

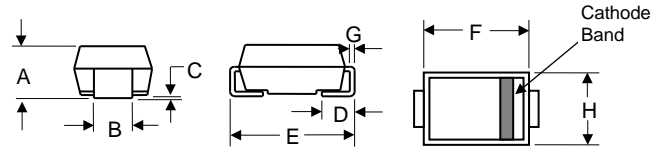


# SMCJ5.0(C)A THRU SMCJ440(C)A

## Transient Voltage Suppressor 5.0 to 440 Volts 1500 Watt

### Features

- \* For surface mount applications in order to optimize board space
- \* Built-in strain relief
- \* Glass passivated junction
- \* Typical  $I_D$  less than 1uA above 10V
- \* High temperature soldering: 260°C/10 seconds at terminals
- \* Plastic package has Underwrites Laboratory Flammability



RoHS  
COMPLIANT



DIM	DO-214AB(SMC)			
	INCHES		MM	
	MIN	MAX	MIN	MAX
A	0.079	0.103	2.06	2.62
B	0.114	0.126	2.90	3.20
C	---	0.008	---	0.203
D	0.030	0.060	0.76	1.52
E	0.305	0.320	7.75	8.13
F	0.260	0.280	6.60	7.11
G	0.006	0.012	0.152	0.305
H	0.220	0.245	5.59	6.22

### Mechanical Data

- \* Epoxy meets UL 94 V-0 flammability rating
- \* Moisture Sensitivity Level 1
- \* Terminals: solderable per MIL-STD-750, Method 2026
- \* Polarity: Color band denotes positive end (cathode) except Bidirectional types
- \* Standard packaging: 16mm tape per (EIA 481).
- \* Weight: 0.007 ounce, 0.21 gram

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

PARAMETER	SYMBOL	VALUE	UNIT
Peak pulse current on 10/1000us waveform (Note1, Fig4)	$I_{PPM}$	See Table 1	Amps
Peak pulse power dissipation on 10/1000us waveform (Note1,2, Fig1)	$P_{PPM}$	Minimum 1500	Watts
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load	$I_{FSM}$	200	A
Maximum instantaneous forward voltage at 100 A for unidirectional only	$V_F$	3.5	V
Operation and storage temperature range	$T_J/T_{STG}$	- 55 to +175	$^\circ\text{C}$

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

2. Mounted on 8.0mm<sup>2</sup> copper pads to each terminal.

3. Unidirectional and bidirectional available, for bidirectional devices add 'C' suffix to the pn#, i.e. SMCJ5.0CA



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### Electrical Characteristics (T<sub>A</sub>=25°C unless otherwise noted)

Part Number		Reverse Standard -Off Voltage	Breakdown Voltage V <sub>BR</sub> (V)		Test Current	Max. Clamping Voltage @I <sub>PP</sub>	Peak Pulse Current	Reverse Leakage Current @V <sub>WM</sub>
Uni-Polar	Bi-Polar	V <sub>WM</sub> (V)	Min	Max	I <sub>T</sub> (mA)	V <sub>C</sub> (V)	I <sub>PP</sub> (A)	I <sub>D</sub> (uA)
SMCJ5.0A	SMCJ5.0CA	5	6.4	7	10	9.2	163	800
SMCJ6.0A	SMCJ6.0CA	6	6.67	7.37	10	10.3	145.7	800
SMCJ6.5A	SMCJ6.5CA	6.5	7.22	7.98	10	11.2	134	500
SMCJ7.0A	SMCJ7.0CA	7	7.78	8.6	10	12	125	200
SMCJ7.5A	SMCJ7.5CA	7.5	8.33	9.21	1	12.9	116.3	100
SMCJ8.0A	SMCJ8.0CA	8	8.89	9.83	1	13.6	110.3	50
SMCJ8.5A	SMCJ8.5CA	8.5	9.44	10.4	1	14.4	104.2	20
SMCJ9.0A	SMCJ9.0CA	9	10	11.1	1	15.4	97.4	10
SMCJ10A	SMCJ10CA	10	11.1	12.3	1	17	88.3	5
SMCJ11A	SMCJ11CA	11	12.2	13.5	1	18.2	82.5	5
SMCJ12A	SMCJ12CA	12	13.3	14.7	1	19.9	75.4	5
SMCJ13A	SMCJ13CA	13	14.4	15.9	1	21.5	69.8	5
SMCJ14A	SMCJ14CA	14	15.6	17.2	1	23.2	64.7	5
SMCJ15A	SMCJ15CA	15	16.7	18.5	1	24.4	61.5	5
SMCJ16A	SMCJ16CA	16	17.8	19.7	1	26	57.7	5
SMCJ17A	SMCJ17CA	17	18.9	20.9	1	27.6	54.4	5
SMCJ18A	SMCJ18CA	18	20	22.1	1	29.2	51.4	5
SMCJ20A	SMCJ20CA	20	22.2	24.5	1	32.4	46.3	5
SMCJ22A	SMCJ22CA	22	24.4	26.9	1	35.5	42.3	5
SMCJ24A	SMCJ24CA	24	26.7	29.5	1	38.9	38.6	5
SMCJ26A	SMCJ26CA	26	28.9	31.9	1	42.1	35.7	5
SMCJ28A	SMCJ28CA	28	31.1	34.4	1	45.4	33.1	5
SMCJ30A	SMCJ30CA	30	33.3	36.8	1	48.4	31	5
SMCJ33A	SMCJ33CA	33	36.7	40.6	1	53.3	28.2	5
SMCJ36A	SMCJ36CA	36	40	44.2	1	58.1	25.9	5
SMCJ40A	SMCJ40CA	40	44.4	49.1	1	64.5	23.3	5
SMCJ43A	SMCJ43CA	43	47.8	52.8	1	69.4	21.7	5
SMCJ45A	SMCJ45CA	45	50	55.3	1	72.7	20.6	5
SMCJ48A	SMCJ48CA	48	53.3	58.9	1	77.4	19.4	5
SMCJ51A	SMCJ51CA	51	56.7	62.7	1	82.4	18.2	5
SMCJ54A	SMCJ54CA	54	60	66.3	1	87.1	17.3	5
SMCJ58A	SMCJ58CA	58	64.4	71.2	1	93.6	16.1	5
SMCJ60A	SMCJ60CA	60	66.7	73.7	1	96.8	15.5	5
SMCJ64A	SMCJ64CA	64	71.1	78.6	1	103	14.6	5
SMCJ70A	SMCJ70CA	70	77.8	86	1	113	13.3	5
SMCJ75A	SMCJ75CA	75	83.3	92.1	1	121	12.4	5
SMCJ78A	SMCJ78CA	78	86.7	95.8	1	126	11.9	5
SMCJ85A	SMCJ85CA	85	94.4	104	1	137	11	5
SMCJ90A	SMCJ90CA	90	100	111	1	146	10.3	5
SMCJ100A	SMCJ100CA	100	111	123	1	162	9.3	5

Note: For bi-directional type having V<sub>WM</sub> of 10volts and less, the I<sub>R</sub> limit is double. For parts without A, the V<sub>BR</sub> is ±10%

### Electrical Characteristics (T<sub>A</sub>=25°C unless otherwise noted)

Part Number		Reverse Standard - Off Voltage	Breakdown Voltage V <sub>BR</sub> (V)		Test Current	Max. Clamping Voltage @I <sub>PP</sub>	Peak Pulse Current	Reverse Leakage Current @V <sub>WM</sub>
Uni-Polar	Bi-Polar	V <sub>WM</sub> (V)	Min	Max	I <sub>T</sub> (mA)	V <sub>C</sub> (V)	I <sub>PP</sub> (A)	I <sub>D</sub> (uA)
SMCJ110A	SMCJ110CA	110	122	135	1	177	8.5	5
SMCJ120A	SMCJ120CA	120	133	147	1	193	7.8	5
SMCJ130A	SMCJ130CA	130	144	159	1	209	7.2	5
SMCJ150A	SMCJ150CA	150	167	185	1	243	6.2	5
SMCJ160A	SMCJ160CA	160	178	197	1	259	5.8	5
SMCJ170A	SMCJ170CA	170	189	209	1	275	5.5	5
SMCJ180A	SMCJ180CA	180	201	222	1	292	5.1	5
SMCJ200A	SMCJ200CA	200	224	247	1	324	4.6	5
SMCJ220A	SMCJ220CA	220	246	272	1	356	4.2	5
SMCJ250A	SMCJ250CA	250	279	309	1	405	3.7	5
SMCJ300A	SMCJ300CA	300	335	371	1	486	3.1	5
SMCJ350A	SMCJ350CA	350	391	432	1	567	2.6	5
SMCJ400A	SMCJ400CA	400	447	494	1	648	2.3	5
SMCJ440A	SMCJ440CA	440	492	543	1	713	2.1	5

Note: For bi-directional type having V<sub>WM</sub> of 10volts and less, the I<sub>R</sub> limit is double. For parts without A, the V<sub>BR</sub> is ±10%

### Ratings and Characteristic Curves

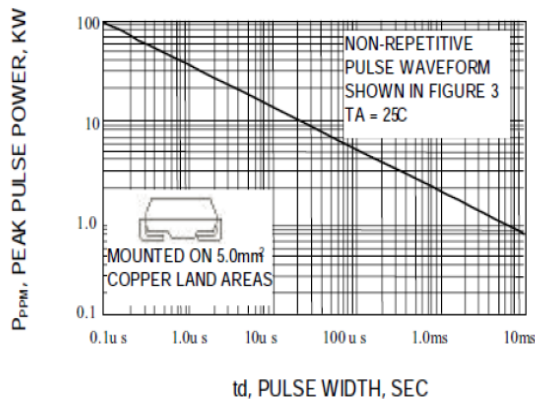


Fig. 1-PEAK PULSE POWER RATING CURVE

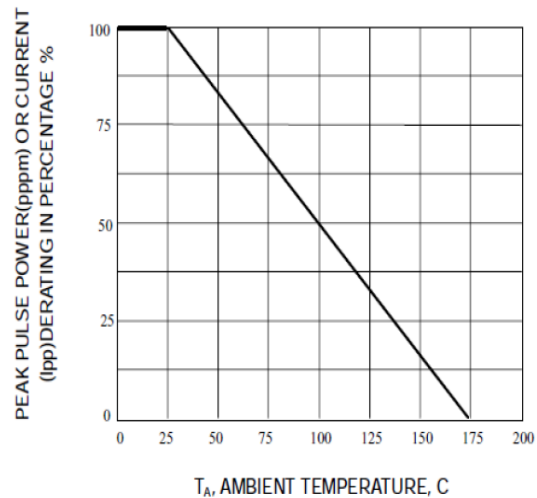


Fig. 2-PULSE DERATING CURVE

### Ratings and Characteristic Curves

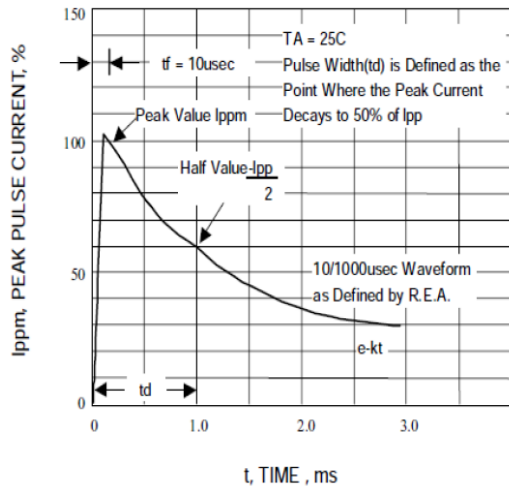


Fig. 3-PULSE WAVEFORM

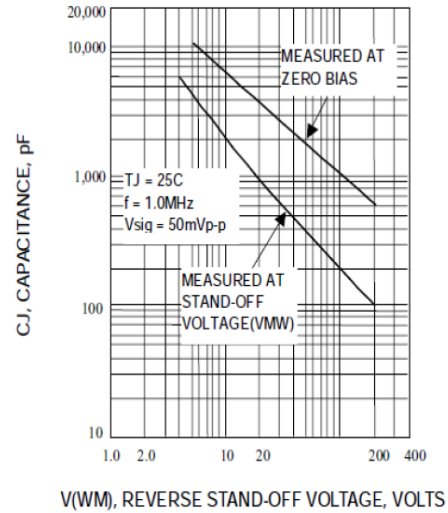


Fig. 4-TYPICAL JUNCTION CAPACITANCE

### Ordering Information

Part No.	Package	Packing Code	Packing
SMCJ5.0(C)A THRU SMCJ440(C)A	DO-214AB(SMC)	R30	3000pcs/Reel

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