

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

## 1500W Surface Mount Transient Voltage Suppressors

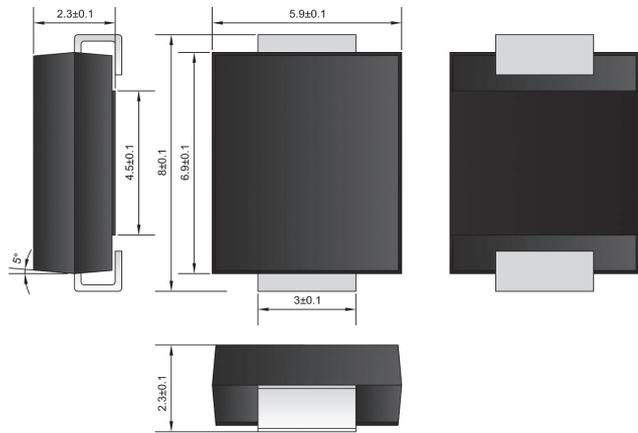
### ■ Features

- 1500W peak pulse power capability with a 10/1000us waveform, repetition rate (duty cycle): 0.01%.
- Excellent clamping capability.
- Low incremental surge resistance.
- Glass passivated chip junction.
- Ultra high-speed switching.
- Lead-free parts meet environmental standards of MIL-STD-19500 /228

### ■ Mechanical data

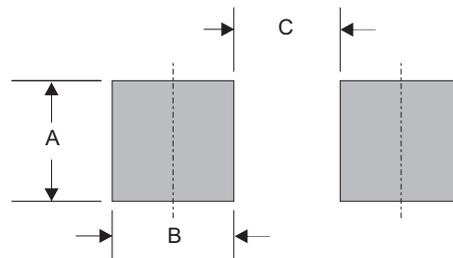
- Epoxy:UL94-V0 rated flame retardant
- Case : Molded plastic, DO-214AB / SMC
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity : Indicated by cathode band
- Weight : 0.007 ounce, 0.226 gram

### ■ Outline SMC(DO-214AB)



Dimensions in millimeters

### ■ SMC foot print



A	B	C
0.132 (3.30)	0.098 (2.50)	0.176 (4.40)

Dimensions in inches and (millimeters)

### ■ Maximum ratings and electrical characteristics

Rating at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Parameter	Conditions	Symbol	SMCJ series	UNIT
Peak power dissipation	with a 10/1000us waveform, note 1	$P_{PPM}$	1500	W
Peak forward surge current	8.3ms single half sine-wave superimposed on rate load (JEDEC method), note 2	$I_{FSM}$	200	A
Steady state power dissipation	on infinite heatsink at $T_L = 75^\circ\text{C}$	$P_D$	6.5	W
Peak pulse current	with a 10/1000us waveform, note 1	$I_{PPM}$	See Table 1	A
Maximum instantaneous forward voltage	at 100A for unidirectional only, note 3	$V_F$	3.5 / 5.0	V
Operating temperature		$T_J$	-55 ~ +150	°C
Storage temperature		$T_{STG}$	-55 ~ +150	°C

Notes : 1. Non-repetitive current pulse, per Fig. 3 and derated above  $T_a=25^\circ\text{C}$  per Fig. 2.  
 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 CHARACTERISTIC CURV SMCJ5.0(C)A THRU SMCJ440(C)A

■ Electrical characteristics

table 1

Part No.	Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Peak Forward Surge Current	Maximum Clamping Voltage @I <sub>PP</sub>		Maximum Leakage Current	Marking Code	
	V <sub>RWM</sub>	V <sub>BR Min</sub>	V <sub>BR Max</sub>	I <sub>T</sub>	I <sub>FSM</sub>	V <sub>C</sub>	I <sub>PP</sub>	I <sub>R</sub> @V <sub>RWM</sub>	UNI	BI
	Volts	Volts	Volts	mA	A	Volts	A	uA		
SMCJ5.0(C)A	5.0	6.40	7.00	10	200	9.2	163.04	500	GDE	BDE
SMCJ6.0(C)A	6.0	6.67	7.37	10	200	10.3	145.63	500	GDG	BDG
SMCJ6.5(C)A	6.5	7.22	7.98	10	200	11.2	133.93	500	GDK	BDK
SMCJ7.0(C)A	7.0	7.78	8.60	10	200	12.0	125.00	200	GDM	BDM
SMCJ7.5(C)A	7.5	8.33	9.21	1.0	200	12.9	116.28	100	GDP	BDP
SMCJ8.0(C)A	8.0	8.89	9.83	1.0	200	13.6	110.29	50	GDR	BDR
SMCJ8.5(C)A	8.5	9.44	10.40	1.0	200	14.4	104.17	20	GDT	BDT
SMCJ9.0(C)A	9.0	10.00	11.10	1.0	200	15.4	97.40	10	GDV	BDV
SMCJ10(C)A	10.0	11.10	12.30	1.0	200	17.0	88.24	5	GDX	BDX
SMCJ11(C)A	11.0	12.20	13.50	1.0	200	18.2	82.42	5	GDZ	BDZ
SMCJ12(C)A	12.0	13.30	14.70	1.0	200	19.9	75.38	5	GEE	BEE
SMCJ13(C)A	13.0	14.40	15.90	1.0	200	21.5	69.77	5	GEG	BEG
SMCJ14(C)A	14.0	15.60	17.20	1.0	200	23.2	64.66	5	GEK	BEK
SMCJ15(C)A	15.0	16.70	18.50	1.0	200	24.4	61.48	5	GEM	BEM
SMCJ16(C)A	16.0	17.80	19.70	1.0	200	26.0	57.69	5	GEP	BEP
SMCJ17(C)A	17.0	18.90	20.90	1.0	200	27.6	54.35	5	GER	BER
SMCJ18(C)A	18.0	20.00	22.10	1.0	200	29.2	51.37	5	GET	BET
SMCJ19(C)A	19.0	21.10	23.30	1.0	200	30.8	48.73	5	GEB	BEB
SMCJ20(C)A	20.0	22.20	24.50	1.0	200	32.4	46.30	5	GEV	BEV
SMCJ22(C)A	22.0	24.40	26.90	1.0	200	35.5	42.25	5	GEX	BEX
SMCJ24(C)A	24.0	26.70	29.50	1.0	200	38.9	38.56	5	GEZ	BEZ
SMCJ26(C)A	26.0	28.90	31.90	1.0	200	42.1	35.63	5	GFE	BFE
SMCJ28(C)A	28.0	31.10	34.40	1.0	200	45.4	33.04	5	GFG	BFG
SMCJ30(C)A	30.0	33.30	36.80	1.0	200	48.4	30.99	5	GFK	BFK
SMCJ33(C)A	33.0	36.70	40.60	1.0	200	53.3	28.14	5	GFM	BFM
SMCJ36(C)A	36.0	40.00	44.20	1.0	200	58.1	25.82	5	GFP	BFP
SMCJ40(C)A	40.0	44.40	49.10	1.0	200	64.5	23.26	5	GFR	BFR
SMCJ43(C)A	43.0	47.80	52.80	1.0	200	69.4	21.61	5	GFT	BFT
SMCJ45(C)A	45.0	50.00	55.30	1.0	200	72.7	20.63	5	GFV	BFV
SMCJ48(C)A	48.0	53.30	58.90	1.0	200	77.4	19.38	5	GFX	BFX
SMCJ51(C)A	51.0	56.70	62.70	1.0	200	82.4	18.20	5	GFZ	BFZ
SMCJ54(C)A	54.0	60.00	66.30	1.0	200	87.1	17.22	5	GGE	BGE
SMCJ58(C)A	58.0	64.40	71.20	1.0	200	93.6	16.03	5	GGG	BGG
SMCJ60(C)A	60.0	66.70	73.70	1.0	200	96.8	15.50	5	GGK	BGK
SMCJ64(C)A	64.0	71.10	78.60	1.0	200	103.0	14.56	5	GGM	BGM

## RATINGS AND CHARACTERISTIC CURV SMCJ5.0(C)A THRU SMCJ440(C)A

### ■ Electrical characteristics

Part No.	Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Peak Forward Surge Current	Maximum Clamping Voltage @ $I_{PP}$		Maximum Leakage Current	Marking Code	
	$V_{RWM}$	$V_{BR Min}$	$V_{BR Max}$	$I_T$	$I_{FSM}$	$V_C$	$I_{PP}$	$I_R@V_{RWM}$		
	Volts	Volts	Volts	mA	A	Volts	A	uA	UNI	BI
SMCJ70(C)A	70.0	77.80	86.00	1.0	200	113.0	13.27	5	GGP	BGP
SMCJ75(C)A	75.0	83.30	92.10	1.0	200	121.0	12.40	5	GGR	BGR
SMCJ78(C)A	78.0	86.70	95.80	1.0	200	126.0	11.90	5	GGT	BGT
SMCJ80(C)A	80.0	88.80	97.60	1.0	200	129.6	11.57	5	GGB	BGB
SMCJ85(C)A	85.0	94.40	104.00	1.0	200	137.0	10.95	5	GGV	BGV
SMCJ90(C)A	90.0	100.00	111.00	1.0	200	146.0	10.27	5	GGX	BGX
SMCJ100(C)A	100.0	111.00	123.00	1.0	200	162.0	9.26	5	GGZ	BGZ
SMCJ110(C)A	110.0	122.00	135.00	1.0	200	177.0	8.47	5	GHE	BHE
SMCJ120(C)A	120.0	133.00	147.00	1.0	200	193.0	7.77	5	GHG	BHG
SMCJ130(C)A	130.0	144.00	159.00	1.0	200	209.0	7.18	5	GHK	BHK
SMCJ140(C)A	140.0	155.00	171.00	1.0	200	226.8	6.61	5	GHB	BHB
SMCJ150(C)A	150.0	167.00	185.00	1.0	200	243.0	6.17	5	GHM	BHM
SMCJ160(C)A	160.0	178.00	197.00	1.0	200	259.0	5.79	5	GHP	BHP
SMCJ170(C)A	170.0	189.00	209.00	1.0	200	275.0	5.45	5	GHR	BHR
SMCJ180(C)A	180.0	200.00	220.00	1.0	200	291.6	5.14	5	GHT	BHT
SMCJ190(C)A	190.0	211.00	232.00	1.0	200	307.8	4.87	5	GHV	BHV
SMCJ200(C)A	200.0	224.00	247.00	1.0	200	324.0	4.60	5	GHW	BHW
SMCJ220(C)A	220.0	246.00	272.00	1.0	200	356.0	4.20	5	GHX	BHX
SMCJ250(C)A	250.0	279.00	309.00	1.0	200	405.0	3.70	5	GHZ	BHZ
SMCJ300(C)A	300.0	335.00	371.00	1.0	200	486.0	3.10	5	GJE	BJE
SMCJ350(C)A	350.0	391.00	432.00	1.0	200	567.0	2.60	5	GJG	BJG
SMCJ400(C)A	400.0	447.00	494.00	1.0	200	648.0	2.30	5	GJK	BJK
SMCJ440(C)A	440.0	492.00	543.00	1.0	200	713.0	2.10	5	GJM	BJM

Note 1. Suffix 'C' denotes bi-directional devices. Suffix 'A' denotes 5% tolerance devices, no suffix denotes 10% tolerance devices.  
 2. For bi-directional types having  $V_{RWM}$  of 10 volts and less, the  $I_R$  limit is doubled.

# RATINGS AND CHARACTERISTIC CURV SMCJ5.0(C)A THRU SMCJ440(C)A

## Rating and characteristic curves

