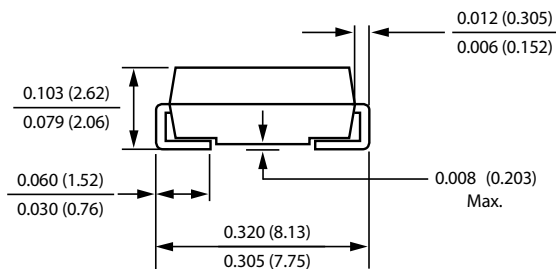
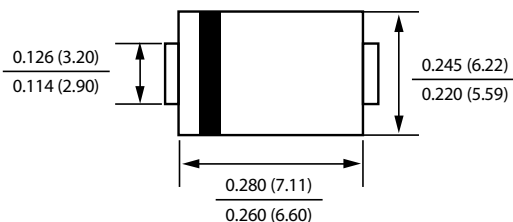




# SMCJ SERIES



## Transient Voltage Suppressors(1500W)



### DO-214AB(SMC)

Dimensions in inches and (millimeters)

Ordering Information	
Part Number	Compound
SMCJ SERIES	General
SMCJ SERIES-H	Halogen Free
SMCJ SERIES-Q	Automotive

PRIMARY CHARACTERISTICS	
VBR	5.0~440V
PPPM	1500W
P <sub>D</sub>	6.5W
T <sub>J</sub> max	150°C

### Features

- Constructed with Glass Passivated Die
- 1500W peak pulse power Dissipation
- Excellent clamping capability
- Uni and Bidirectional unit
- Very fast response time
- Component in accordance to RoHS 2002/95/EC
- AEC-Q101 Qualified

### Mechanical Data

- Cases: DO-214AB(SMC)
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Terminals: Lead free Plating (Tin Finish)  
Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Weight: 0.231 grams (approximate)

### MAXIMUM RATINGS (TA=25°C unless otherwise noted)

PARAMETER	SYMBOL	VALUE	UNIT
Peak power dissipation with a 10/1000µs waveform	P <sub>PP</sub>	Minimum 1500	W
Power dissipation on infinite heatsink at TL=75°C	P <sub>D</sub>	6.5	W
Peak forward surge current, 8.3ms single half sine-wave unidirectional only(1)	I <sub>FSM</sub>	200	A
Maximum instantaneous forward voltage at 100 A for unidirectional only(2)	V <sub>F</sub>	3.5 / 5.0	V
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 ~ +150	°C

Note:

(1) Measured on 8.3 ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum.

(2) V<sub>F</sub><3.5V for devices of VBR<200V and V<sub>F</sub><5.0V for devices of VBR>201V



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## Transient Voltage Suppressors(1500W)

Part Number		Marking Code		Reverse Stand-off Voltage	Break-down Voltage Min@I <sub>T</sub>	Break-down Voltage Max@I <sub>T</sub>	Test Current	Max Clamping Voltage V <sub>C</sub> @I <sub>PP</sub>	Peak Pulse Current	Reverse Leakage I <sub>R</sub> @V <sub>RRM</sub>
DIRECTIONAL		DIRECTIONAL		V <sub>RRM</sub>	V <sub>BR</sub>	V <sub>BR</sub>	I <sub>T</sub>	V <sub>C</sub>	I <sub>PP</sub>	I <sub>R</sub>
UNI	BI	UNI	BI	V	V	V	mA	V	A	uA
SMCJ5.0A	SMCJ5.0CA	CJ5.0A	CJ5.0CA	5.0	6.40	7.00	10.0	9.2	163.04	1000
SMCJ6.0A	SMCJ6.0CA	CJ6.0A	CJ6.0CA	6.0	6.67	7.37	10.0	10.3	145.63	1000
SMCJ6.5A	SMCJ6.5CA	CJ6.5A	CJ6.5CA	6.5	7.22	7.98	10.0	11.2	133.93	500
SMCJ7.0A	SMCJ7.0CA	CJ7.0A	CJ7.0CA	7.0	7.78	8.60	10.0	12.0	125.00	200
SMCJ7.5A	SMCJ7.5CA	CJ7.5A	CJ7.5CA	7.5	8.33	9.21	1.0	12.9	116.28	100
SMCJ8.0A	SMCJ8.0CA	CJ8.0A	CJ8.0CA	8.0	8.89	9.83	1.0	13.6	110.29	50
SMCJ8.5A	SMCJ8.5CA	CJ8.5A	CJ8.5CA	8.5	9.44	10.40	1.0	14.4	104.17	20
SMCJ9.0A	SMCJ9.0CA	CJ9.0A	CJ9.0CA	9.0	10.00	11.10	1.0	15.4	97.40	10
SMCJ10A	SMCJ10CA	CJ10A	CJ10CA	10.0	11.10	12.30	1.0	17.0	88.24	5
SMCJ11A	SMCJ11CA	CJ11A	CJ11CA	11.0	12.20	13.50	1.0	18.2	82.42	5
SMCJ12A	SMCJ12CA	CJ12A	CJ12CA	12.0	13.30	14.70	1.0	19.9	75.38	5
SMCJ13A	SMCJ13CA	CJ13A	CJ13CA	13.0	14.40	15.90	1.0	21.5	69.77	5
SMCJ14A	SMCJ14CA	CJ14A	CJ14CA	14.0	15.60	17.20	1.0	23.2	64.66	5
SMCJ15A	SMCJ15CA	CJ15A	CJ15CA	15.0	16.70	18.50	1.0	24.4	61.48	5
SMCJ16A	SMCJ16CA	CJ16A	CJ16CA	16.0	17.80	19.70	1.0	26.0	57.69	5
SMCJ17A	SMCJ17CA	CJ17A	CJ17CA	17.0	18.90	20.90	1.0	27.6	54.35	5
SMCJ18A	SMCJ18CA	CJ18A	CJ18CA	18.0	20.00	22.10	1.0	29.2	51.37	5
SMCJ19A	SMCJ19CA	CJ19A	CJ19CA	19.0	21.10	23.30	1.0	30.8	48.73	5
SMCJ20A	SMCJ20CA	CJ20A	CJ20CA	20.0	22.20	24.50	1.0	32.4	46.30	5
SMCJ22A	SMCJ22CA	CJ22A	CJ22CA	22.0	24.40	26.90	1.0	35.5	42.25	5
SMCJ24A	SMCJ24CA	CJ24A	CJ24CA	24.0	26.70	29.50	1.0	38.9	38.56	5
SMCJ26A	SMCJ26CA	CJ26A	CJ26CA	26.0	28.90	31.90	1.0	42.1	35.63	5
SMCJ28A	SMCJ28CA	CJ28A	CJ28CA	28.0	31.10	34.40	1.0	45.4	33.04	5
SMCJ30A	SMCJ30CA	CJ30A	CJ30CA	30.0	33.30	36.80	1.0	48.4	30.99	5
SMCJ33A	SMCJ33CA	CJ33A	CJ33CA	33.0	36.70	40.60	1.0	53.3	28.14	5
SMCJ36A	SMCJ36CA	CJ36A	CJ36CA	36.0	40.00	44.20	1.0	58.1	25.82	5
SMCJ40A	SMCJ40CA	CJ40A	CJ40CA	40.0	44.40	49.10	1.0	64.5	23.26	5
SMCJ43A	SMCJ43CA	CJ43A	CJ43CA	43.0	47.80	52.80	1.0	69.4	21.61	5
SMCJ45A	SMCJ45CA	CJ45A	CJ45CA	45.0	50.00	55.30	1.0	72.7	20.63	5
SMCJ48A	SMCJ48CA	CJ48A	CJ48CA	48.0	53.30	58.90	1.0	77.4	19.38	5
SMCJ51A	SMCJ51CA	CJ51A	CJ51CA	51.0	56.70	62.70	1.0	82.4	18.20	5
SMCJ54A	SMCJ54CA	CJ54A	CJ54CA	54.0	60.00	66.30	1.0	87.1	17.22	5
SMCJ58A	SMCJ58CA	CJ58A	CJ58CA	58.0	64.40	71.20	1.0	93.6	16.03	5
SMCJ60A	SMCJ60CA	CJ60A	CJ60CA	60.0	66.70	73.70	1.0	96.8	15.50	5
SMCJ64A	SMCJ64CA	CJ64A	CJ64CA	64.0	71.10	78.60	1.0	103.0	14.56	5
SMCJ70A	SMCJ70CA	CJ70A	CJ70CA	70.0	77.80	86.00	1.0	113.0	13.27	5
SMCJ75A	SMCJ75CA	CJ75A	CJ75CA	75.0	83.30	92.10	1.0	121.0	12.40	5
SMCJ78A	SMCJ78CA	CJ80A	CJ80CA	78.0	86.70	95.80	1.0	126.0	11.90	5
SMCJ80A	SMCJ80CA	CJ80A	CJ80CA	80.0	88.80	97.60	1.0	129.6	11.57	5
SMCJ85A	SMCJ85CA	CJ85A	CJ85CA	85.0	94.40	104.00	1.0	137.0	10.95	5



## Transient Voltage Suppressors(1500W)

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DIRECTIONAL		DIRECTIONAL		V <sub>RRM</sub>	V <sub>BR</sub>	V <sub>BR</sub>	I <sub>T</sub>	V <sub>C</sub>	I <sub>PP</sub>	I <sub>R</sub>
UNI	BI	UNI	BI	V	V	V	mA	V	A	uA
SMCJ90A	SMCJ90CA	CJ90A	CJ90CA	90.0	100.00	111.00	1.0	146.0	10.27	5
SMCJ100A	SMCJ100CA	CJ100A	CJ100CA	100.0	111.00	123.00	1.0	162.0	9.26	5
SMCJ110A	SMCJ110CA	CJ110A	CJ110CA	110.0	122.00	135.00	1.0	177.0	8.47	5
SMCJ120A	SMCJ120CA	CJ120A	CJ120CA	120.0	133.00	147.00	1.0	193.0	7.77	5
SMCJ130A	SMCJ130CA	CJ130A	CJ130CA	130.0	144.00	159.00	1.0	209.0	7.18	5
SMCJ140A	SMCJ140CA	CJ140A	CJ140CA	140.0	155.00	171.00	1.0	226.8	6.61	5
SMCJ150A	SMCJ150CA	CJ150A	CJ150CA	150.0	167.00	185.00	1.0	243.0	6.17	5
SMCJ160A	SMCJ160CA	CJ160A	CJ160CA	160.0	178.00	197.00	1.0	259.0	5.79	5
SMCJ170A	SMCJ170CA	CJ170A	CJ170CA	170.0	189.00	209.00	1.0	275.0	5.45	5
SMCJ180A	SMCJ180CA	CJ180A	CJ180CA	180.0	200.00	220.00	1.0	291.6	5.14	5
SMCJ190A	SMCJ190CA	CJ190A	CJ190CA	190.0	211.00	232.00	1.0	307.8	4.87	5
SMCJ200A	SMCJ200CA	CJ200A	CJ200CA	200.0	224.00	247.00	1.0	324.0	4.60	5
SMCJ220A	SMCJ220CA	CJ220A	CJ220CA	220.0	246.00	272.00	1.0	356.0	4.20	5
SMCJ250A	SMCJ250CA	CJ250A	CJ250CA	250.0	279.00	309.00	1.0	405.0	3.70	5
SMCJ300A	SMCJ300CA	CJ300A	CJ300CA	300.0	335.00	371.00	1.0	486.0	3.10	5
SMCJ350A	SMCJ350CA	CJ350A	CJ350CA	350.0	391.00	432.00	1.0	567.0	2.60	5
SMCJ400A	SMCJ400CA	CJ400A	CJ400CA	400.0	447.00	494.00	1.0	648.0	2.30	5
SMCJ440A	SMCJ440CA	CJ440A	CJ440CA	440.0	492.00	543.00	1.0	713.0	2.10	5

Note:

1. Suffix 'A ' denotes 5% tolerance device.
2. Add suffix ' CA ' after part number to specify Bi-directional devices.
3. For Bi-Directional devices having VR of 10 volts and under, the IR limit is double .



Transient Voltage Suppressors(1500W)

Fig. 1 - Pulse Derating Curve

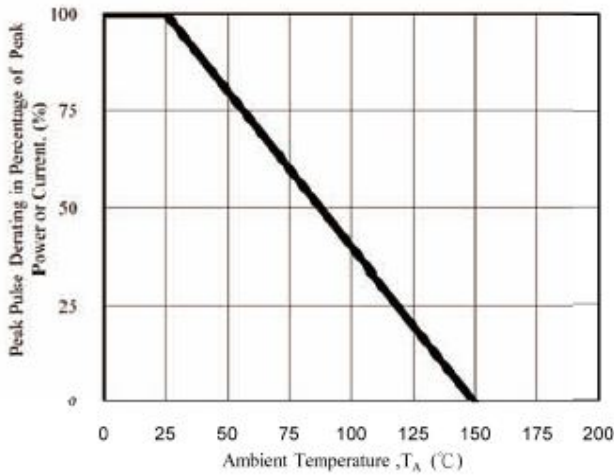


Fig. 2 - Maximum Non-Repetitive Surge Current

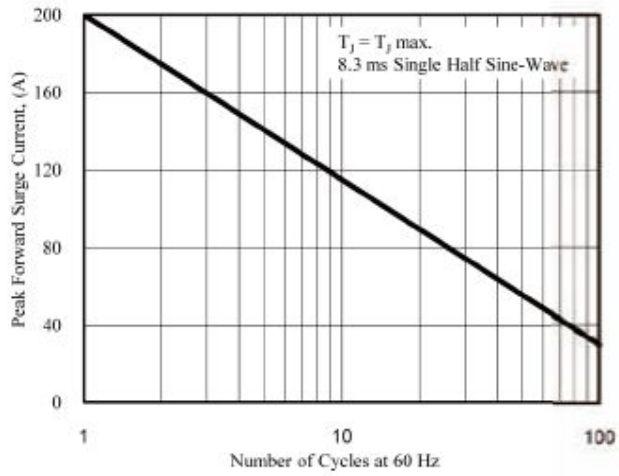


Fig. 3 - Steady State Power Derating Curve

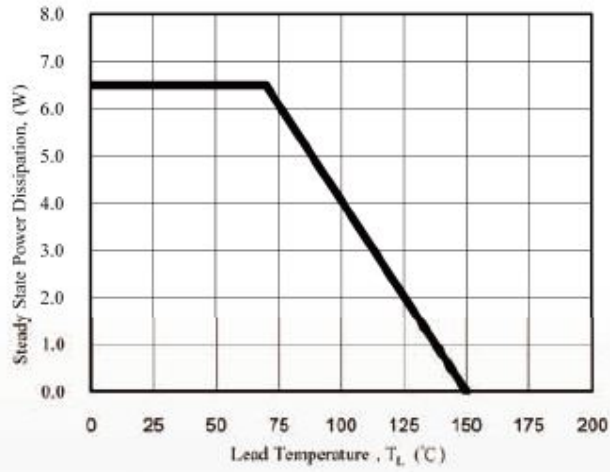


Fig. 4 - Peak Pulse Power Rating Curve

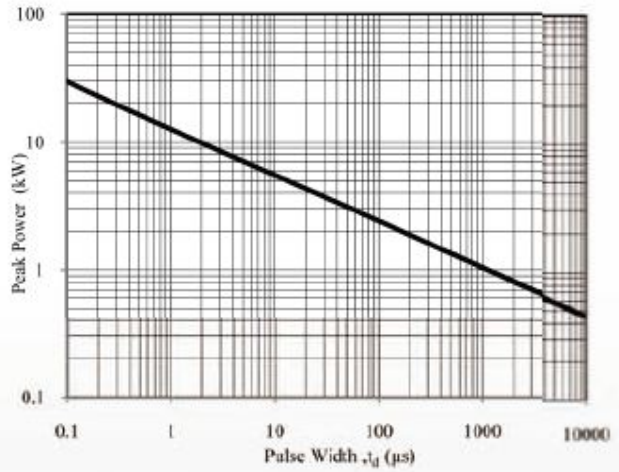


Fig. 5 - Pulse Waveform

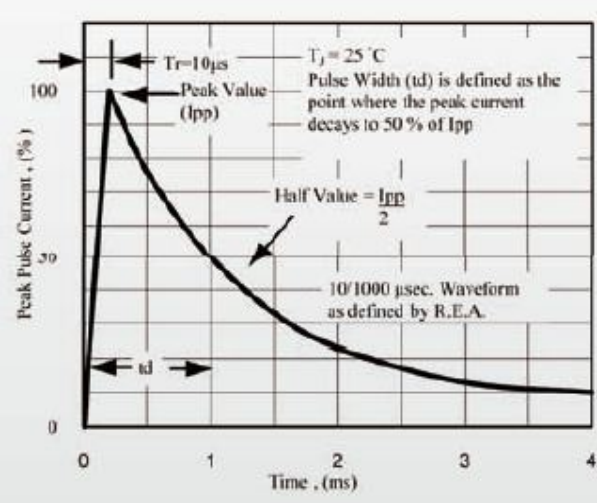


Fig. 6 - Typical junction Capacitance

