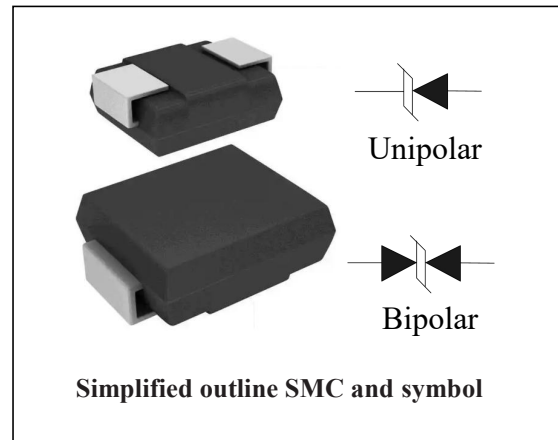


Power Transient Voltage Suppressor
Features

- 1500 watts Peak Pulse Power (10/1000 μ s)
- Unidirectional and Bidirectional Protection
- Fast Response Time : Typically < 1ns
- Excellent Clamping Capability
- Built-in Strain relief
- Low inductance
- Low profile package
- High temperature solder: 260°C/10 seconds at terminal


Mechanical Characteristics

- Case: JEDEC DO-214AB package
- Molding compound flammability rating: UL 94V-0
- Terminals: Solderable per MIL-STD-750, Method 2026
- RoHS & UL497B Compliant
- Approx: Weight: 0.22g / 0.0077oz

Applications

- I/O Interfaces
- Power lines
- Telecommunication
- Computers & Consumer Electronics
- Industrial/Consumer Electronics

Absolute Maximum Rating(Ratings at 25 °C ambient temperature unless otherwise specified.)			
Rating	Symbol	Value	Units
Peak Pulse Power (tp =10/1000 μ s) (see Note1,2& 3)	P _{PPM}	1500	Watts
Peak pulse current (10/1000 μ s) (see Note2&3)	I _{PPM}	See Electrical Characteristics	A
Peak forward surge current (see Note4&5)	I _{FSM}	200	A
Power dissipation on infinite heat sink TL = 50 °C (Fig5)	P _D	6.5	W
Operating junction temperature range	T _J	-65 to + 150	°C
Storage temperature range	T _{STG}	-65 to + 150	°C

Note1: Peak Pulse Power Rating as Pulse Width ,per Fig1.

Note2: Peak Pulse Power or Current Derated above TA=25°C Per Fig. 2 and Non-Repetitive Current Pulse, Per Fig.3.

Note3: Mounted on 5.0x5.0mm² copper pad to each terminal.

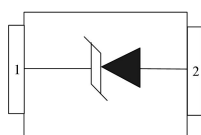
Note4: 8.3ms Single Half Sine Wave or Equivalent Square Wave.

Note5: Maximum Forward Surge Current only for Unidirectional Device per Fig6.

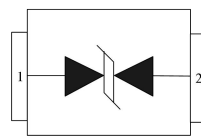
Note6: Peak pulse power waveform is 10/1000 μ S.

Note7: P.C.B. mounted with 1.5" X 1.5" (3.81 X 3.81 cm) copper pad areas.

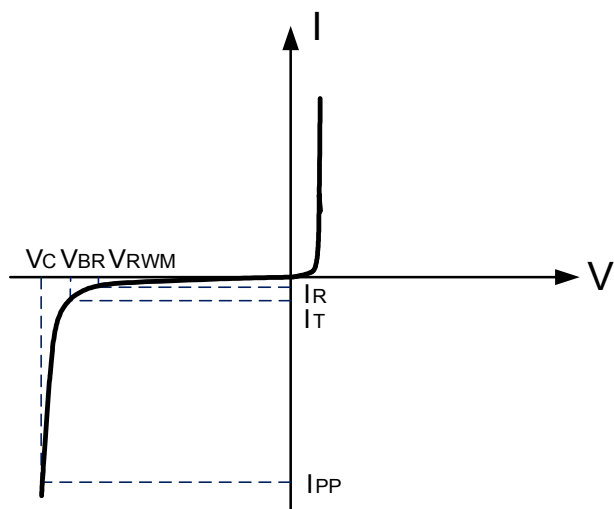
Pin Configuration



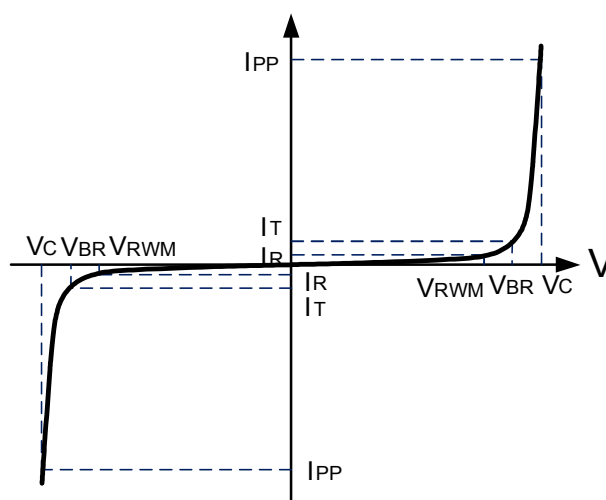
Unidirectional



Bidirectional

Electrical Characteristics (T_c=25°C Unless otherwise specified)

I-V curve of unidirectional device



I-V curve of bidirectional device

Part Number		Marking Code		Reverse Stand off Voltage (Volts)	Breakdown Voltage VBR@IT (Volts)		Test Current IT (mA)	Reverse Leakage (μA)	Max. Clamp Voltage (Volts)	Peak Pulse Current (Amps)
					Min	Max		IR @ VRWM	VC @ IPP	IPP
Uni	Bi	Uni	Bi	V	V	V	mA	μA	V	A
SMCJ5.0A	SMCJ5.0CA	GDE	BDE	5	6.4	7	10	800	9.2	163
SMCJ6.0A	SMCJ6.0CA	GDG	BDG	6	6.67	7.37	10	800	10.3	145.7
SMCJ6.5A	SMCJ6.5CA	GDK	BDK	6.5	7.22	7.98	10	500	11.2	134
SMCJ7.0A	SMCJ7.0CA	GDM	BDM	7	7.78	8.6	10	200	12	125
SMCJ7.5A	SMCJ7.5CA	GDP	BDP	7.5	8.33	9.21	1	100	12.9	116.3
SMCJ8.0A	SMCJ8.0CA	GDR	BDR	8	8.89	9.83	1	50	13.6	110.3
SMCJ8.5A	SMCJ8.5CA	GDT	BDT	8.5	9.44	10.4	1	20	14.4	104.2
SMCJ9.0A	SMCJ9.0CA	GDV	BDV	9	10	11.1	1	10	15.4	97.4
SMCJ10A	SMCJ10CA	GDX	BDX	10	11.1	12.3	1	5	17	88.3
SMCJ11A	SMCJ11CA	GDZ	BDZ	11	12.2	13.5	1	1	18.2	82.5
SMCJ12A	SMCJ12CA	GEE	BEE	12	13.3	14.7	1	1	19.9	75.4
SMCJ13A	SMCJ13CA	GEG	BEG	13	14.4	15.9	1	1	21.5	69.8
SMCJ14A	SMCJ14CA	GEK	BEK	14	15.6	17.2	1	1	23.2	64.7
SMCJ15A	SMCJ15CA	GEM	BEM	15	16.7	18.5	1	1	24.4	61.5
SMCJ16A	SMCJ16CA	GEP	BEP	16	17.8	19.7	1	1	26	57.7
SMCJ17A	SMCJ17CA	GER	BER	17	18.9	20.9	1	1	27.6	54.4
SMCJ18A	SMCJ18CA	GET	BET	18	20	22.1	1	1	29.2	51.4
SMCJ20A	SMCJ20CA	GEV	BEV	20	22.2	24.5	1	1	32.4	46.3
SMCJ22A	SMCJ22CA	GEX	BEX	22	24.4	26.9	1	1	35.5	42.3
SMCJ24A	SMCJ24CA	GEZ	BEZ	24	26.7	29.5	1	1	38.9	38.6
SMCJ26A	SMCJ26CA	GFE	BFE	26	28.9	31.9	1	1	42.1	35.7
SMCJ28A	SMCJ28CA	GFG	BFG	28	31.1	34.4	1	1	45.4	33.1
SMCJ30A	SMCJ30CA	GFK	BFK	30	33.3	36.8	1	1	48.4	31

SMCJ33A	SMCJ33CA	GFM	BFM	33	36.7	40.6	1	1	53.3	28.2
SMCJ36A	SMCJ36CA	GFP	BFP	36	40	44.2	1	1	58.1	25.9
SMCJ40A	SMCJ40CA	GFR	BFR	40	44.4	49.1	1	1	64.5	23.3
SMCJ43A	SMCJ43CA	GFT	BFT	43	47.8	52.8	1	1	69.4	21.7
SMCJ45A	SMCJ45CA	GFV	BFV	45	50	55.3	1	1	72.7	20.6
SMCJ48A	SMCJ48CA	GFX	BFX	48	53.3	58.9	1	1	77.4	19.4
SMCJ51A	SMCJ51CA	GFZ	BFZ	51	56.7	62.7	1	1	82.4	18.2
SMCJ54A	SMCJ54CA	GGE	BGE	54	60	66.3	1	1	87.1	17.3
SMCJ58A	SMCJ58CA	GGG	BGG	58	64.4	71.2	1	1	93.6	16.1
SMCJ60A	SMCJ60CA	GGK	BGK	60	66.7	73.7	1	1	96.8	15.5
SMCJ64A	SMCJ64CA	GGM	BGM	64	71.1	78.6	1	1	103	14.6
SMCJ70A	SMCJ70CA	GGP	BGP	70	77.8	86	1	1	113	13.3
SMCJ75A	SMCJ75CA	GGR	BGR	75	83.3	92.1	1	1	121	12.4
SMCJ78A	SMCJ78CA	GGT	BGT	78	86.7	95.8	1	1	126	11.9
SMCJ85A	SMCJ85CA	GGV	BGV	85	94.4	104	1	1	137	11
SMCJ90A	SMCJ90CA	GGX	BGX	90	100	111	1	1	146	10.3
SMCJ100A	SMCJ100CA	GGZ	BGZ	100	111	123	1	1	162	9.3
SMCJ110A	SMCJ110CA	GHE	BHE	110	122	135	1	1	177	8.5
SMCJ120A	SMCJ120CA	GHG	BHG	120	133	147	1	1	193	7.8
SMCJ130A	SMCJ130CA	GHK	BHK	130	144	159	1	1	209	7.2
SMCJ150A	SMCJ150CA	GHM	BHM	150	167	185	1	1	243	6.2
SMCJ160A	SMCJ160CA	GHP	BHP	160	178	197	1	1	259	5.8
SMCJ170A	SMCJ170CA	GHR	BHR	170	189	209	1	1	275	5.5
SMCJ180A	SMCJ180CA	GHT	BHT	180	201	222	1	1	292	5.1
SMCJ200A	SMCJ200CA	GHV	BHV	200	224	247	1	1	324	4.6
SMCJ220A	SMCJ220CA	GHX	BHX	220	246	272	1	1	356	4.2
SMCJ250A	SMCJ250CA	GHZ	BHZ	250	279	309	1	1	405	3.7
SMCJ300A	SMCJ300CA	GJE	BJE	300	335	371	1	1	486	3.1
SMCJ350A	SMCJ350CA	GJG	BJG	350	391	432	1	1	567	2.6
SMCJ400A	SMCJ400CA	GJK	BJK	400	447	494	1	1	648	2.3
SMCJ440A	SMCJ440CA	GJM	BJM	440	492	543	1	1	713	2.1

Typical Characteristics

Figure 1: Peak Pulse Power Rating Curve

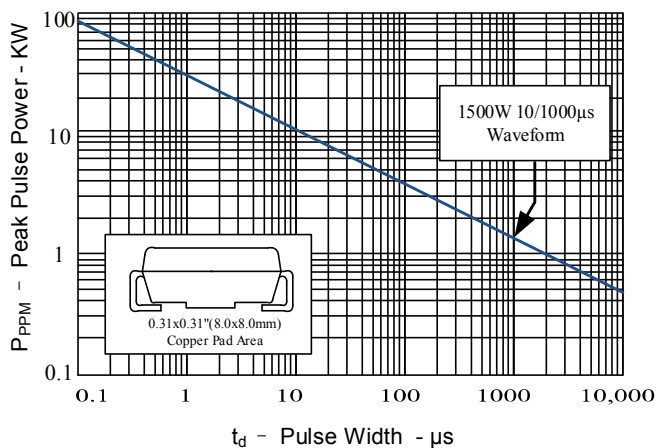


Figure 2: Pulse Derating Curve

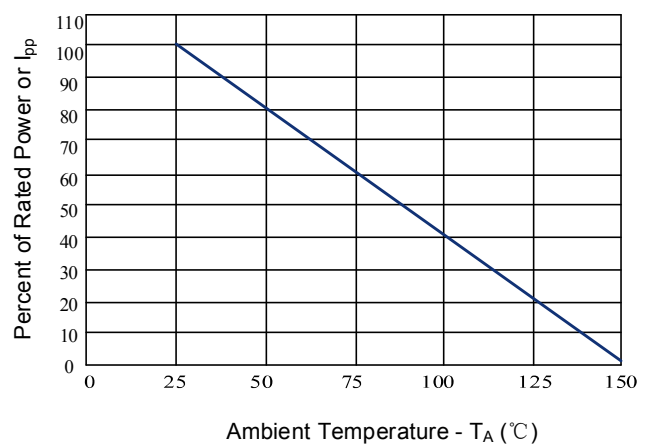


Figure 3: Pulse Waveform

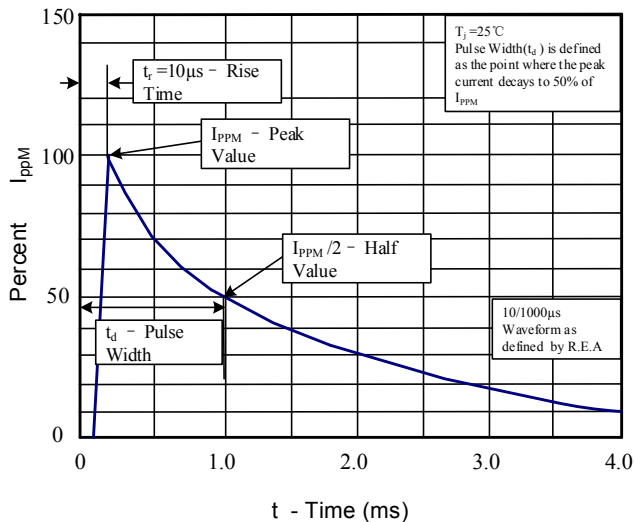


Figure 4: Typical Junction Capacitance

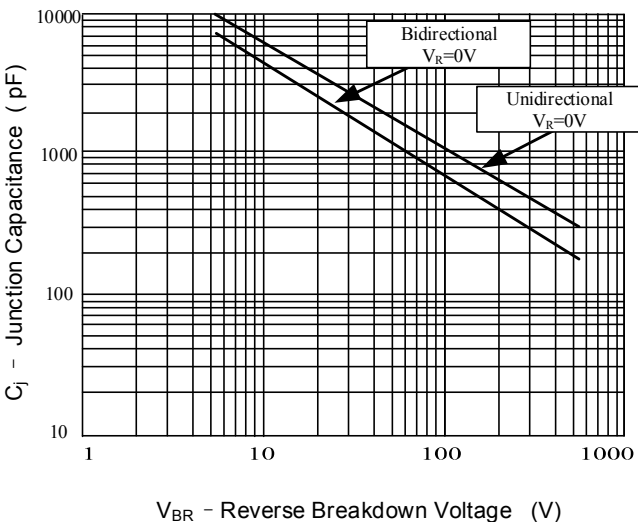


Figure 5: Steady State Power Dissipation Derating Curve

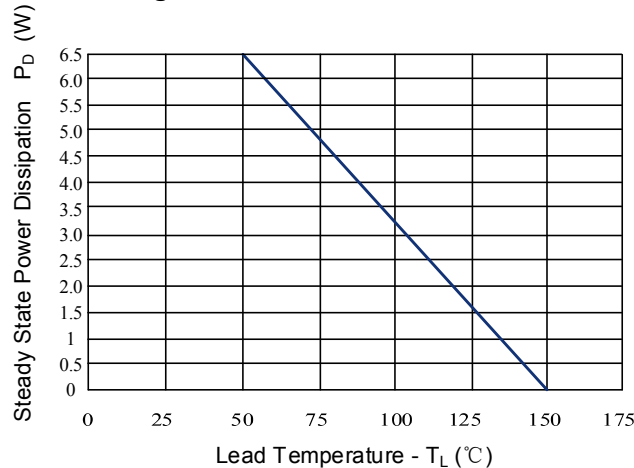
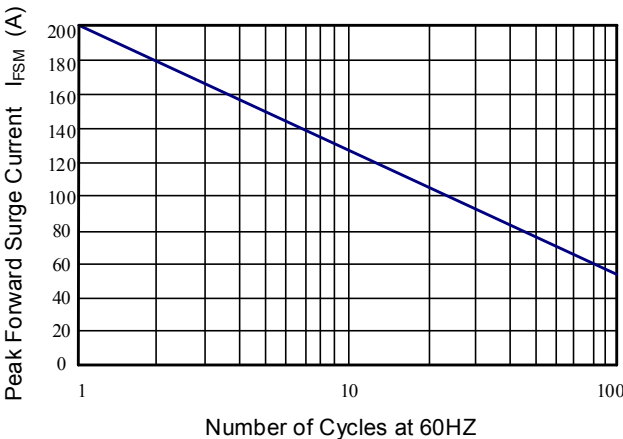


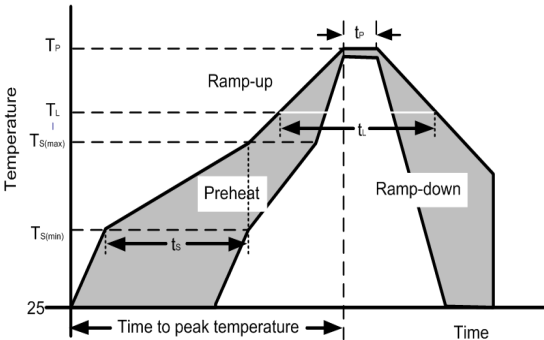
Figure 6: Maximum Non-Repetitive Forward Surge Current Only Unidirectional



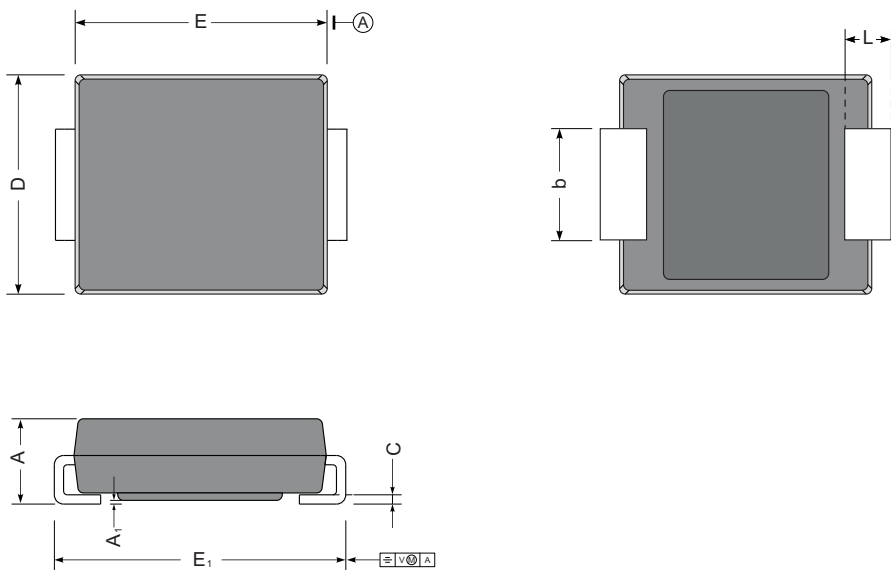
Note: The above typical parameters or typical characteristics are only indicative and do not make specific guarantees. If detailed values are required, additional communication and provision are required.

Soldering Parameters

Reflow Condition		
Pre-Heat	Temperature min (Ts(min))	150°C
	Temperature max (Ts(max))	200°C
	Time (min to max) (ts)	60-190 s
Average ramp up rate (Liquidus Temp) (TL) to peak		3°C/s max
Ts(max) to TL - Ramp-up Rate		3°C/s max
Reflow	Temperature (TL) (Liquidus)	217°C
	Temperature (tL)	60-150 s
Peak Temperature (TP)		260+0/-5 °C
Time within actual peak Temperature (tp)		20-40 s
Ramp-down Rate		5°C/s max
Time 25°C to peak Temperature (TP)		8 minutes max
Do not exceed		260°C



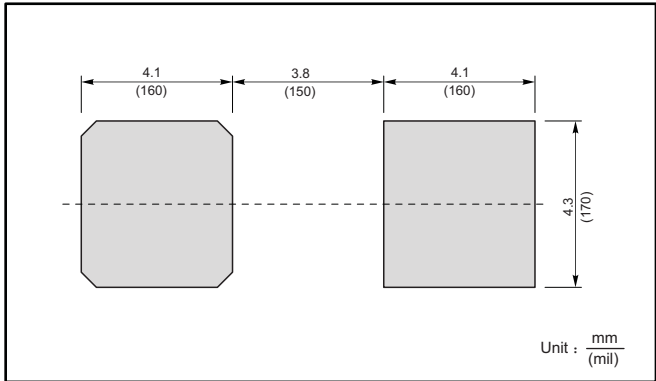
Outline Drawing – SMC(DO-214AB)



SMC mechanical data

UNIT		A	E	D	E ₁	A ₁	C	L	b
mm	max	2.62	7.0	6.2	8.0	0.21	0.31	1.6	3.25
	min	2.00	6.5	5.6	7.6	0.05	0.15	0.9	2.75
mil	max	103	276	244	315	8.3	12	63	128
	min	79	256	220	299	2.0	5.9	35	108

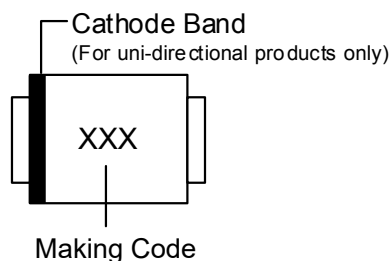
The recommended mounting pad size



Package Information

Package Type	Description	Quantity (pcs)	Standard
SMC(DO-214AB)	Tape & Reel -16mm/13" tape	3000	EIA-481-D

Part Marking System



Contact Information

TANI website: <http://www.tanisemi.com> Email: tani@tanisemi.com

For additional information, please contact your local Sales Representative.

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The product parameters described in the product specification are numerical values, characteristics, and functions obtained through actual testing or theoretical calculations of the product in an independent or ideal state. Due to the complexity of product applications and variations in test conditions and equipment, there may be slight fluctuations in parameter test values. TANI shall not guarantee that the actual performance of the product when installed in the customer's system or equipment will be entirely consistent with the product specification, especially concerning dynamic parameters. It is recommended that users consult with professionals for product selection and system design. Users should also thoroughly validate and assess whether the actual parameters and performance when installed in their respective systems or equipment meet their requirements or expectations. Additionally, users should exercise caution in verifying product compatibility issues, and TANI assumes no responsibility for the application of the product. TANI strives to provide accurate and up-to-date information to the best of our ability. However, due to technical, human, or other reasons, TANI cannot guarantee that the information provided in the product specification is entirely accurate and error-free. TANI shall not be held responsible for any losses or damages resulting from the use or reliance on any information in these product specifications.

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