



Surface Mount Transient Voltage Suppressor
1500 Watt Peak Pulse Power
1.5SMC Series

**1. Features**

- For surface mounted applications in order to optimize board space
- Halogen-Free
- RoHS compliant
- Typical maximum temperature coefficient $\Delta VBR = 0.1\% \times VBR @ 25^\circ C \times \Delta T$
- Low profile package
- Built-in strain relief
- Glass passivated junction
- Low inductance
- Excellent clamping capability
- Repetition Rate (duty cycle): 0.05%
- Fast response time: typically less than 1.0ps from 0 Volts to BV min
- Typical IR less than 1uA above 12V
- High Temperature soldering: 260°C/40 seconds at terminals
- Plastic package has Underwriters Laboratory Flammability 94V-0
- Matte Tin Lead-free plated

2. Mechanical Data

Case: JEDEC DO214AC. Molded plastic over glass passivated junction
Terminal: Solderable per MIL-STD-750, Method 2026
Polarity: Color band denoted positive end (cathode) except Bidirectional
Standard Packaging: 16mm tape (EIA STD RS-481)
Weight: 0.007 ounce, 0.21 gram

3. Devices For Bipolar Application

For Bidirectional types, use C or CA as suffix; suffixes without A, the VBR is $\pm 10\%$.
(e.g. 1.5SMC6.8C, 1.5SMC440CA)
Electrical characteristics apply in both directions

4. Maximum Ratings and Characteristics(25°C)

Rating	Symbol	Value	Units
Peak Pulse Power Dissipation on 10/1000 μ s waveform (Note 1,2 ,Fig.1)	P _{PPM}	Minimum 1500	Watts
Peak Pulse Current of on 10/1000 μ s waveform (Note 1, Fig.3)	I _{PPM}	SEE TABLE 1	Amps
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load(JEDEC Method) (Note2,3)	I _{FSM}	200	Amps
Operating junction and Storage Temperature Range	T _J , T _{STG}	-55 to + 150	°C

Notes :

1. Non-repetitive current pulse , per Fig. 3 and derated above TA = 25°C per Fig. 2
2. Mounted on 8.0mm x 8.0mm Copper Pads to each terminal.
3. 8.3ms single half sine-wave , or equivalent square wave, Duty cycle = 4 pulses per minutes maximum.

NOTE : Specification subject to change without notice.



Part Number		Device Marking Code		Reverse Stand-Off Voltage	Breakdown Voltage $V_{BR}(V) @I_T$		Test Current I_T (mA)	Maximum Clamping Voltage $V_C(V) @I_{PP}$	Maximum Peak Pulse Current I_{PP} (A)	Maximum Reverse Leakage $I_R @ V_{RWM}$ (μA)
Uni-Polar	Bi-Polar	Uni	Bi	$V_{RWM}(V)$	Min	Max				
1.5SMC6.8A	1.5SMC6.8CA	6V8A	6V8C	5.8	6.45	7.14	10	10.5	144.8	1000.0
1.5SMC7.5A	1.5SMC7.5CA	7V5A	7V5C	6.4	7.13	7.88	10	11.3	134.5	500.0
1.5SMC8.2A	1.5SMC8.2CA	8V2A	8V2C	7.0	7.79	8.61	10	12.1	125.6	200.0
1.5SMC9.1A	1.5SMC9.1CA	9V1A	9V1C	7.8	8.65	9.50	1	13.4	113.4	50.0
1.5SMC10A	1.5SMC10CA	10A	10C	8.6	9.50	10.50	1	14.5	104.8	10.0
1.5SMC11A	1.5SMC11CA	11A	11C	9.4	10.50	11.60	1	15.6	97.4	5.0
1.5SMC12A	1.5SMC12CA	12A	12C	10.2	11.40	12.60	1	16.7	91.0	5.0
1.5SMC13A	1.5SMC13CA	13A	13C	11.1	12.40	13.70	1	18.2	83.5	1.0
1.5SMC15A	1.5SMC15CA	15A	15C	12.8	14.30	15.80	1	21.2	71.7	1.0
1.5SMC16A	1.5SMC16CA	16A	16C	13.6	15.20	16.80	1	22.5	67.6	1.0
1.5SMC18A	1.5SMC18CA	18A	18C	15.3	17.10	18.90	1	25.2	60.3	1.0
1.5SMC20A	1.5SMC20CA	20A	20C	17.1	19.00	21.00	1	27.7	54.9	1.0
1.5SMC22A	1.5SMC22CA	22A	22C	18.8	20.90	23.10	1	30.6	49.7	1.0
1.5SMC24A	1.5SMC24CA	24A	24C	20.5	22.80	25.20	1	33.2	45.8	1.0
1.5SMC27A	1.5SMC27CA	27A	27C	23.1	25.70	28.40	1	37.5	40.5	1.0
1.5SMC30A	1.5SMC30CA	30A	30C	25.6	28.50	31.50	1	41.4	36.7	1.0
1.5SMC33A	1.5SMC33CA	33A	33C	28.2	31.40	34.70	1	45.7	33.3	1.0
1.5SMC36A	1.5SMC36CA	36A	36C	30.8	34.20	37.80	1	49.9	30.5	1.0
1.5SMC39A	1.5SMC39CA	39A	39C	33.3	37.10	41.00	1	53.9	28.2	1.0
1.5SMC43A	1.5SMC43CA	43A	43C	36.8	40.90	45.20	1	59.3	25.6	1.0
1.5SMC47A	1.5SMC47CA	47A	47C	40.2	44.70	49.40	1	64.8	23.5	1.0
1.5SMC51A	1.5SMC51CA	51A	51C	43.6	48.50	53.60	1	70.1	21.7	1.0
1.5SMC56A	1.5SMC56CA	56A	56C	47.8	53.20	58.80	1	77.0	19.7	1.0
1.5SMC62A	1.5SMC62CA	62A	62C	53.0	58.90	65.10	1	85.0	17.9	1.0
1.5SMC68A	1.5SMC68CA	68A	68C	58.1	64.60	71.40	1	92.0	16.5	1.0
1.5SMC75A	1.5SMC75CA	75A	75C	64.1	71.30	78.80	1	103.0	14.8	1.0
1.5SMC82A	1.5SMC82CA	82A	82C	70.1	77.90	86.10	1	113.0	13.5	1.0
1.5SMC91A	1.5SMC91CA	91A	91C	77.8	86.50	95.50	1	125.0	12.2	1.0
1.5SMC100A	1.5SMC100CA	100A	100C	85.5	95.00	105.00	1	137.0	11.1	1.0
1.5SMC110A	1.5SMC110CA	110A	110C	94.0	105.00	116.00	1	152.0	10.0	1.0
1.5SMC120A	1.5SMC120CA	120A	120C	102.0	114.00	126.00	1	165.0	9.2	1.0
1.5SMC130A	1.5SMC130CA	130A	130C	111.0	124.00	137.00	1	179.0	8.5	1.0

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 FUZETEC TECHNOLOGY CO., LTD.	NO.	1.5SMC Series		
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1.5SMC150A	1.5SMC150CA	150A	150C	128.0	143.00	158.00	1	207.0	7.3	1.0
1.5SMC160A	1.5SMC160CA	160A	160C	136.0	152.00	168.00	1	219.0	6.9	1.0
1.5SMC170A	1.5SMC170CA	170A	170C	145.0	162.00	179.00	1	234.0	6.5	1.0
1.5SMC180A	1.5SMC180CA	180A	180C	154.0	171.00	189.00	1	246.0	6.2	1.0
1.5SMC200A	1.5SMC200CA	200A	200C	171.0	190.00	210.00	1	274.0	5.5	1.0
1.5SMC220A	1.5SMC220CA	220A	220C	185.0	209.00	231.00	1	328.0	4.6	1.0
1.5SMC250A	1.5SMC250CA	250A	250C	214.0	237.00	263.00	1	344.0	4.4	1.0
1.5SMC300A	1.5SMC300CA	300A	300C	256.0	285.00	315.00	1	414.0	3.7	1.0
1.5SMC350A	1.5SMC350CA	350A	350C	300.0	332.00	368.00	1	482.0	3.2	1.0
1.5SMC400A	1.5SMC400CA	400A	400C	342.0	380.00	420.00	1	548.0	2.8	1.0
1.5SMC440A	1.5SMC440CA	440A	440C	376.0	418.00	462.00	1	602.0	2.5	1.0
1.5SMC480A	1.5SMC480CA	480A	480C	408.0	456.00	504.00	1	658.0	2.3	1.0
1.5SMC510A	1.5SMC510CA	510A	510C	434.0	485.00	535.00	1	698.0	2.1	1.0
1.5SMC530A	1.5SMC530CA	530A	530C	477.0	503.50	556.50	1	725.0	2.1	1.0
1.5SMC540A	1.5SMC540CA	540A	540C	486.0	513.00	567.00	1	740.0	2.0	1.0
1.5SMC550A	1.5SMC550CA	550A	550C	495.0	522.50	577.50	1	760.0	2.0	1.0

For bidirectional type having Vrwm of 10 volts and less, the IR limit is double.



5. Ratings and Characteristic Curves (TA=25°C unless otherwise noted)

Fig. 1 - Peak Pulse Power Rating

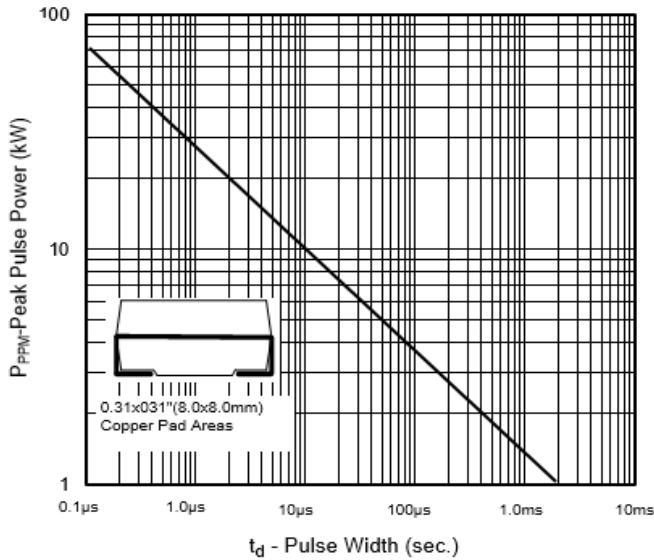


Fig.2 - Pulse Derating Curve

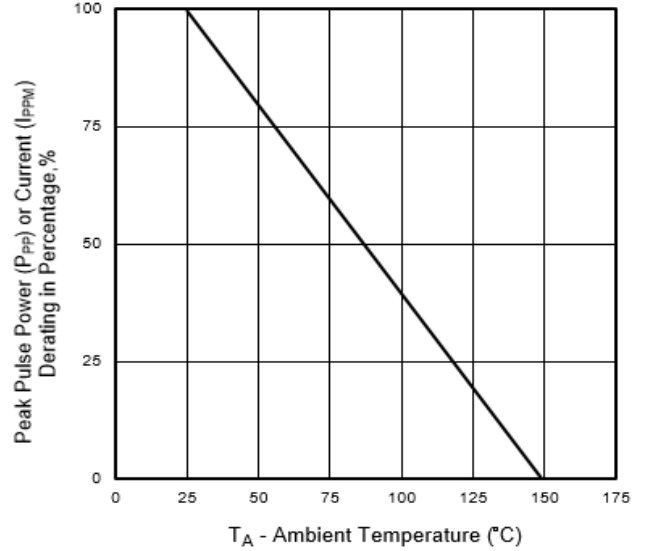


Fig.3 - Pulse Waveform

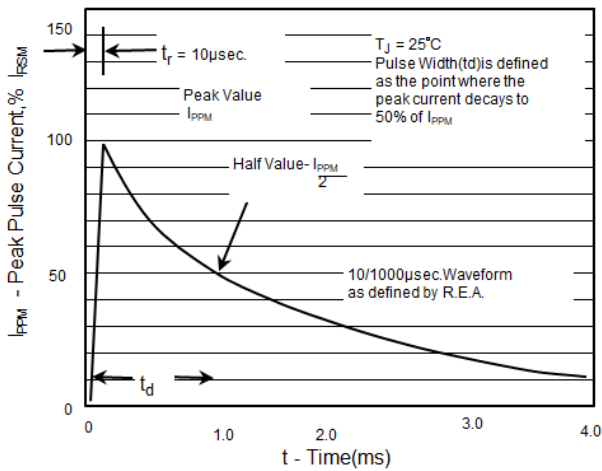


Fig. 4 - Typical Junction Capacitance

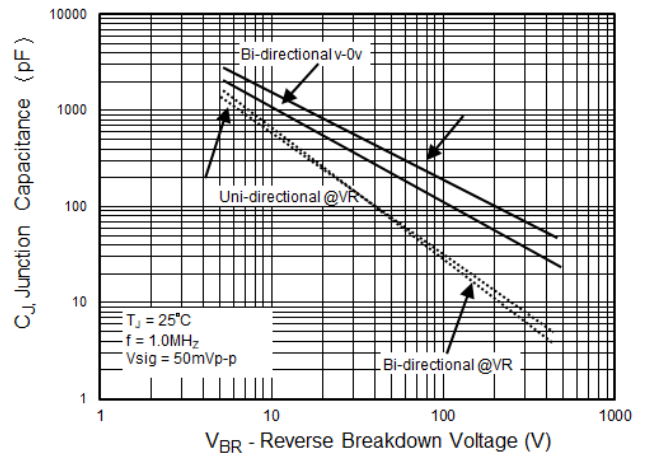


Fig. 5 - Steady State Power Derating Curve

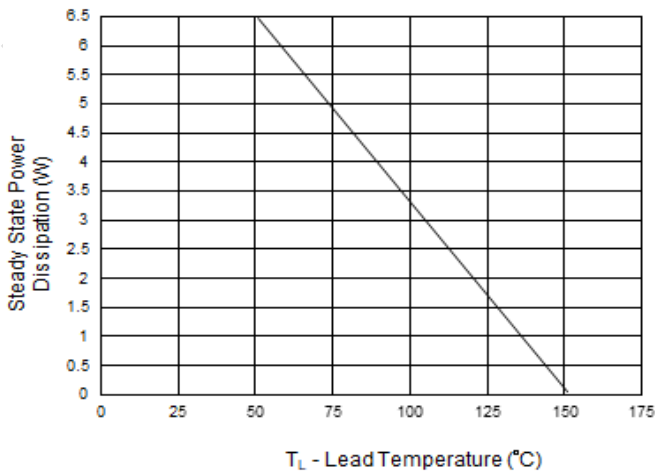
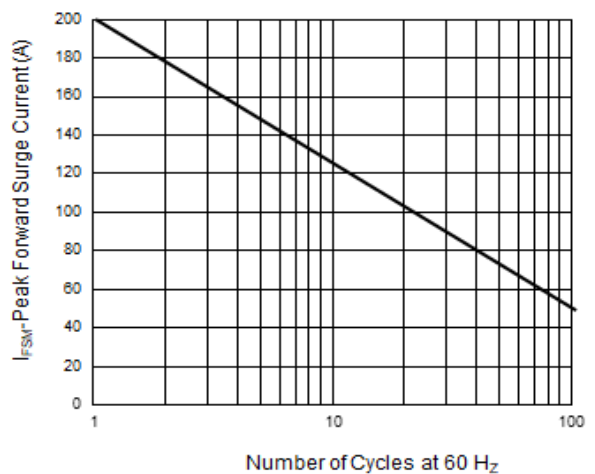


Fig.6 - Maximum Non-repetitive Forward Surge current uni-directional only

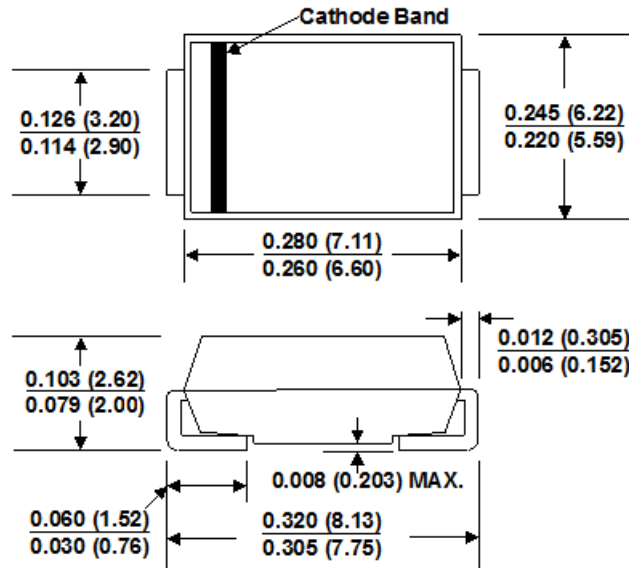


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6. Dimension

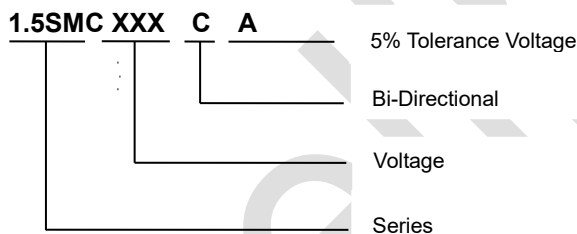
DO-214AB (SMC J-Bend)



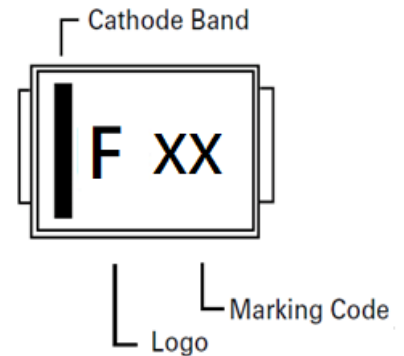
Dimensions in inches and (millimeters)

7. Part Numbering and Marking System

Part Numbering System



Marking System



8. Packaging Specification

Part Number	Component Package	Quantity	Packaging Option	Packaging Specification
1.5SMCxxxXX	DO-214AB	3000	Tape & Reel - 16mm/13" tape	EIA STD RS-481
1.5SMCxxxXX	DO-214AB	500	Tape & Reel - 16mm/ 7" tape	EIA STD RS-481

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