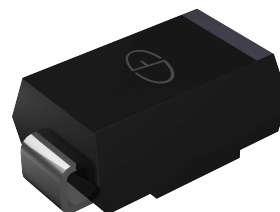


## Features

- 5000 W peak pulse power capability with a 10/1000  $\mu$ s waveform
- Excellent clamping capability
- Fast response time
- Low incremental surge resistance
- Meets MSL level 1, per J-STD-020, LF maximum
- Solder dip 275 °C, 10s



DO-214AB(SMC)



**RoHS**  
COMPLIANT

## Applications

For use in sensitive electronics protection against voltage transients induced by lightning or inductive load switching. Key applications include protection of I/O interfaces, industrial and LED lighting applications, DC power buses, and other vulnerable circuits used in consumer electronics.

## Mechanical Data

**Case:** DO-214AB (SMC)

Molding compound meets UL 94 V-0 flammability rating

**Terminals:** Matte tin plated leads, solderable per J-STD-002 and JESD22-B102

**Marking:** Laser marking band denotes cathode end and device marking code

## Absolute Maximum Ratings (T<sub>A</sub>=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation with a 10/1000 $\mu$ s Waveform <sup>1</sup>	PPPM	5000	W
Peak Pulse Current with a 10/1000 $\mu$ s Waveform <sup>1</sup>	IPPM	See Next Table	A
Thermal Resistance, Junction to Ambient <sup>2</sup>	R <sub>θJA</sub>	100	°C/W
Thermal Resistance, Junction to Mount <sup>3</sup>	R <sub>θJM</sub>	20.8	°C/W
Storage Temperature Range	T <sub>STG</sub>	- 65 to +175	°C
Operating Junction and Temperature Range	T <sub>J</sub>	- 65 to +175	°C

Notes:

1. Non-repetitive current pulse, per Fig. 3 and derated above T<sub>A</sub>=25°C per Fig. 2.
2. Mounted on minimum recommended pad layout
3. Mounted on infinite heat sink.

# 5.0SMCJ10 thru 5.0SMCJ170A

Transient Voltage Suppressors

Peak Pulse Power 5000W Stand-off Voltage 10V to 170V

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

Part Number	Device marking code	Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Max Reverse Leakage Current	Max. Clamp Voltage	Peak Pulse Current
	UNI	V <sub>WM</sub>	V <sub>BR</sub> @ I <sub>T</sub>		I <sub>T</sub>	I <sub>D</sub> @ V <sub>WM</sub>	V <sub>c</sub> @ I <sub>PPM</sub>	I <sub>PPM</sub>
			Min	Max				
5.0SMCJ10	JDW	10	11.1	13.6	5	5	18.8	265.0
5.0SMCJ10A	JDX	10	11.1	12.3	5	5	17.0	294.1
5.0SMCJ11	JDY	11	12.2	14.9	5	5	20.1	248.8
5.0SMCJ11A	JDZ	11	12.2	13.5	5	5	18.2	274.7
5.0SMCJ12	JED	12	13.3	16.3	5	5	22.0	227.0
5.0SMCJ12A	JEE	12	13.3	14.7	5	5	19.9	251.0
5.0SMCJ13	JEF	13	14.4	17.6	5	2	23.8	210.0
5.0SMCJ13A	JEG	13	14.4	15.9	5	2	21.5	233.0
5.0SMCJ14	JEH	14	15.6	19.1	5	2	25.8	194.0
5.0SMCJ14A	JEK	14	15.6	17.2	5	2	23.2	216.0
5.0SMCJ15	JEL	15	16.7	20.4	5	2	26.9	186.0
5.0SMCJ15A	JEM	15	16.7	18.5	5	2	24.4	205.0
5.0SMCJ16	JEN	16	17.8	21.8	5	2	28.8	174.0
5.0SMCJ16A	JEP	16	17.8	19.7	5	2	26.0	192.0
5.0SMCJ17	JEQ	17	18.9	23.1	5	2	30.5	164.0
5.0SMCJ17A	JER	17	18.9	20.9	5	2	27.6	181.0
5.0SMCJ18	JES	18	20.0	24.4	5	2	32.2	155.0
5.0SMCJ18A	JET	18	20.0	22.1	5	2	29.2	171.0
5.0SMCJ20	JEU	20	22.2	27.1	5	2	35.8	140.0
5.0SMCJ20A	JEV	20	22.2	24.5	5	2	32.4	154.0
5.0SMCJ22	JEW	22	24.4	29.8	5	2	39.4	127.0
5.0SMCJ22A	JEX	22	24.4	26.9	5	2	35.5	141.0
5.0SMCJ24	JEY	24	26.7	32.6	5	2	43.0	116.0
5.0SMCJ24A	JEZ	24	26.7	29.5	5	2	38.9	129.0
5.0SMCJ26	JFD	26	28.9	35.3	5	2	46.6	107.0
5.0SMCJ26A	JFE	26	28.9	31.9	5	2	42.1	119.0
5.0SMCJ28	JFF	28	31.1	38.0	5	2	50.0	100.0
5.0SMCJ28A	JFG	28	31.1	34.4	5	2	45.4	110.0
5.0SMCJ30	JFH	30	33.3	40.7	5	2	53.5	93.5
5.0SMCJ30A	JFK	30	33.3	36.8	5	2	48.4	103.0
5.0SMCJ33	JFL	33	36.7	44.9	5	2	59.0	84.7
5.0SMCJ33A	JFM	33	36.7	40.6	5	2	53.3	93.8
5.0SMCJ36	JFN	36	40.0	48.9	5	2	64.3	77.8
5.0SMCJ36A	JFP	36	40.0	44.2	5	2	58.1	86.1
5.0SMCJ40	JFQ	40	44.4	54.3	5	2	71.4	70.0
5.0SMCJ40A	JFR	40	44.4	49.1	5	2	64.5	77.5
5.0SMCJ43	JFS	43	47.8	58.4	5	2	76.7	65.2
5.0SMCJ43A	JFT	43	47.8	52.8	5	2	69.4	72.0
5.0SMCJ45	JFU	45	50.0	61.1	5	2	80.3	62.3

# 5.0SMCJ10 thru 5.0SMCJ170A

Transient Voltage Suppressors

Peak Pulse Power 5000W Stand-off Voltage 10V to 170V

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

Part Number	Device marking code	Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Max Reverse Leakage Current	Max. Clamp Voltage	Peak Pulse Current	
	UNI		V <sub>WM</sub>	V <sub>BR</sub> @ I <sub>T</sub>		I <sub>T</sub>	I <sub>D</sub> @ V <sub>WM</sub>	V <sub>C</sub> @ I <sub>PPM</sub>	I <sub>PPM</sub>
				Min	Max				
5.0SMCJ45A	JFV	45	50.0	55.3	5	2	72.7	68.8	
5.0SMCJ48	JFW	48	53.3	65.2	5	2	85.5	58.5	
5.0SMCJ48A	JFX	48	53.3	58.9	5	2	77.4	64.6	
5.0SMCJ51	JFY	51	56.7	69.3	5	2	91.1	54.9	
5.0SMCJ51A	JFZ	51	56.7	62.7	5	2	82.4	60.7	
5.0SMCJ54	JGD	54	60.0	73.3	5	2	96.3	51.9	
5.0SMCJ54A	JGE	54	60.0	66.3	5	2	87.1	57.4	
5.0SMCJ58	JGF	58	64.4	78.7	5	2	103.0	48.5	
5.0SMCJ58A	JGG	58	64.4	71.2	5	2	94.0	53.4	
5.0SMCJ60	JGH	60	66.7	81.5	5	2	107.0	46.7	
5.0SMCJ60A	JGK	60	66.7	73.7	5	2	97.0	51.7	
5.0SMCJ64	JGL	64	71.1	86.9	5	2	114.0	43.9	
5.0SMCJ64A	JGM	64	71.1	78.6	5	2	103.0	48.5	
5.0SMCJ70	JGN	70	77.8	95.1	5	2	125.0	40.0	
5.0SMCJ70A	JGP	70	77.8	86.0	5	2	113.0	44.2	
5.0SMCJ75	JGQ	75	83.3	102.0	5	2	134.0	37.3	
5.0SMCJ75A	JGR	75	83.3	92.1	5	2	121.0	41.3	
5.0SMCJ78	JGS	78	86.7	106.0	5	2	139.0	36.0	
5.0SMCJ78A	JGT	78	86.7	95.8	5	2	126.0	39.7	
5.0SMCJ85	JGU	85	94.4	115.0	5	2	151.0	33.1	
5.0SMCJ85A	JGV	85	94.4	104.0	5	2	137.0	36.5	
5.0SMCJ90	JGW	90	100.0	122.0	5	2	160.0	31.3	
5.0SMCJ90A	JGX	90	100.0	111.0	5	2	146.0	34.2	
5.0SMCJ100	JGY	100	111.0	136.0	5	2	179.0	27.9	
5.0SMCJ100A	JGZ	100	111.0	123.0	5	2	162.0	30.9	
5.0SMCJ110	JHD	110	122.0	149.0	5	2	196.0	25.5	
5.0SMCJ110A	JHE	110	122.0	135.0	5	2	177.0	28.2	
5.0SMCJ120A	JHF	120	133.0	147.0	5	2	193.0	26.4	
5.0SMCJ130A	JHG	130	144.0	159.0	5	2	209.0	24.4	
5.0SMCJ150A	JHH	150	167.0	185.0	5	2	243.0	21.0	
5.0SMCJ160A	JHK	160	178.0	197.0	5	2	259.0	19.7	
5.0SMCJ170A	JHL	170	189.0	209.0	5	2	275.0	18.5	

# 5.0SMCJ10 thru 5.0SMCJ170A

Transient Voltage Suppressors  
 Peak Pulse Power 5000W Stand-off Voltage 10V to 170V

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

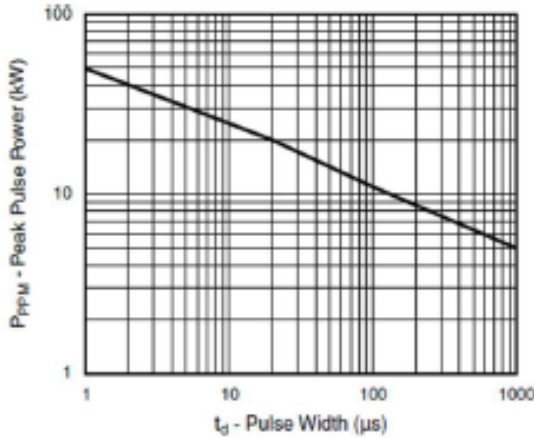


Fig. 1 - Peak Pulse Power Rating Curve

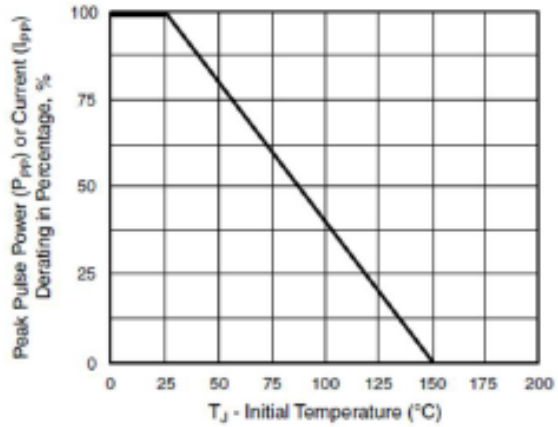


Fig. 2 - Pulse Power or Current vs. Initial Junction Temperature

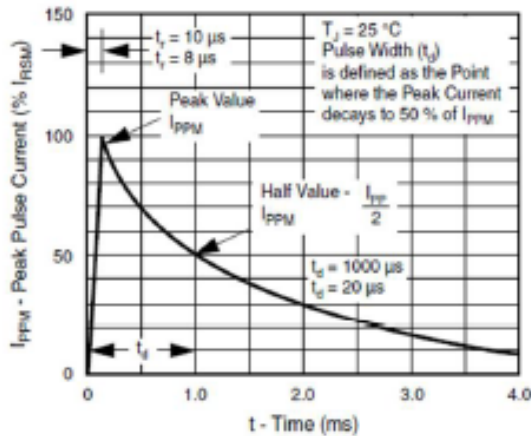


Fig. 3 - Pulse Waveform

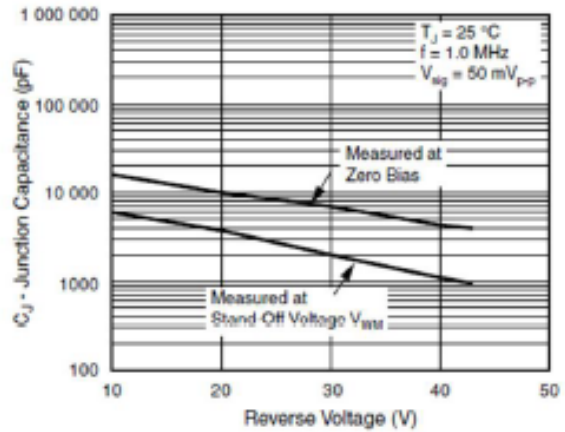


Fig. 4 - Typical Junction Capacitance

# 5.0SMCJ10 thru 5.0SMCJ170A

Transient Voltage Suppressors  
 Peak Pulse Power 5000W Stand-off Voltage 10V to 170V

## Package Outline Dimensions

DO-214AB(SMC) dimensions in inches (millimeters)

