

# 1.5SMC-AU SERIES

## GLASS PASSIVATED JUNCTION TRANSIENT VOLTAGE SUPPRESSOR PEAK PULSE POWER 1500 Watt

### BREAK DOWN VOLTAGE

6.8 to 75 Volt

### SMC / DO-214AB

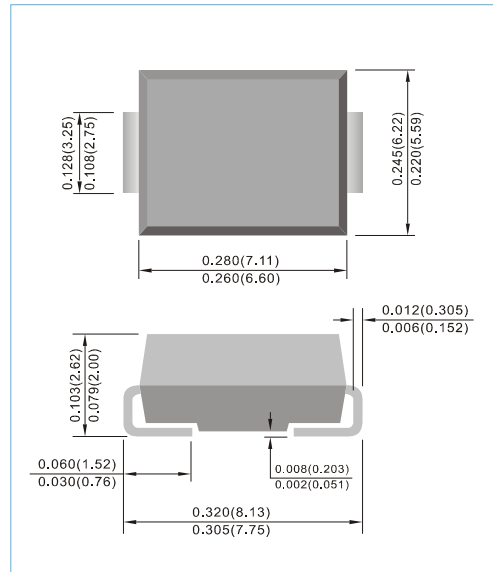
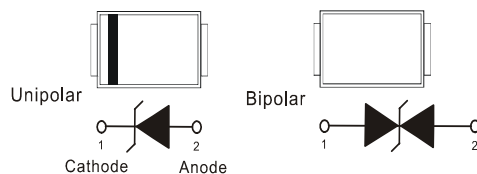
Unit : inch(mm)

#### FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- Glass passivated chip junction in SMC/DO-214AB package
- 1500W surge capability at 1ms
- Excellent clamping capability
- Low zener impedance
- Fast response time: typically less than 1 ps from 0 volts to BV min
- High temperature soldering guaranteed: 260°C/10 seconds/0.375", (9.5mm) lead length/5lbs., (2.3kg) tension
- AEC-Q101 qualified
- ESD IEC-61000-4-2 Air  $\pm 30$ kV, Contact  $\pm 30$ kV
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

#### MECHANICAL DATA

- Case: JEDEC SMC/DO-214AB molded plastic
- Terminals: Solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Weight: 0.0082 ounce, 0.233 gram



#### DEVICES FOR BIPOLAR APPLICATIONS

For Bidirectional use C or CA Suffix for types 1.5SMC6.8 thru types 1.5SMC250.  
Electrical characteristics apply in both directions.

#### MAXIMUM RATINGS AND CHARACTERISTICS

Rating at 25°C ambient temperature unless otherwise specified.

Rating	Symbol	Value	Units
Peak Power Dissipation at $T_A=25^\circ\text{C}$ , $t_p=1\text{ms}$ (Notes 1)	$P_{PP}$	1500	Watts
Typical Thermal Resistance Junction to Air (Notes 2)	$R_{\theta JA}$	50	$^\circ\text{C} / \text{W}$
Peak Pulse Current on $t_p=10/1000\mu\text{s}$ waveform (Notes 1)	$I_{PPM}$	see Table	Amps
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load (Notes 3)	$I_{FSM}$	200	Amps
ESD IEC-61000-4-2 (Air) ESD IEC-61000-4-2 (Contact)	$V_{ESD}$	$\pm 30$ $\pm 30$	kV
Operating Junction and Storage Temperature Range	$T_J, T_{STG}$	-55 to +150	$^\circ\text{C}$

#### NOTES :

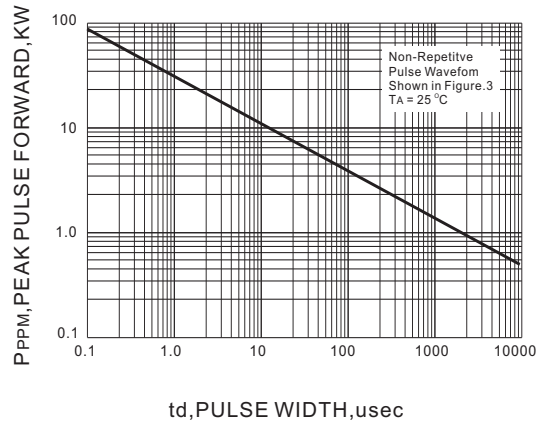
1. Non-repetitive current pulse, per Fig. 3 and derated above  $T_A=25^\circ\text{C}$  per Fig. 2.
2. Mounted on Copper Leaf area of  $0.79\text{ in}^2 (20\text{mm}^2)$ .
3. 8.3ms single half sine-wave, duty cycle= 4 pulses per minutes maximum.
4. A transient suppressor is selected according to the working peak reverse voltage ( $V_{RWM}$ ), which should be equal to or greater than the DC or continuous peak operating voltage level.



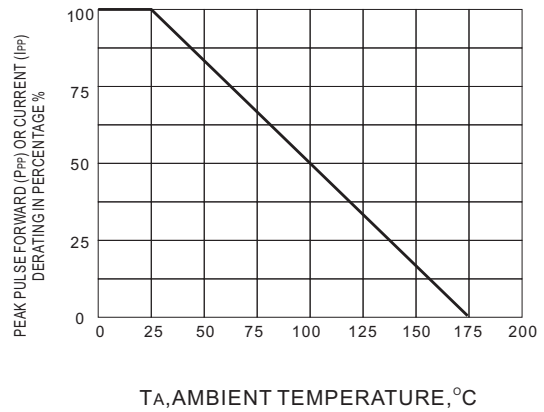
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Part Number		Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Reverse Leakage		Max. Clamp Voltage 10/1000µs	Peak Pulse Current 10/1000µs	Marking Code	
		V <sub>RWM</sub> (Notes 4)	V <sub>BR</sub> @ I <sub>T</sub>		I <sub>T</sub>	I <sub>R</sub> @ V <sub>RWM</sub>		V <sub>C</sub> @ I <sub>PP</sub>	I <sub>PP</sub>		
			Min.	Max.		UNI	BI				
UNI	BI	V	V	V	mA	µA	µA	V	A	UNI	BI
1500W Transient Voltage Suppressor											
1.5SMC6.8A-AU	1.5SMC6.8CA-AU	5.8	6.45	7.14	10	1000	2000	10.5	143	FZB	JZB
1.5SMC7.5A-AU	1.5SMC7.5CA-AU	6.4	7.13	7.88	10	500	1000	11.3	132	FZD	JZD
1.5SMC8.2A-AU	1.5SMC8.2CA-AU	7.02	7.79	8.61	10	200	400	12.1	124	FZF	JZF
1.5SMC9.1A-AU	1.5SMC9.1CA-AU	7.78	8.65	9.5	1	50	100	13.4	112	FZH	JZH
1.5SMC10A-AU	1.5SMC10CA-AU	8.55	9.5	10.5	1	10	20	14.5	103	FZK	JZK
1.5SMC11A-AU	1.5SMC11CA-AU	9.4	10.5	11.6	1	5	10	15.6	96	FZM	JZM
1.5SMC12A-AU	1.5SMC12CA-AU	10.2	11.4	12.6	1	5	5	16.7	90	FZP	JZP
1.5SMC13A-AU	1.5SMC13CA-AU	11.1	12.4	13.7	1	1	1	18.2	82	FZR	JZR
1.5SMC15A-AU	1.5SMC15CA-AU	12.8	14.3	15.8	1	1	1	21.2	71	FZT	JZT
1.5SMC16A-AU	1.5SMC16CA-AU	13.6	15.2	16.8	1	1	1	22.5	67	FZV	JZV
1.5SMC18A-AU	1.5SMC18CA-AU	15.3	17.1	18.9	1	1	1	25.2	59.5	FZX	JZX
1.5SMC20A-AU	1.5SMC20CA-AU	17.1	19	21	1	1	1	27.7	54	FZZ	JZZ
1.5SMC22A-AU	1.5SMC22CA-AU	18.8	20.9	23.1	1	1	1	30.6	49	FXB	JXB
1.5SMC24A-AU	1.5SMC24CA-AU	20.5	22.8	25.2	1	1	1	33.2	45	FXD	JXD
1.5SMC27A-AU	1.5SMC27CA-AU	23.1	25.7	28.4	1	1	1	37.5	40	FXF	JXF
1.5SMC30A-AU	1.5SMC30CA-AU	25.6	28.5	31.5	1	1	1	41.4	36	FXH	JXH
1.5SMC33A-AU	1.5SMC33CA-AU	28.2	31.4	34.7	1	1	1	45.7	33	FXK	JXK
1.5SMC36A-AU	1.5SMC36CA-AU	30.8	34.2	37.8	1	1	1	49.9	30	FXM	JXM
1.5SMC39A-AU	1.5SMC39CA-AU	33.3	37.1	41	1	1	1	53.9	28	FXP	JXP
1.5SMC43A-AU	1.5SMC43CA-AU	36.8	40.9	45.2	1	1	1	59.3	25.3	FXR	JXR
1.5SMC47A-AU	1.5SMC47CA-AU	40.2	44.7	49.4	1	1	1	64.8	23.2	FXT	JXT
1.5SMC51A-AU	1.5SMC51CA-AU	43.6	48.5	53.6	1	1	1	70.1	21.4	FXV	JXV
1.5SMC56A-AU	1.5SMC56CA-AU	47.8	53.2	58.8	1	1	1	77	19.5	FXX	JXX
1.5SMC62A-AU	1.5SMC62CA-AU	53	58.9	65.1	1	1	1	85	17.7	FXZ	JXZ
1.5SMC68A-AU	1.5SMC68CA-AU	58.1	64.6	71.4	1	1	1	92	16.3	FYB	JYB
1.5SMC75A-AU	1.5SMC75CA-AU	64.1	71.3	78.8	1	1	1	103	14.6	FYD	JYD

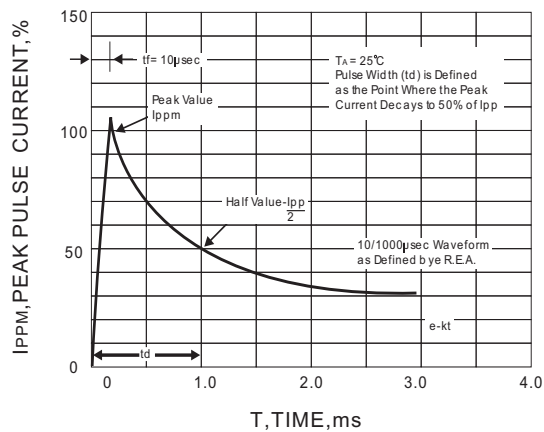
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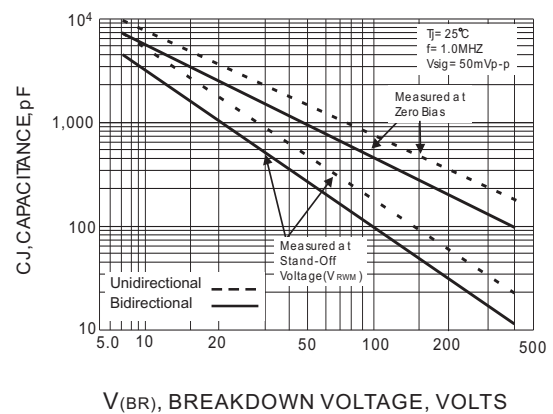
**Fig.1 PEAK PULSE POWER RATING VERSUS PULSE TIME CURVE**



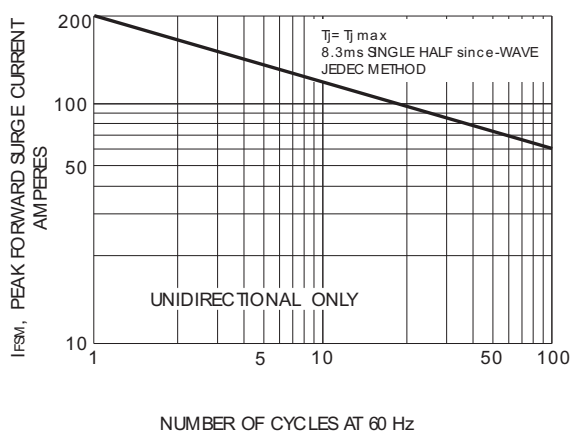
**Fig.2 PULSE DERATING CURVE**



**Fig.3 PULSE WAVEFORM**



**Fig.4 TYPICAL JUNCTION CAPACITANCE**



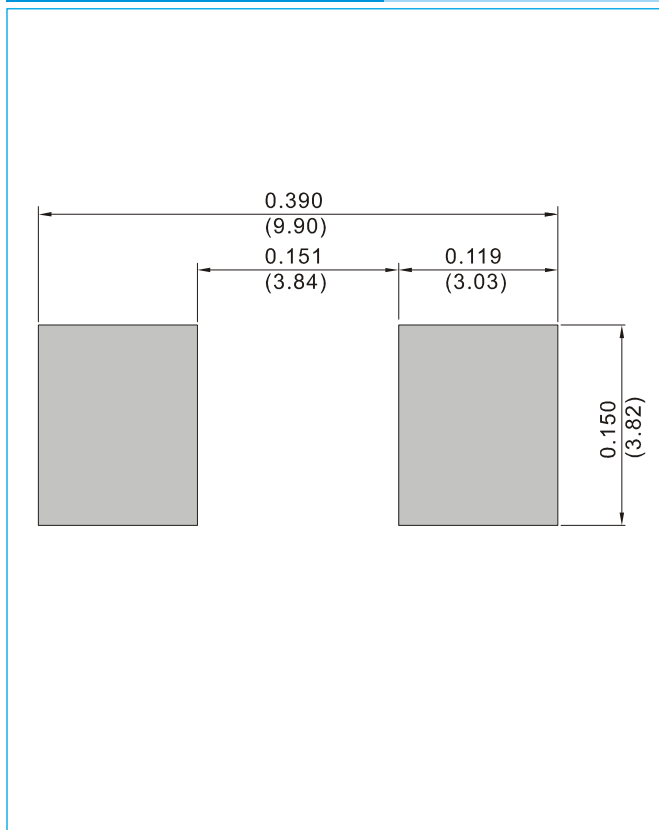
**Fig.5 MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT UNIDIRECTIONAL**

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## MOUNTING PAD LAYOUT

**SMC / DO-214AB**

Unit : inch(mm)



## ORDER INFORMATION

- Packing information
  - T/R - 3K per 13" plastic Reel
  - T/R - 0.8K per 7" plastic Reel

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### Part No\_packing code\_Version

1.5SMC6.8A-AU\_R1\_000A1

1.5SMC6.8A-AU\_R2\_000A1

For example :

**RB500V-40\_R2\_00001**



Packing Code <b>XX</b>				Version Code <b>XXXXXX</b>		
Packing type	1 <sup>st</sup> Code	Packing size code	2 <sup>nd</sup> Code	HF or RoHS	1 <sup>st</sup> Code	2 <sup>nd</sup> ~5 <sup>th</sup> Code
Tape and Ammunition Box (T/B)	<b>A</b>	N/A	<b>0</b>	HF	<b>0</b>	serial number
Tape and Reel (T/R)	<b>R</b>	7"	<b>1</b>	RoHS	<b>1</b>	serial number
Bulk Packing (B/P)	<b>B</b>	13"	<b>2</b>			
Tube Packing (T/P)	<b>T</b>	26mm	<b>X</b>			
Tape and Reel (Right Oriented) (TRR)	<b>S</b>	52mm	<b>Y</b>			
Tape and Reel (Left Oriented) (TRL)	<b>L</b>	PANASERT T/B CATHODE UP (PBCU)	<b>U</b>			
FORMING	<b>F</b>	PANASERT T/B CATHODE DOWN (PBCD)	<b>D</b>			



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