

DATA SHEET

1.5SMCJ SERIES

SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

VOLTAGE 5.0 to 220 Volts

PEAK PULSE POWER 1500 Watts

SMC/DO-214AB

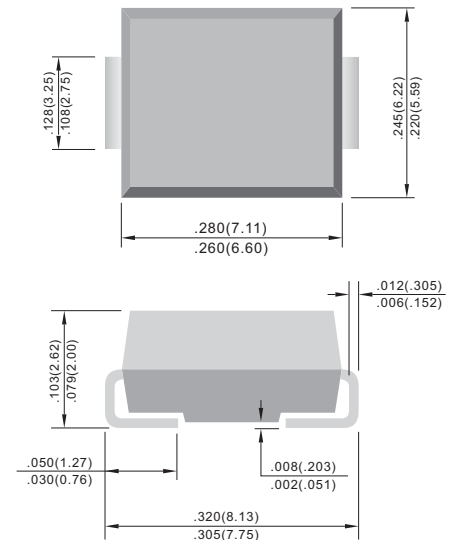
Unit: inch (mm)

FEATURES

- For surface mounted applications in order to optimize board space.
- Low profile package
- Built-in strain relief
- Glass passivated junction
- Low inductance
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- High temperature soldering : 260°C /10 seconds at terminals
- Pb free product are available : 99% Sn above can meet Rohs environment substance directive request

MECHANICAL DATA

Case: JEDEC DO-214AB, Molded plastic over passivated junction.
Terminals: Solder plated, solderable per MIL-STD-202G, Method 208
Polarity: Color band denotes positive end (cathode)
Standard Packaging: 16mm tape (EIA-481)
Weight: 0.007 ounce, 0.021 gram



DEVICES FOR BIPOLAR APPLICATIONS

For Bidirectional use C or CA Suffix for types 1.5SMCJ5.0 thru types 1.5SMCJ220.
Electrical characteristics apply in both directions.

MAXIMUM RATINGS AND CHARACTERISTICS

Rating at 25°C ambient temperature unless otherwise specified. Resistive or inductive load, 60Hz.
For Capacitive load derate current by 20%.

Rating	Symbol	Value	Units
Peak Power Dissipation at $T_A = 25^\circ\text{C}$, $T_P = 1\text{ms}$ (Note 1, Fig. 1)	P_{PPM}	1500	Watts
Peak Forward Surge Current 8.3ms single half sine wave superimposed on rated load (Note 2, 3)	I_{FSM}	100	Amps
Peak Pulse Current Current on 10/1000s waveform (Note 1, Fig. 3)	I_{PPM}	See Table 1	Amps
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 5.0mm² (.013mm thick) land areas.
3. Measured on 8.3ms, single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minutes maximum.



Part Number	Part Number	Marking Code		V _{RRM}	V _{BR} @ I _T			I _T @ V _{RRM}		V _C @ I _{SP}	
					M in .	Max .	I _T	UNI-	BI-		
UNI-	BI-	UNI-	BI-	V	V	V	m A	uA	uA	V	A
1500W Transient Voltage Suppressor											
15SMC J5 0	15SMC J5 0C	GDD	BDD	5 0	6 40	7 55	10	1000	2000	9 6	156 2
15SMC J5 0A	15SMC J5 0CA	GDE	BDE	5 0	6 40	7 25	10	1000	2000	9 2	163 0
15SMC J6 0	15SMC J6 0C	GDF	BDF	6 0	6 67	8 45	10	1000	2000	11 4	131 6
15SMC J6 0A	15SMC J6 0CA	GDG	B DG	6 0	6 67	7 67	10	1000	2000	10 3	145 6
15SMC J6 5	15SMC J6 5C	GDH	B DH	6 5	7 22	9 14	10	500	1000	12 3	122 0
15SMC J6 5A	15SMC J6 5CA	GDK	B DK	6 5	7 22	8 30	10	500	1000	11 2	133 9
15SMC J7 0	15SMC J7 0C	GDL	B DL	7 0	7 78	9 86	10	200	400	13 3	112 8
15SMC J7 0A	15SMC J7 0CA	GDM	B DM	7 0	7 78	8 95	10	200	400	12 0	125 0
15SMC J7 5	15SMC J7 5C	GDN	B DN	7 5	8 33	10 67	1 0	100	200	14 3	104 9
15SMC J7 5A	15SMC J7 5CA	GDP	B DP	7 5	8 33	9 58	1 0	100	200	12 9	116 3
15SMC J8 0	15SMC J8 0C	GDQ	B DQ	8 0	8 89	11 30	1 0	50	100	15 0	100 0
15SMC J8 0A	15SMC J8 0CA	GDR	B DR	8 0	8 89	10 23	1 0	50	100	13 6	110 3
15SMC J8 5	15SMC J8 5C	GDS	B DS	8 5	9 44	11 92	1 0	25	50	15 9	94 3
15SMC J8 5A	15SMC J8 5CA	GDT	B DT	8 5	9 44	10 82	1 0	25	50	14 4	104 2
15SMC J9 0	15SMC J9 0C	GDU	B DU	9 0	10 0	12 6	1 0	10	20	16 9	88 7
15SMC J9 0A	15SMC J9 0CA	GDV	B DV	9 0	10 0	11 5	1 0	10	20	15 4	97 4
15SMC J10	15SMC J10C	GDW	B DW	10	11 1	14 1	1 0	5	5	18 8	79 8
15SMC J10A	15SMC J10CA	GDX	B DX	10	11 1	12 8	1 0	5	5	17 0	88 2
15SMC J11	15SMC J11C	GDY	B DY	11	12 2	15 4	1 0	5	5	20 1	74 6
15SMC J11A	15SMC J11CA	GDZ	B DZ	11	12 2	14 0	1 0	5	5	18 2	82 4
15SMC J12	15SMC J12C	GED	B ED	12	13 3	16 9	1 0	5	5	22 0	68 2
15SMC J12A	15SMC J12CA	GEE	B EE	12	13 3	15 3	1 0	5	5	19 9	75 3
15SMC J13	15SMC J13C	GEF	B EF	13	14 4	18 2	1 0	1	1	23 8	63 0
15SMC J13A	15SMC J13CA	GEG	B EG	13	14 4	16 5	1 0	1	1	21 5	69 7
15SMC J14	15SMC J14C	GEH	B EH	14	15 6	19 8	1 0	1	1	25 8	58 1
15SMC J14A	15SMC J14CA	GEK	B EK	14	15 6	17 9	1 0	1	1	23 2	64 7
15SMC J15	15SMC J15C	GEL	B EL	15	16 7	21 1	1 0	1	1	26 9	55 8
15SMC J15A	15SMC J15CA	GEM	B EM	15	16 7	19 2	1 0	1	1	24 4	61 5
15SMC J16	15SMC J16C	GEN	B EN	16	17 8	22 6	1 0	1	1	28 8	52 1
15SMC J16A	15SMC J16CA	GEP	B EP	16	17 8	20 5	1 0	1	1	26 0	57 7
15SMC J17	15SMC J17C	GEQ	B EQ	17	18 9	23 9	1 0	1	1	30 5	49 2
15SMC J17A	15SMC J17CA	GER	B ER	17	18 9	21 7	1 0	1	1	27 6	53 3
15SMC J18	15SMC J18C	GES	B ES	18	20 0	25 3	1 0	1	1	32 2	46 6
15SMC J18A	15SMC J18CA	GET	B ET	18	20 0	23 3	1 0	1	1	29 2	51 4
15SMC J20	15SMC J20C	GEU	B EU	20	22 2	28 1	1 0	1	1	35 8	41 9
15SMC J20A	15SMC J20CA	GEV	B EV	20	22 2	25 5	1 0	1	1	32 4	46 3
15SMC J22	15SMC J22C	GEW	B EW	22	24 4	30 9	1 0	1	1	39 4	38 1
15SMC J22A	15SMC J22CA	GEX	B EX	22	24 4	28 0	1 0	1	1	35 5	42 2
15SMC J24	15SMC J24C	GEY	B EY	24	26 7	33 8	1 0	1	1	43 0	34 9
15SMC J24A	15SMC J24CA	GEZ	B EZ	24	26 7	30 7	1 0	1	1	38 9	38 6
15SMC J26	15SMC J26C	GFD	B FD	26	28 9	36 6	1 0	1	1	46 6	32 2
15SMC J26A	15SMC J26CA	GFE	B FE	26	28 9	33 2	1 0	1	1	42 1	35 6
15SMC J28	15SMC J28C	GFF	B FF	28	31 1	39 4	1 0	1	1	50 0	30 0
15SMC J28A	15SMC J28CA	GFG	B FG	28	31 1	35 8	1 0	1	1	45 4	33 0
15SMC J30	15SMC J30C	G FH	B FH	30	33 3	42 2	1 0	1	1	53 5	28 0
15SMC J30A	15SMC J30CA	G FK	B FK	30	33 3	38 3	1 0	1	1	48 4	31 0
15SMC J33	15SMC J33C	G FL	B FL	33	36 7	46 5	1 0	1	1	59 0	25 2
15SMC J33A	15SMC J33CA	G FM	B FM	33	36 7	42 2	1 0	1	1	53 3	28 1
15SMC J36	15SMC J36C	G FN	B FN	36	40 0	50 7	1 0	1	1	64 3	23 3
15SMC J36A	15SMC J36CA	G FP	B FP	36	40 0	46 0	1 0	1	1	58 1	25 8
15SMC J40	15SMC J40C	G FQ	B FQ	40	44 4	56 3	1 0	1	1	71 4	21 0
15SMC J40A	15SMC J40CA	G FR	B FR	40	44 4	51 1	1 0	1	1	64 5	23 2



Part Number	Part Number	Marking Code		V _{RWM}	V _{BR} @ I _T			I _T @ V _{RWM}		V _C @ I _{SP}	
					M in.	Max.	I _T	UNI-	BI-		
UNI-	BI-	UNI-	BI-	V	V	V	mA	uA	uA	V	A
1500W Transient Voltage Suppressor											
15SM C J43	15SM C J43C	GFS	BFS	43	47.8	60.5	1.0	1	1	76.7	19.6
15SM C J43A	15SM C J43CA	GFT	BFT	43	47.8	54.9	1.0	1	1	69.4	21.6
15SM C J45	15SM C J45C	GFU	BFU	45	50.0	63.3	1.0	1	1	80.3	18.7
15SM C J45A	15SM C J45CA	GFV	BFV	45	50.0	57.5	1.0	1	1	72.7	20.6
15SM C J48	15SM C J48C	GFW	BFW	48	53.3	67.5	1.0	1	1	85.5	17.5
15SM C J48A	15SM C J48CA	GFX	BFX	48	53.3	61.3	1.0	1	1	77.4	19.4
15SM C J51	15SM C J51C	GFY	BFY	51	56.7	71.8	1.0	1	1	91.1	18.5
15SM C J51A	15SM C J51CA	GFZ	BFZ	51	56.7	65.2	1.0	1	1	82.4	18.2
15SM C J54	15SM C J54C	GGD	BGD	54	60.0	76.0	1.0	1	1	96.3	15.6
15SM C J54A	15SM C J54CA	GGE	BGE	54	60.0	69.0	1.0	1	1	87.1	17.2
15SM C J58	15SM C J58C	GGF	BGF	58	64.4	81.6	1.0	1	1	103	14.6
15SM C J58A	15SM C J58CA	GGG	BGG	58	64.4	74.1	1.0	1	1	93.6	16.0
15SM C J60	15SM C J60C	GGH	BGH	60	66.7	84.5	1.0	1	1	107	14.0
15SM C J60A	15SM C J60CA	GGK	BGK	60	66.7	76.7	1.0	1	1	96.8	15.5
15SM C J64	15SM C J64C	GGL	BGL	64	71.1	90.1	1.0	1	1	114	13.2
15SM C J64A	15SM C J64CA	GGM	BGM	64	71.1	81.8	1.0	1	1	103	14.6
15SM C J70	15SM C J70C	GGN	BGN	70	77.8	98.6	1.0	1	1	125	12.0
15SM C J70A	15SM C J70CA	GGP	BGP	70	77.8	89.5	1.0	1	1	113	13.3
15SM C J75	15SM C J75C	GGQ	BGQ	75	83.3	105.7	1.0	1	1	134	11.2
15SM C J75A	15SM C J75CA	GGR	BGR	75	83.3	95.8	1.0	1	1	121	12.4
15SM C J78	15SM C J78C	GGS	BGS	78	86.7	109.8	1.0	1	1	139	10.8
15SM C J78A	15SM C J78CA	GGT	BGT	78	86.7	99.7	1.0	1	1	126	11.4
15SM C J85	15SM C J85C	GGU	BGU	85	94.4	119.2	1.0	1	1	151	9.9
15SM C J85A	15SM C J85CA	GGV	BGV	85	94.4	108.2	1.0	1	1	137	10.4
15SM C J90	15SM C J90C	GGW	BGW	90	100	126.5	1.0	1	1	160	9.4
15SM C J90A	15SM C J90CA	GGX	BGX	90	100	115.5	1.0	1	1	146	10.3
15SM C J100	15SM C J100C	GGY	BGY	100	111	141.0	1.0	1	1	179	8.4
15SM C J100A	15SM C J100CA	GGZ	BGZ	100	111	128.0	1.0	1	1	162	9.3
15SM C J110	15SM C J110C	GHD	BHD	110	122	154.5	1.0	1	1	196	7.7
15SM C J110A	15SM C J110CA	GHE	BHE	110	122	140.5	1.0	1	1	177	8.4
15SM C J120	15SM C J120C	GHF	BHF	120	133	169.0	1.0	1	1	214	7.0
15SM C J120A	15SM C J120CA	GHG	BHG	120	133	153.0	1.0	1	1	193	7.9
15SM C J130	15SM C J130C	GHH	BHH	130	144	182.5	1.0	1	1	231	6.5
15SM C J130A	15SM C J130CA	GHK	BHK	130	144	165.5	1.0	1	1	209	7.2
15SM C J150	15SM C J150C	GHL	BHL	150	167	211.5	1.0	1	1	268	5.6
15SM C J150A	15SM C J150CA	GHM	BHM	150	167	192.5	1.0	1	1	243	6.2
15SM C J160	15SM C J160C	GHN	BHN	160	178	226.0	1.0	1	1	287	5.2
15SM C J160A	15SM C J160CA	GHP	BHP	160	178	205.0	1.0	1	1	259	5.8
15SM C J170	15SM C J170C	GHQ	BHQ	170	189	239.5	1.0	1	1	304	4.9
15SM C J170A	15SM C J170CA	GHR	BHR	170	189	217.5	1.0	1	1	275	5.5
15SM C J180	15SM C J180C	GHS	BHS	180	198	253.8	1.0	1	1	322	4.7
15SM C J180A	15SM C J180CA	GHT	BHT	180	198	230.4	1.0	1	1	292	5.1
15SM C J190	15SM C J190C	GHU	BHU	190	209	267.9	1.0	1	1	340	4.4
15SM C J190A	15SM C J190CA	GHV	BHV	190	209	243.2	1.0	1	1	308	4.8
15SM C J200	15SM C J200C	GHW	BHW	200	220	282.0	1.0	1	1	358	4.1
15SM C J200A	15SM C J200CA	GHX	BHX	200	220	256.0	1.0	1	1	324	4.6
15SM C J210	15SM C J210C	GHY	BHY	210	231	296.1	1.0	1	1	376	4.0
15SM C J210A	15SM C J210CA	GHZ	BHZ	210	231	268.8	1.0	1	1	340	4.4
15SM C J220	15SM C J220C	GID	BID	220	242	310.2	1.0	1	1	394	3.8
15SM C J220A	15SM C J220CA	GEI	BEI	220	242	281.6	1.0	1	1	356	4.2

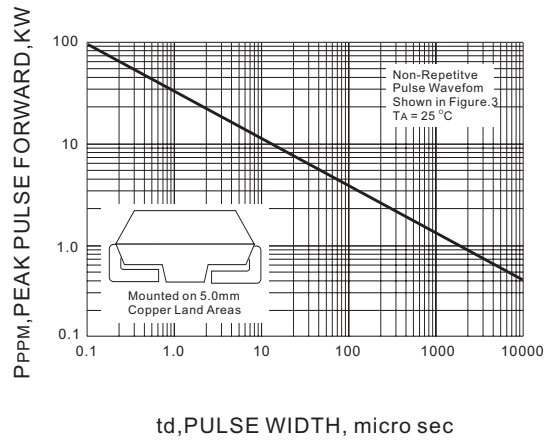


Fig.1 PEAK PULSE POWER RATING CURVE

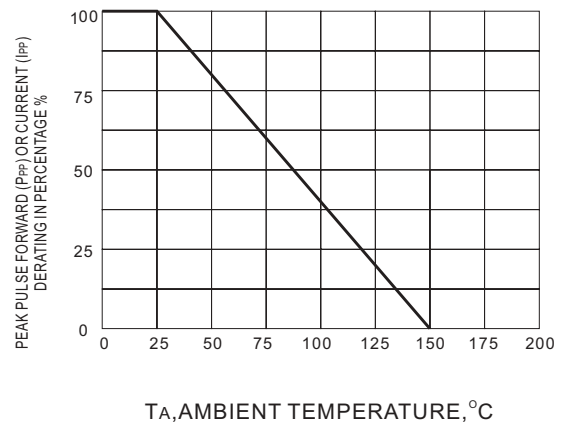


Fig.2 DERATING CURVE

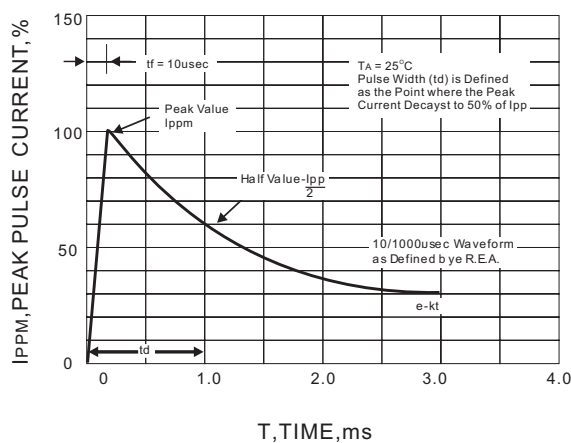


Fig.3 PULSE WAVEFORM

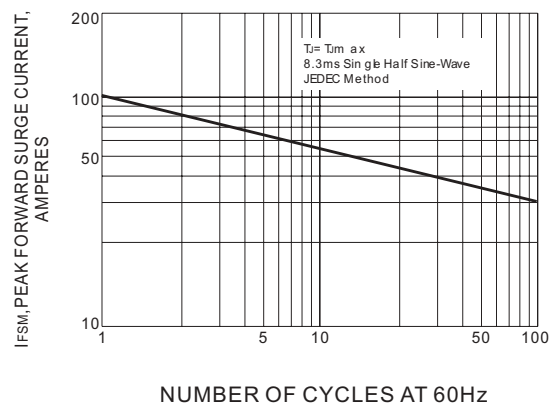


Fig.5 MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

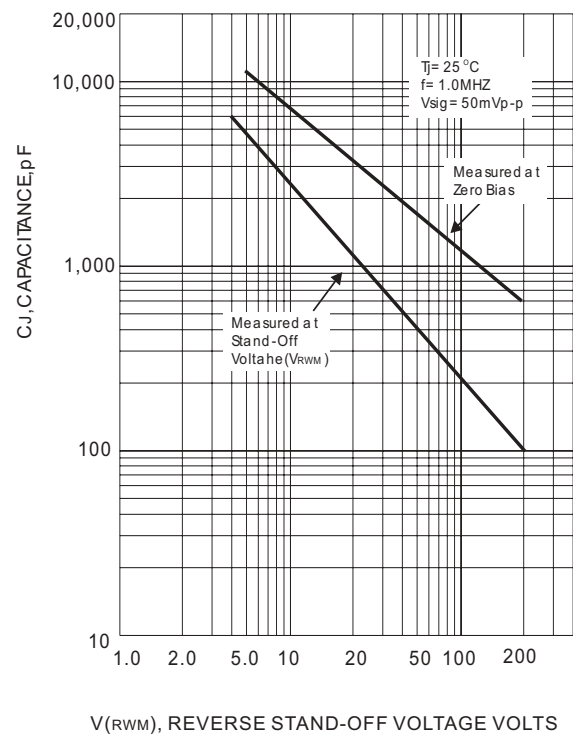


Fig.4 TYPICAL CAPACITANCE