Off Voltage $V_{RWM}$ (V)	Breakdown Voltage $V_{BR}$ (V)		Test Current $I_T$ (mA)	Clamping Voltage at $I_{PPM}$ $V_C$ (V)	Peak Pulse Current $I_{PPM}$ (A)	Reverse Leakage Current at $V_{RWM}$ $I_R$ ( $\mu\text{A}$ ) <sup>(3)</sup>
			Min.	Max.				
SMCJ85(C)A	GGV	85	94.4	104.0	1	137.0	10.9	5
SMCJ90(C)A	GGX	90	100.0	111.0	1	146.0	10.3	5
SMCJ100(C)A	GGZ	100	111.0	123.0	1	162.0	9.3	5
SMCJ110(C)A	GHE	110	122.0	135.0	1	177.0	8.5	5
SMCJ120(C)A	GHG	120	133.0	147.0	1	193.0	7.8	5
SMCJ130(C)A	GHK	130	144.0	159.0	1	209.0	7.2	5
SMCJ150(C)A	GHM	150	167.0	185.0	1	243.0	6.2	5
SMCJ160(C)A	GHP	160	178.0	197.0	1	259.0	5.8	5
SMCJ170(C)A	GHR	170	189.0	209.0	1	275.0	5.5	5

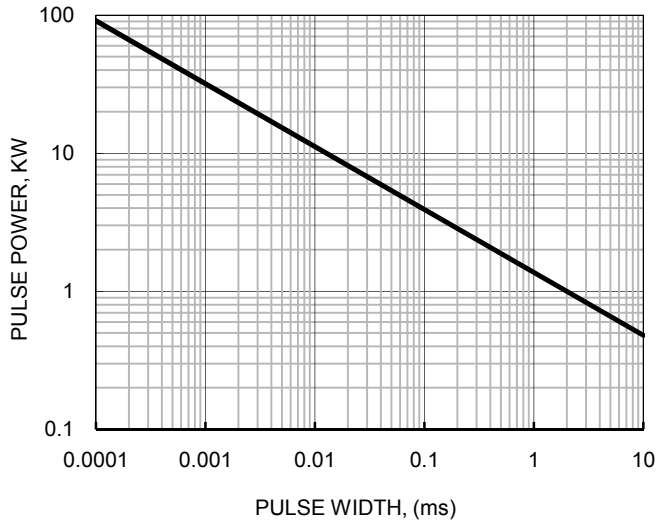
**Notes:**

2. Color band denotes cathode on unidirectional devices only. No color band on bidirectional devices.
3. For bidirectional parts with  $V_{RWM} < 10$  V, the  $I_R$  max limit is doubled.

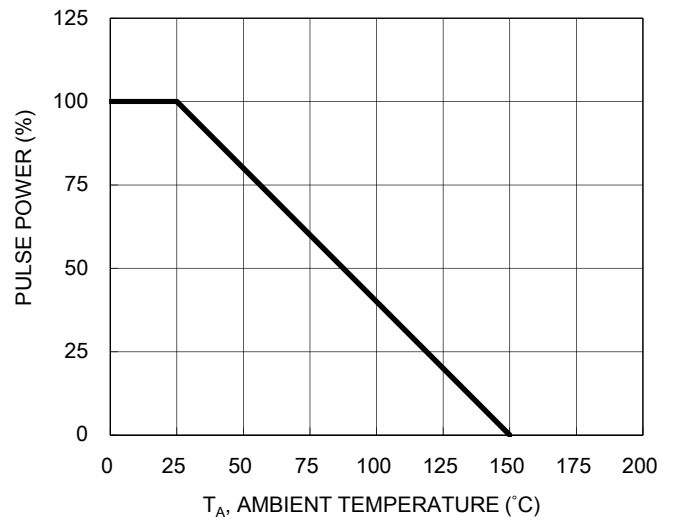
**CHARACTERISTICS CURVES**

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

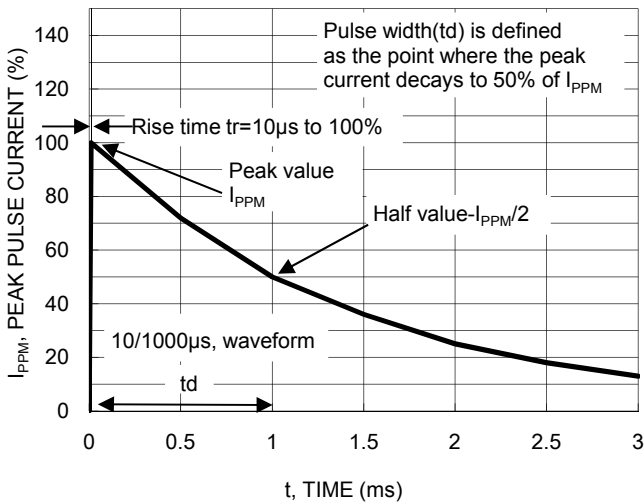
**Fig1. Peak Pulse Power rating Curve**



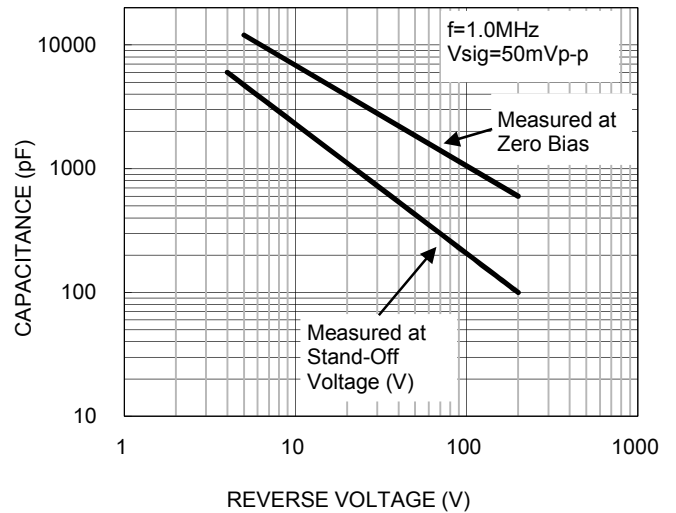
**Fig2. Pulse Derating Curve**



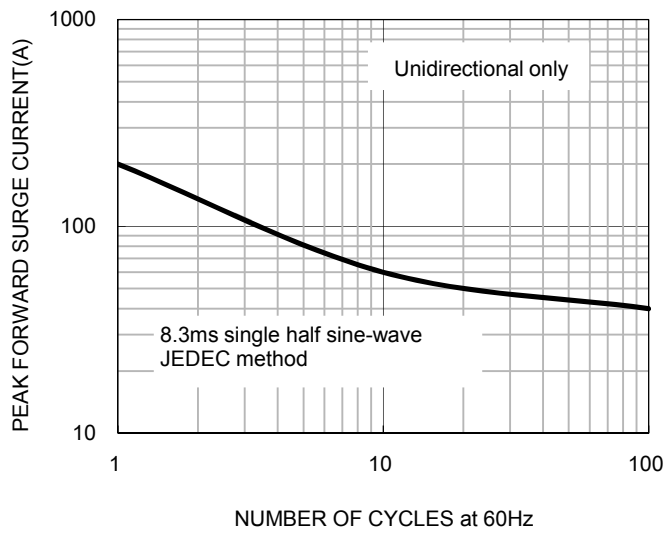
**Fig3. Pulse Waveform**



**Fig4. Junction Capacitance**

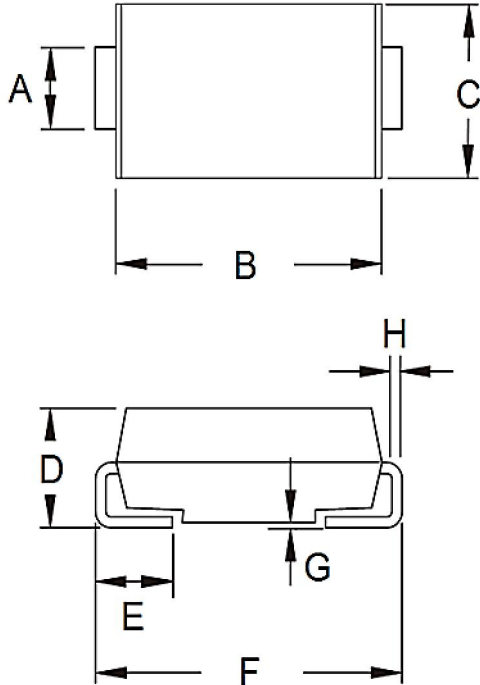


**Fig5. Non-repetitive surge current**



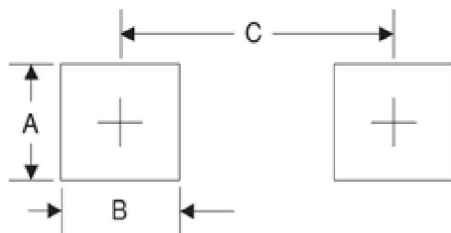
**PACKAGE OUTLINE DIMENSIONS**

DO-214AB (SMC)



DIM.	Unit (mm)	
	Min	Max
A	3.27	2.75
B	6.60	7.15
C	5.55	6.25
D	-	2.65
E	0.75	1.60
F	7.75	8.15
G	0.05	0.203
H	0.15	0.41

**SUGGESTED PAD LAYOUT**



Symbol	Unit (mm)
A	2.6
B	3.2
C	7.2

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