

# S-1.5SMC\*\*\* CA Series

## SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

VOLTAGE 6.8 TO 440 Volts, 1500 Watt Peak Pulse Power

### 1. FEATURES

- We declare that the material of product compliance with RoHS requirements and Halogen Free.
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- For surface mounted applications in order to optimize board space
- Low profile package
- Built-in strain relief
- Glass passivated junction
- Low inductance
- Excellent clamping capability
- Repetition Rate (duty cycle):0.01%
- Fast response time: typically less than 1.0ps
- Typical IR less than 1uA above 10V
- High temperature soldering guaranteed:  
260°C/10 seconds,
- Weight: 0.26g
- S- prefix for automotive and other applications requiring unique site and control change requirements; AEC-Q101 qualified and PPAP capable.



### 2. MECHANICAL DATA

**Case:** JEDEC DO-214AB (SMC)

**Terminals:** Plated leads, solderable per MIL-STD-202, Method 208

**Polarity:** Without Color band denoted cathode

**Mounting Position:** Any

### 3. MAXIMUM RATINGS(Ta = 25°C)

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

RATING	VALUE	UNITS
Peak Power Dissipation at T <sub>A</sub> =25°C, T <sub>P</sub> =1ms(Note 1)	Minimum 1500	Watts
Steady State Power Dissipation at T <sub>L</sub> =75°C(Note 2)	5.0	Watts
Operating Temperature Range	-55 to +150	°C
Storage Temperature Range	-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 0.31 x 0.31" (8.0 x 8.0mm) copper pads to each terminal.

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Bi-Directional Part Number	Device marking code	Reverse Stand-off Voltage VRWM (V)	Breakdown Voltage VBR (V) Min. @IT	Breakdown Voltage VBR (V) Max. @IT	Test Current IT (mA)	Maximum Clamping Voltage @IPP VC (V)	Peak Pulse Current Ipp (A)	Reverse Leakage @VRWM IR (uA)
S-1.5SMC6.8CA	1.5SMC6.8CA	5.8	6.45	7.14	10	10.5	142.9	1000
S-1.5SMC7.5CA	1.5SMC7.5CA	6.4	7.13	7.88	10	11.3	132.7	500
S-1.5SMC8.2CA	1.5SMC8.2CA	7.02	7.79	8.61	10	12.1	124.0	200
S-1.5SMC9.1CA	1.5SMC9.1CA	7.78	8.65	9.5	1	13.4	111.9	50
S-1.5SMC10CA	1.5SMC10CA	8.55	9.5	10.5	1	14.5	103.4	10
S-1.5SMC11CA	1.5SMC11CA	9.4	10.5	11.6	1	15.6	96.2	1
S-1.5SMC12CA	1.5SMC12CA	10.2	11.4	12.6	1	16.7	89.8	1
S-1.5SMC13CA	1.5SMC13CA	11.1	12.4	13.7	1	18.2	82.4	1
S-1.5SMC15CA	1.5SMC15CA	12.8	14.3	15.8	1	21.2	70.8	1
S-1.5SMC16CA	1.5SMC16CA	13.6	15.2	16.8	1	22.5	66.7	1
S-1.5SMC18CA	1.5SMC18CA	15.3	17.1	18.9	1	25.2	59.5	1
S-1.5SMC20CA	1.5SMC20CA	17.1	19	21	1	27.7	54.2	1
S-1.5SMC22CA	1.5SMC22CA	18.8	20.9	23.1	1	30.6	49.0	1
S-1.5SMC24CA	1.5SMC24CA	20.5	22.8	25.2	1	33.2	45.2	1
S-1.5SMC27CA	1.5SMC27CA	24	25.7	28.4	1	37.5	40.0	1
S-1.5SMC30CA	1.5SMC30CA	25.6	28.5	31.5	1	41.4	36.2	1
S-1.5SMC33CA	1.5SMC33CA	28.2	31.4	34.7	1	45.7	32.8	1
S-1.5SMC36CA	1.5SMC36CA	30.8	34.2	37.8	1	49.9	30.1	1
S-1.5SMC39CA	1.5SMC39CA	33.3	37.1	41	1	53.9	27.8	1
S-1.5SMC43CA	1.5SMC43CA	36.8	40.9	45.2	1	59.3	25.3	1
S-1.5SMC47CA	1.5SMC47CA	40.2	44.7	49.4	1	64.8	23.1	1
S-1.5SMC51CA	1.5SMC51CA	43.6	48.5	53.6	1	70.1	21.4	1
S-1.5SMC56CA	1.5SMC56CA	47.8	53.2	58.8	1	77	19.5	1
S-1.5SMC62CA	1.5SMC62CA	53	58.9	65.1	1	85	17.6	1
S-1.5SMC68CA	1.5SMC68CA	58.1	64.6	71.4	1	92	16.3	1
S-1.5SMC75CA	1.5SMC75CA	64.1	71.3	78.8	1	103	14.6	1
S-1.5SMC82CA	1.5SMC82CA	70.1	77.9	86.1	1	113	13.3	1
S-1.5SMC91CA	1.5SMC91CA	77.8	86.5	95.5	1	125	12.0	1
S-1.5SMC100CA	1.5SMC100CA	85.5	95	105	1	137	10.9	1
S-1.5SMC110CA	1.5SMC110CA	94	105	116	1	152	9.9	1
S-1.5SMC120CA	1.5SMC120CA	102	114	126	1	165	9.1	1
S-1.5SMC130CA	1.5SMC130CA	111	124	137	1	179	8.4	1
S-1.5SMC150CA	1.5SMC150CA	128	143	158	1	207	7.2	1
S-1.5SMC160CA	1.5SMC160CA	136	152	168	1	219	6.8	1
S-1.5SMC170CA	1.5SMC170CA	145	162	179	1	234	6.4	1
S-1.5SMC180CA	1.5SMC180CA	154	171	189	1	246	6.1	1
S-1.5SMC200CA	1.5SMC200CA	171	190	210	1	274	5.5	1
S-1.5SMC220CA	1.5SMC220CA	185	209	231	1	328	4.6	1
S-1.5SMC250CA	1.5SMC250CA	214	237	263	1	344	4.4	1
S-1.5SMC300CA	1.5SMC300CA	256	285	315	1	414	3.6	1
S-1.5SMC350CA	1.5SMC350CA	300	333	367	1	482	3.1	1
S-1.5SMC400CA	1.5SMC400CA	342	380	420	1	548	2.7	1
S-1.5SMC440CA	1.5SMC440CA	376	418	462	1	602	2.5	1

### 5. ELECTRICAL CHARACTERISTICS CURVES

Fig. 1-Peak Pulse Power Rating Curve

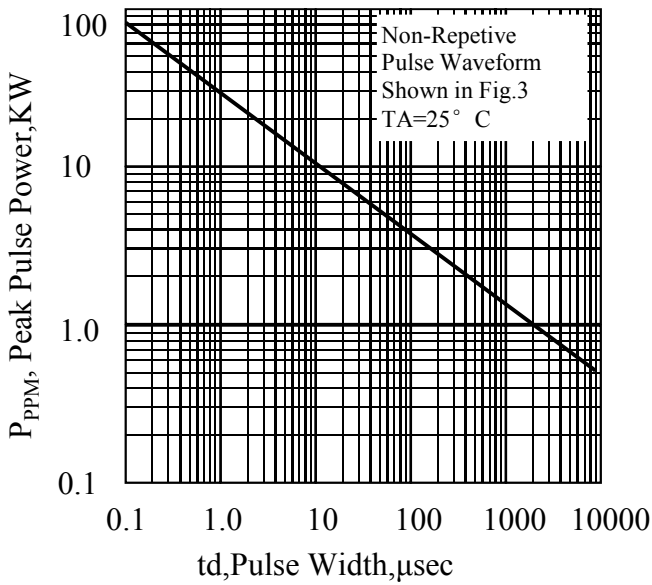


Fig. 2-Pulse Derating Curve

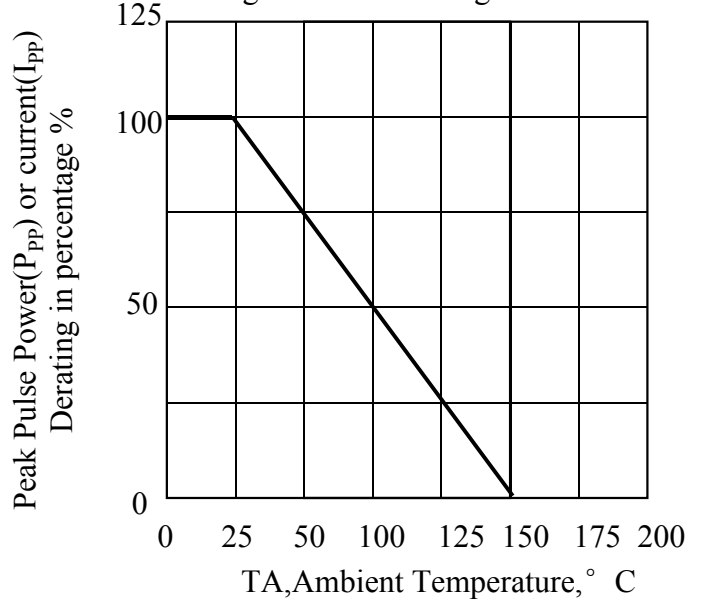


Fig. 3-Pulse Waveform

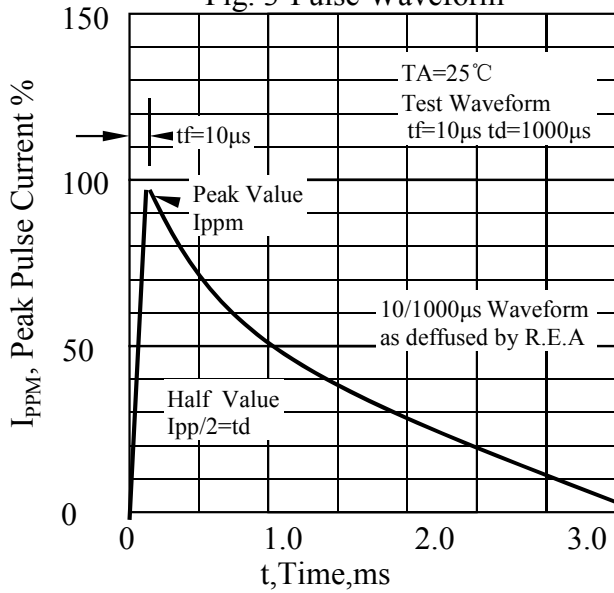
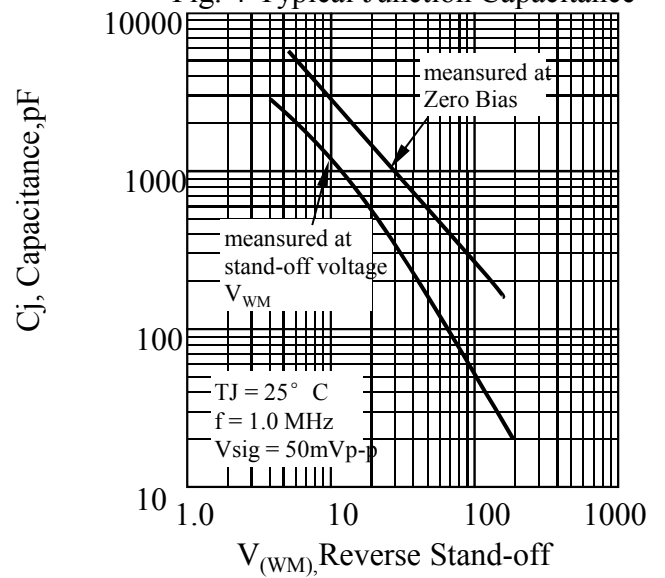
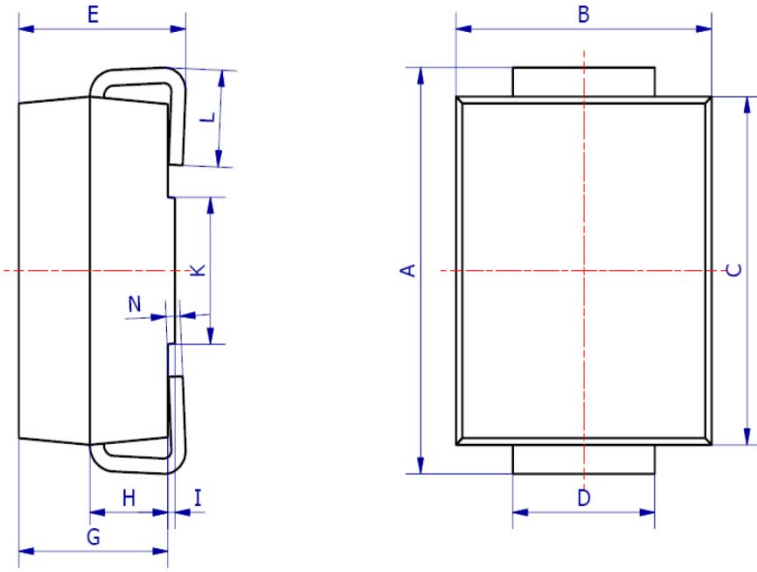


Fig. 4-Typical Junction Capacitance

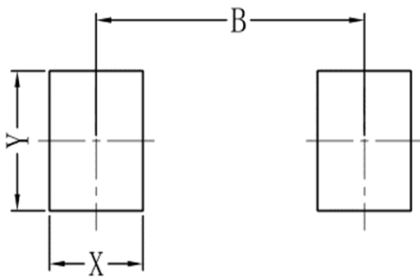


### 6. OUTLINE AND DIMENSIONS



SMC			
DIM	Min	Max	Typ.
A	7.70	8.30	8.00
B	5.85	6.25	6.05
C	6.65	7.05	6.85
D	2.80	3.20	3.00
E	2.45	2.85	2.65
G	2.10	2.50	2.30
H	1.00	1.40	1.20
I	0.05	0.15	0.10
K	4.30	4.70	4.50
L	1.00	1.50	1.25
N	0.10	0.30	0.20
All Dimensions in mm			

### 7. SOLDERING FOOTPRINT



SMC	
DIM	(mm)
X	1.60
Y	3.30
B	6.60