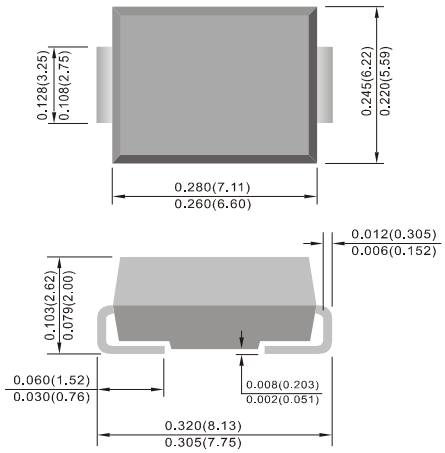
1.5SMC SERIES

GLASS PASSIVATED JUNCTION TRANSIENT VOLTAGE SUPPRESSOR PEAK PULSE POWER 1500 Watt

BREAK DOWN VOLTAGE | **6.8 to 250 Volt**

SMC / DO-214AB Unit : inch(mm)

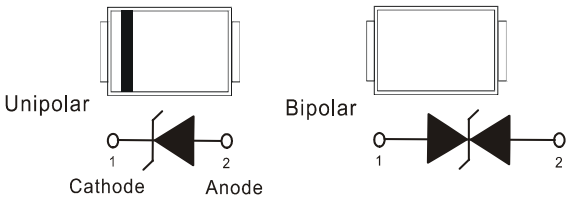


FEATURES

- 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
- ESD IEC-61000-4-2 Air ± 30kV, Contact ± 30kV
- 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°Ca mbient temperature unless otherwise specified.

Rating	Symbol	Value	Units
Peak Power Dissipation at T_A=25°C, tp=1ms (Notes 1)	P_{PP}	1500	Watts
Typical Thermal Resistance Junction to Air (Notes 2)	$R_{\theta JA}$	50	°C / W
Peak Pulse Current on tp=10/1000μs 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}	±30 ±30	kV
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 T_A=25°C per Fig. 2.
2. Mounted on Copper Leaf area of 0.79 in^2(20mm^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		TestC urrent	Reverse Leakage		Max. Clamp Voltage 10/1000μs	Peak Pulse Current 10/1000μs	Marking Code	
		V_{RWM}(Notes 4)	V_{BR} @ I_T		I_T	I_R @ V_{RWM}		V_C @ I_{PP}	I_{PP}		
			Min.	Max.		UNI	BI				
UNI	BI	V	V	V	mA	μA	μA	V	A	UNI	BI
1500W Transient Voltage Suppressor											
1.5SMC6.8	1.5SMC6.8C	5.5	6.12	7.48	10	1000	2000	10.8	139	FZA	JZA
1.5SMC6.8A	1.5SMC6.8CA	5.8	6.45	7.14	10	1000	2000	10.5	143	FZB	JZB
1.5SMC7.5	1.5SMC7.5C	6.05	6.75	8.25	10	500	1000	11.7	128	FZC	JZC
1.5SMC7.5A	1.5SMC7.5CA	6.4	7.13	7.88	10	500	1000	11.3	132	FZD	JZD
1.5SMC8.2	1.5SMC8.2C	6.63	7.38	9.02	10	200	400	12.5	120	FZE	JZE
1.5SMC8.2A	1.5SMC8.2CA	7.02	7.79	8.61	10	200	400	12.1	124	FZF	JZF
1.5SMC9.1	1.5SMC9.1C	7.37	8.19	10	1	50	100	13.8	109	FZG	JZG
1.5SMC9.1A	1.5SMC9.1CA	7.78	8.65	9.5	1	50	100	13.4	112	FZH	JZH
1.5SMC10	1.5SMC10C	8.1	9	11	1	10	20	15	100	FZJ	JZJ
1.5SMC10A	1.5SMC10CA	8.55	9.5	10.5	1	10	20	14.5	103	FZK	JZK
1.5SMC11	1.5SMC11C	8.92	9.9	12.1	1	5	10	16.2	93	FZL	JZL
1.5SMC11A	1.5SMC11CA	9.4	10.5	11.6	1	5	10	15.6	96	FZM	JZM
1.5SMC12	1.5SMC12C	9.72	10.8	13.2	1	5	5	17.3	87	FZN	JZN
1.5SMC12A	1.5SMC12CA	10.2	11.4	12.6	1	5	5	16.7	90	FZP	JZP
1.5SMC13	1.5SMC13C	10.5	11.7	14.3	1	1	1	19	79	FZQ	JZQ
1.5SMC13A	1.5SMC13CA	11.1	12.4	13.7	1	1	1	18.2	82	FZR	JZR
1.5SMC15	1.5SMC15C	12.1	13.5	16.5	1	1	1	22	68	FZS	JZS
1.5SMC15A	1.5SMC15CA	12.8	14.3	15.8	1	1	1	21.2	71	FZT	JZT
1.5SMC16	1.5SMC16C	12.9	14.4	17.6	1	1	1	23.5	64	FZU	JZU
1.5SMC16A	1.5SMC16CA	13.6	15.2	16.8	1	1	1	22.5	67	FZV	JZV
1.5SMC18	1.5SMC18C	14.5	16.2	19.8	1	1	1	26.5	56.5	FZW	JZW
1.5SMC18A	1.5SMC18CA	15.3	17.1	18.9	1	1	1	25.2	59.5	FZX	JZX
1.5SMC20	1.5SMC20C	16.2	18	22	1	1	1	29.1	51.5	FZY	JZY
1.5SMC20A	1.5SMC20CA	17.1	19	21	1	1	1	27.7	54	FZZ	JZZ
1.5SMC22	1.5SMC22C	17.8	19.8	24.2	1	1	1	31.9	47	FXA	JXA
1.5SMC22A	1.5SMC22CA	18.8	20.9	23.1	1	1	1	30.6	49	FXB	JXB
1.5SMC24	1.5SMC24C	19.4	21.6	26.4	1	1	1	34.7	43	FXC	JXC
1.5SMC24A	1.5SMC24CA	20.5	22.8	25.2	1	1	1	33.2	45	FXD	JXD
1.5SMC27	1.5SMC27C	21.8	24.3	29.7	1	1	1	39.1	38.5	FXE	JXE
1.5SMC27A	1.5SMC27CA	23.1	25.7	28.4	1	1	1	37.5	40	FXF	JXF
1.5SMC30	1.5SMC30C	24.3	27	33	1	1	1	43.5	34.5	FXG	JXG
1.5SMC30A	1.5SMC30CA	25.6	28.5	31.5	1	1	1	41.4	36	FXH	JXH
1.5SMC33	1.5SMC33C	26.8	29.7	36.3	1	1	1	47.7	31.5	FXJ	JXJ
1.5SMC33A	1.5SMC33CA	28.2	31.4	34.7	1	1	1	45.7	33	FXK	JXK
1.5SMC36	1.5SMC36C	29.1	32.4	39.6	1	1	1	52	29	FXL	JXL
1.5SMC36A	1.5SMC36CA	30.8	34.2	37.8	1	1	1	49.9	30	FXM	JXM
1.5SMC39	1.5SMC39C	31.6	35.1	42.9	1	1	1	56.4	26.5	FXN	JXN
1.5SMC39A	1.5SMC39CA	33.3	37.1	41	1	1	1	53.9	28	FXP	JXP
1.5SMC43	1.5SMC43C	34.8	38.7	47.3	1	1	1	61.9	24	FXQ	JXQ

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Part Number		Reverse Stand-off Voltage	Breakdown Voltage		TestC urrent	Reverse Leakage		Max. Clamp Voltage 10/1000µs	Peak Pulse Current 10/1000µs	Marking Code	
		V_{RWM}(Notes 4)	V_{BR} @ I_T		I_T	I_R @ V_{RWM}		V_C @ I_{PP}	I_{PP}		
			Min.	Max.		UNI	BI				
UNI	BI	V	V	V	mA	µA	µA	V	A	UNI	BI
1500W Transient Voltage Suppressor											
1.5SMC43A	1.5SMC43CA	36.8	40.9	45.2	1	1	1	59.3	25.3	FXR	JXR
1.5SMC47	1.5SMC47C	38.1	42.3	51.7	1	1	1	67.8	22.2	FXS	JXS
1.5SMC47A	1.5SMC47CA	40.2	44.7	49.4	1	1	1	64.8	23.2	FXT	JXT
1.5SMC51	1.5SMC51C	41.3	45.9	56.1	1	1	1	73.5	20.4	FXU	JXU
1.5SMC51A	1.5SMC51CA	43.6	48.5	53.6	1	1	1	70.1	21.4	FXV	JXV
1.5SMC56	1.5SMC56C	45.6	50.4	61.6	1	1	1	80.5	18.6	FXW	JXW
1.5SMC56A	1.5SMC56CA	47.8	53.2	58.8	1	1	1	77	19.5	FXX	JXX
1.5SMC62	1.5SMC62C	50.2	55.8	68.2	1	1	1	89	16.9	FXY	JXY
1.5SMC62A	1.5SMC62CA	53	58.9	65.1	1	1	1	85	17.7	FXZ	JXZ
1.5SMC68	1.5SMC68C	55.1	61.2	74.8	1	1	1	98	15.3	FYA	JYA
1.5SMC68A	1.5SMC68CA	58.1	64.6	71.4	1	1	1	92	16.3	FYB	JYB
1.5SMC75	1.5SMC75C	60.7	67.5	82.5	1	1	1	108	13.9	FYC	JYC
1.5SMC75A	1.5SMC75CA	64.1	71.3	78.8	1	1	1	103	14.6	FYD	JYD
1.5SMC82	1.5SMC82C	66.4	73.8	90.2	1	1	1	118	12.7	FYE	JYE
1.5SMC82A	1.5SMC82CA	70.1	77.9	86.1	1	1	1	113	13.3	FYF	JYF
1.5SMC91	1.5SMC91C	73.7	81.9	100	1	1	1	131	11.4	FYG	JYG
1.5SMC91A	1.5SMC91CA	77.8	86.5	95.5	1	1	1	125	12	FYH	JYH
1.5SMC100	1.5SMC100C	81	90	110	1	1	1	144	10.4	FYJ	JYJ
1.5SMC100A	1.5SMC100CA	85.5	95	105	1	1	1	137	11	FYK	JYK
1.5SMC110	1.5SMC110C	89.2	99	121	1	1	1	158	9.5	FYL	JYL
1.5SMC110A	1.5SMC110CA	94	105	116	1	1	1	152	9.9	FYM	JYM
1.5SMC120	1.5SMC120C	97.2	108	132	1	1	1	173	8.7	FYN	JYN
1.5SMC120A	1.5SMC120CA	102	114	126	1	1	1	165	9.1	FYP	JYP
1.5SMC130	1.5SMC130C	105	117	143	1	1	1	187	8	FYQ	JYQ
1.5SMC130A	1.5SMC130CA	111	124	137	1	1	1	179	8.4	FYR	JYR
1.5SMC150	1.5SMC150C	121	135	165	1	1	1	215	7	FYS	JYS
1.5SMC150A	1.5SMC150CA	128	143	158	1	1	1	207	7.2	FYT	JYT
1.5SMC160	1.5SMC160C	130	144	176	1	1	1	230	6.5	FYU	JYU
1.5SMC160A	1.5SMC160CA	136	152	168	1	1	1	219	6.8	FYV	JYV
1.5SMC170	1.5SMC170C	138	153	187	1	1	1	244	6.2	FYW	JYW
1.5SMC170A	1.5SMC170CA	145	162	179	1	1	1	234	6.4	FYX	JYX
1.5SMC180	1.5SMC180C	146	162	198	1	1	1	258	5.8	FYY	JYY
1.5SMC180A	1.5SMC180CA	154	171	189	1	1	1	246	6.1	FYZ	JYZ
1.5SMC200	1.5SMC200C	162	180	220	1	1	1	287	5.2	FWA	JWA
1.5SMC200A	1.5SMC200CA	171	190	210	1	1	1	274	5.5	FWB	JWB
1.5SMC220	1.5SMC220C	175	198	242	1	1	1	344	4.3	FWC	JWC
1.5SMC220A	1.5SMC220CA	185	209	231	1	1	1	328	4.6	FWD	JWD
1.5SMC250	1.5SMC250C	202	225	275	1	1	1	360	4.3	FWE	JWE
1.5SMC250A	1.5SMC250CA	214	237	263	1	1	1	344	4.5	FWF	JWF

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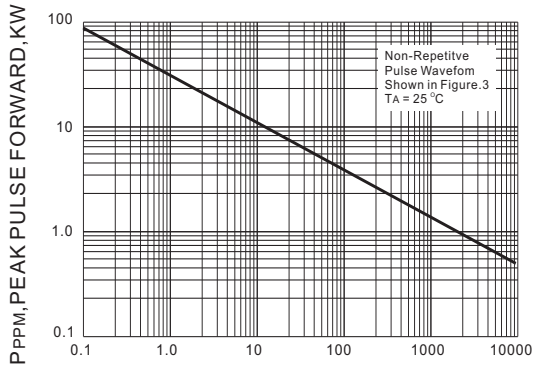

Fig.1 PEAK PULSE POWER RATING VERSUS PULSE TIME CURVE

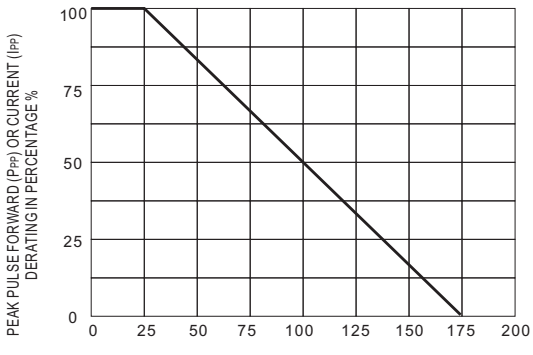

Fig.2 PULSE DERATING CURVE

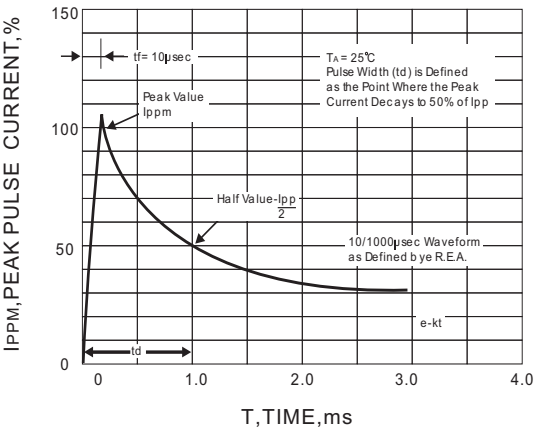

Fig.3 PULSE WAVEFORM

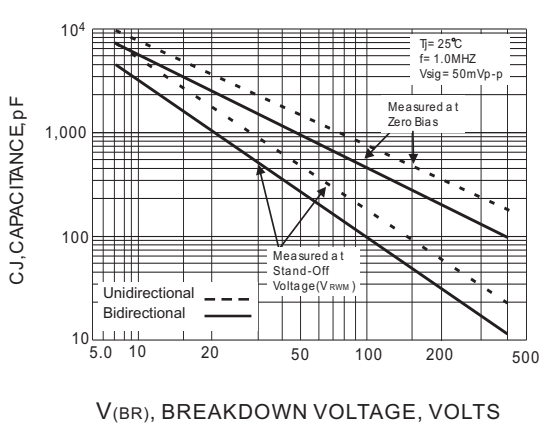

Fig.4 TYPICAL JUNCTION CAPACITANCE

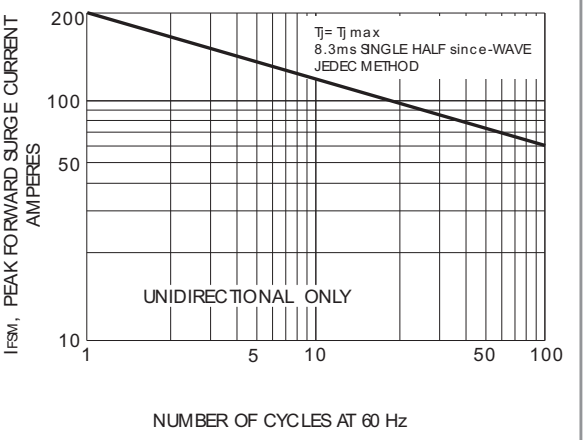

Fig.5 MAXIMUN NON-REPETITEVE PEAK FORWARD SURGE CURRENT UNIDIRECTIONAL

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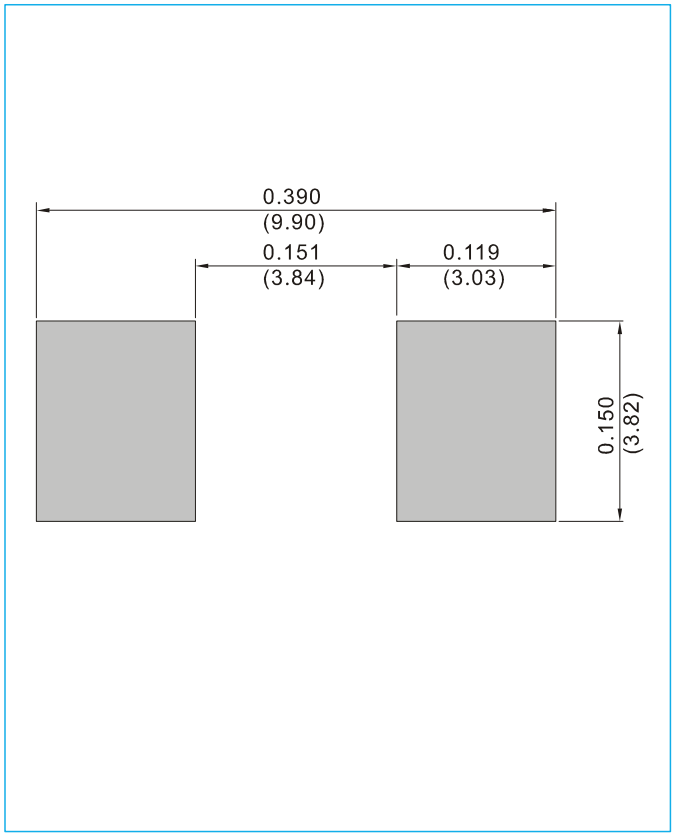
MOUNTING PAD LAYOUT

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

1.5SMC6.8_R1_00001

1.5SMC6.8_R2_00001

For example :

RB500V-40_R2_00001

Part No.

Serial number

Version code means HF

Packing size code means 13"

Packing type means T/R

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

1.5SMC SERIES

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1.5SMC39CA_R1_00001 1.5SMC39CA_R2_00001