



Micro Commercial Components  
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# 1.5SMCJ6.8(C)A THRU 1.5SMCJ550(C)A

## Features

- For surface mount applications in order to optimize board space
- Low profile package
- Fast response time: typical less than 1.0ps from 0 volts to  $V_{BR}$  minimum
- Low inductance
- Excellent clamping capability

## Mechanical Data

- CASE: JEDEC DO-214AB
- Terminals: solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes positive end (cathode) except Bidirectional
- Maximum soldering temperature: 250°C for 10 seconds

Maximum Ratings @ 25°C Unless Otherwise Specified

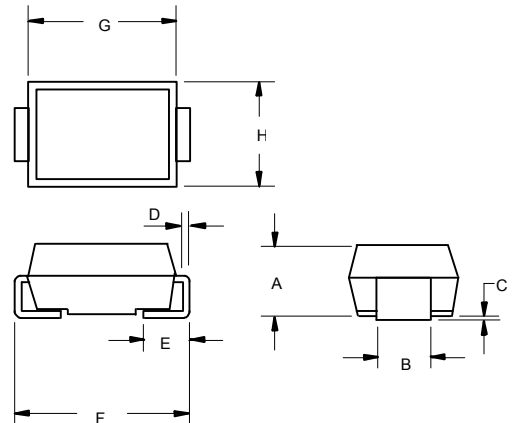
<b>Peak Pulse Current on 10/1000us waveform</b>	<b><math>I_{PP}</math></b>	<b>See Table 1</b>	<b>Note: 1</b>
<b>Peak Pulse Power Dissipation</b>	<b><math>P_{PP}</math></b>	<b>1500W</b>	<b>Note: 1,</b>
<b>Peak Forward Surge Current</b>	<b><math>I_{FSM}</math></b>	<b>200A</b>	<b>Note: 3</b>
<b>Operation And Storage Temperature Range</b>	<b><math>T_J, T_{STG}</math></b>	<b>-55°C to +150°C</b>	

### NOTES:

1. Non-repetitive current pulse, per Fig.3 and derated above  $T_A=25^\circ\text{C}$  per Fig.2.
2. Mounted on 8.0mm<sup>2</sup> copper pads to each terminal.
3. 8.3ms, single half sine wave duty cycle=4 pulses per. Minute maximum.

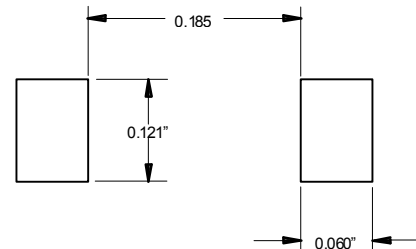
## Transient Voltage Suppressor 6.8 to 550 Volts 1500 Watt

### DO-214AB (SMCJ) (LEAD FRAME)



DIM	DIMENSIONS				NOTE
	INCHES		MM		
A	.079	.103	2.00	2.62	
B	.108	.128	2.75	3.25	
C	.002	.008	0.051	0.203	
D	.006	.012	0.152	0.305	
E	.030	.050	0.76	1.27	
F	.305	.320	7.75	8.13	
G	.260	.280	6.60	7.11	
H	.220	.245	5.59	6.22	

### SUGGESTED SOLDER PAD LAYOUT



# 1.5SMCJ6.8(C)A THRU 1.5SMCJ550(C)A



## ELECTRICAL CHARACTERISTICS @25°C

MCC PART NUMBER	REVERSE STAND-OFF VOLTAGE $V_{WM}$ (VOLTS)	BREAKDOWN VOLTAGE $V_{BR}$ @ $I_T$ (VOLTS)			MAXIMUM CLAMPING VOLTAGE @ $I_{PP}$ (VOLTS)	PEAK PULSE CURRENT $I_{PP}$ (AMPS)	MAXIMUM REVERSE LEAKAGE @ $V_{WM}$ $I_D$ ( $\mu$ A)	MARKING CODE
		MIN	MAX	$I_T$ (mA)				
1.5SMCJ6.8A	5.80	6.45	7.14	10	10.5	144.8	1000	6V8A
1.5SMCJ7.5A	6.40	7.13	7.88	10	11.3	134.5	500	7V5A
1.5SMCJ8.2A	7.02	7.79	8.61	10	12.1	125.6	200	8V2A
1.5SMCJ9.1A	7.78	8.65	9.55	1	13.4	113.4	50	9V1A
1.5SMCJ10A	8.55	9.50	10.50	1	14.5	104.8	10	10A
1.5SMCJ11A	9.40	10.50	11.60	1	15.6	97.4	5	11A
1.5SMCJ12A	10.20	11.40	12.60	1	16.7	91.0	5	12A
1.5SMCJ13A	11.10	12.40	13.70	1	18.2	83.5	5	13A
1.5SMCJ15A	12.80	14.30	15.80	1	21.2	71.7	5	15A
1.5SMCJ16A	13.60	15.20	16.80	1	22.5	67.6	5	16A
1.5SMCJ18A	15.30	17.10	18.90	1	25.5	60.3	5	18A
1.5SMCJ20A	17.10	19.00	21.00	1	27.7	54.9	5	20A
1.5SMCJ22A	18.80	20.90	23.10	1	30.6	49.7	5	22A
1.5SMCJ24A	20.50	22.80	25.20	1	33.2	45.8	5	24A
1.5SMCJ27A	23.10	25.70	28.40	1	37.5	40.5	5	27A
1.5SMCJ30A	25.60	28.50	31.50	1	41.4	36.7	5	30A
1.5SMCJ33A	28.20	31.40	34.70	1	45.7	33.3	5	33A
1.5SMCJ36A	30.80	34.20	37.80	1	49.9	30.5	5	36A
1.5SMCJ39A	33.30	37.10	41.00	1	53.9	28.2	5	39A
1.5SMCJ43A	36.80	40.90	45.20	1	59.3	25.6	5	43A
1.5SMCJ47A	40.20	44.70	49.40	1	64.8	23.5	5	47A
1.5SMCJ51A	43.60	48.50	53.60	1	70.1	21.7	5	51A
1.5SMCJ56A	47.80	53.20	58.80	1	77.0	19.7	5	56A
1.5SMCJ62A	53.00	58.90	65.10	1	85.0	17.9	5	62A
1.5SMCJ68A	58.10	64.60	71.40	1	92.0	16.5	5	68A
1.5SMCJ75A	64.10	71.30	78.80	1	103.0	14.8	5	75A
1.5SMCJ82A	70.10	77.90	86.10	1	113.0	13.5	5	82A
1.5SMCJ91A	77.80	86.50	95.50	1	125.0	12.2	5	91A
1.5SMCJ100A	85.50	95.00	105.00	1	137.0	11.1	5	100A
1.5SMCJ110A	94.00	105.00	116.00	1	152.0	10.0	5	110A
1.5SMCJ120A	102.00	114.00	126.00	1	165.0	9.2	5	120A
1.5SMCJ130A	111.00	124.00	137.00	1	179.0	8.5	5	130A
1.5SMCJ150A	128.00	143.00	158.00	1	207.0	7.3	5	150A
1.5SMCJ160A	136.00	152.00	168.00	1	219.0	6.9	5	160A
1.5SMCJ170A	145.00	162.00	179.00	1	234.0	6.5	5	170A
1.5SMCJ180A	154.00	171.00	189.00	1	246.0	6.2	5	180A
1.5SMCJ200A	171.00	190.00	210.00	1	274.0	5.5	5	200A
1.5SMCJ220A	185.00	209.00	231.00	1	328.0	4.6	5	220A
1.5SMCJ250A	214.00	237.00	263.00	1	344.0	4.4	5	250A
1.5SMCJ300A	256.00	285.00	315.00	1	414.0	3.7	5	300A
1.5SMCJ350A	300.00	332.00	368.00	1	482.0	3.2	5	350A
1.5SMCJ400A	342.00	380.00	420.00	1	548.0	2.8	5	400A
1.5SMCJ440A	376.00	418.00	462.00	1	602.0	2.5	5	440A
1.5SMCJ480A	408.00	456.00	504.00	1	658.0	2.3	5	480A
1.5SMCJ510A	434.00	485.00	535.00	1	698.0	2.1	5	510A
1.5SMCJ530A	477.00	503.50	556.50	1	725.0	2.1	5	530A
1.5SMCJ540A	459.00	513.00	567.00	1	740.0	2.0	5	540A
1.5SMCJ550A	495.00	522.50	577.50	1	760.0	2.0	5	550A

For bi-directional type having  $V_{rwm}$  of 10 volts and less, the  $I_R$  limit is double.

The available parts are "A" type only, the parts without A ( $V_{BR}$  is  $\pm 10\%$ ) is not available.

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		MIN	MAX	$I_T$ (mA)				
1.5SMCJ6.8CA	5.80	6.45	7.14	10	10.5	144.8	1000	6V8C
1.5SMCJ7.5CA	6.40	7.13	7.88	10	11.3	134.5	500	7V5C
1.5SMCJ8.2CA	7.02	7.79	8.61	10	12.1	125.6	200	8V2C
1.5SMCJ9.1CA	7.78	8.65	9.55	1	13.4	113.4	50	9V1C
1.5SMCJ10CA	8.55	9.50	10.50	1	14.5	104.8	10	10C
1.5SMCJ11CA	9.40	10.50	11.60	1	15.6	97.4	5	11C
1.5SMCJ12CA	10.20	11.40	12.60	1	16.7	91.0	5	12C
1.5SMCJ13CA	11.10	12.40	13.70	1	18.2	83.5	5	13C
1.5SMCJ15CA	12.80	14.30	15.80	1	21.2	71.7	5	15C
1.5SMCJ16CA	13.60	15.20	16.80	1	22.5	67.6	5	16C
1.5SMCJ18CA	15.30	17.10	18.90	1	25.5	60.3	5	18C
1.5SMCJ20CA	17.10	19.00	21.00	1	27.7	54.9	5	20C
1.5SMCJ22CA	18.80	20.90	23.10	1	30.6	49.7	5	22C
1.5SMCJ24CA	20.50	22.80	25.20	1	33.2	45.8	5	24C
1.5SMCJ27CA	23.10	25.70	28.40	1	37.5	40.5	5	27C
1.5SMCJ30CA	25.60	28.50	31.50	1	41.4	36.7	5	30C
1.5SMCJ33CA	28.20	31.40	34.70	1	45.7	33.3	5	33C
1.5SMCJ36CA	30.80	34.20	37.80	1	49.9	30.5	5	36C
1.5SMCJ39CA	33.30	37.10	41.00	1	53.9	28.2	5	39C
1.5SMCJ43CA	36.80	40.90	45.20	1	59.3	25.6	5	43C
1.5SMCJ47CA	40.20	44.70	49.40	1	64.8	23.5	5	47C
1.5SMCJ51CA	43.60	48.50	53.60	1	70.1	21.7	5	51C
1.5SMCJ56CA	47.80	53.20	58.80	1	77.0	19.7	5	56C
1.5SMCJ62CA	53.00	58.90	65.10	1	85.0	17.9	5	62C
1.5SMCJ68CA	58.10	64.60	71.40	1	92.0	16.5	5	68C
1.5SMCJ75CA	64.10	71.30	78.80	1	103.0	14.8	5	75C
1.5SMCJ82CA	70.10	77.90	86.10	1	113.0	13.5	5	82C
1.5SMCJ91CA	77.80	86.50	95.50	1	125.0	12.2	5	91C
1.5SMCJ100CA	85.50	95.00	105.00	1	137.0	11.1	5	100C
1.5SMCJ110CA	94.00	105.00	116.00	1	152.0	10.0	5	110C
1.5SMCJ120CA	102.00	114.00	126.00	1	165.0	9.2	5	120C
1.5SMCJ130CA	111.00	124.00	137.00	1	179.0	8.5	5	130C
1.5SMCJ150CA	128.00	143.00	158.00	1	207.0	7.3	5	150C
1.5SMCJ160CA	136.00	152.00	168.00	1	219.0	6.9	5	160C
1.5SMCJ170CA	145.00	162.00	179.00	1	234.0	6.5	5	170C
1.5SMCJ180CA	154.00	171.00	189.00	1	246.0	6.2	5	180C
1.5SMCJ200CA	171.00	190.00	210.00	1	274.0	5.5	5	200C
1.5SMCJ220CA	185.00	209.00	231.00	1	328.0	4.6	5	220C
1.5SMCJ250CA	214.00	237.00	263.00	1	344.0	4.4	5	250C
1.5SMCJ300CA	256.00	285.00	315.00	1	414.0	3.7	5	300C
1.5SMCJ350CA	300.00	332.00	368.00	1	482.0	3.2	5	350C
1.5SMCJ400CA	342.00	380.00	420.00	1	548.0	2.8	5	400C
1.5SMCJ440CA	376.00	418.00	462.00	1	602.0	2.5	5	440C
1.5SMCJ480CA	408.00	456.00	504.00	1	658.0	2.3	5	480C
1.5SMCJ510CA	434.00	485.00	535.00	1	698.0	2.1	5	510C
1.5SMCJ530CA	477.00	503.50	556.50	1	725.0	2.1	5	530C
1.5SMCJ540CA	459.00	513.00	567.00	1	740.0	2.0	5	540C
1.5SMCJ550CA	495.00	522.50	577.50	1	760.0	2.0	5	550C

For bi-directional type having  $V_{rwm}$  of 10 volts and less, the  $I_R$  limit is double.  
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Fig. 1 - Peak Pulse Power Rating

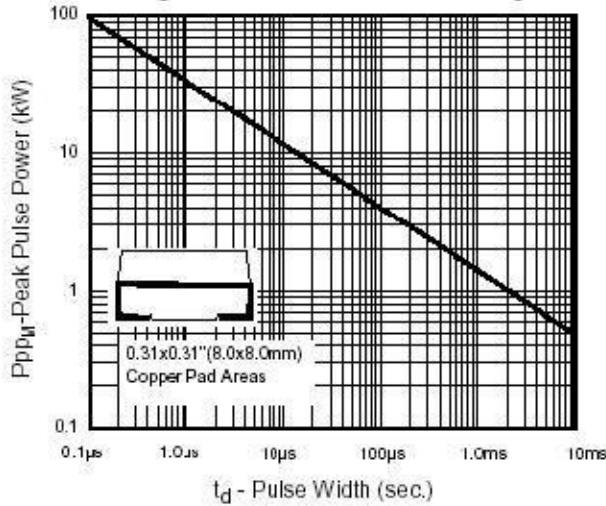


Fig.2 - Pulse Derating Curve

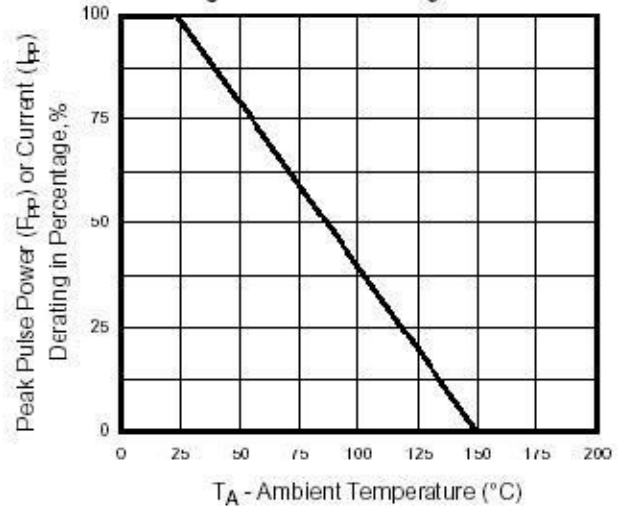


Fig.3 - Pulse Waveform

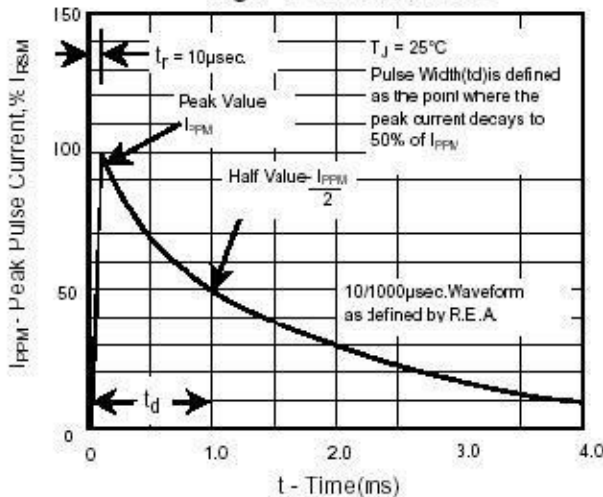


Fig.4 - Typical Junction Capacitance Uni-Directional

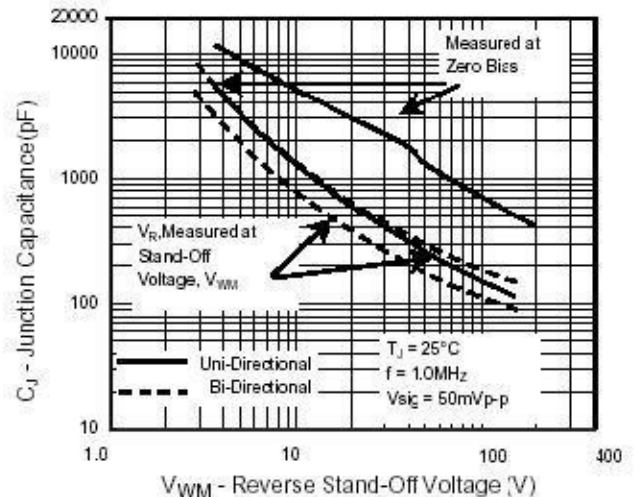


Fig. 5 - Typ. Transient Thermal Impedance

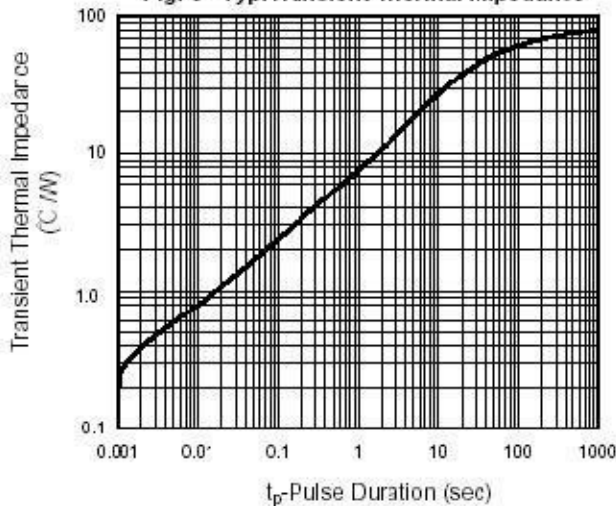


Fig.6 - Maximum Non-Repetitive Forward Surge Current Uni-Directional Use Only

