

S-5.0SMDJ*** CA Series

SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

VOLTAGE 11 TO 170 Volts, 5000 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 $T_A=25^\circ\text{C}$, $T_P=1\text{ms}$ (Note 1)	Minimum 5000	Watts
Steady State Power Dissipation at $T_L=75^\circ\text{C}$ (Note 2)	6.5	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 $T_A=25^\circ\text{C}$ 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-5.0SMDJ11CA	5.0SMDJ11CA	11	12.2	13.5	10	18.2	275.0	800
S-5.0SMDJ12CA	5.0SMDJ12CA	12	13.3	14.7	10	19.9	252.0	800
S-5.0SMDJ13CA	5.0SMDJ13CA	13	14.4	15.9	10	21.5	233.0	500
S-5.0SMDJ14CA	5.0SMDJ14CA	14	15.6	17.2	10	23.2	216.0	200
S-5.0SMDJ15CA	5.0SMDJ15CA	15	16.7	18.5	1	24.4	205.0	100
S-5.0SMDJ16CA	5.0SMDJ16CA	16	17.8	19.7	1	26	193.0	50
S-5.0SMDJ17CA	5.0SMDJ17CA	17	18.9	20.9	1	27.6	181.0	20
S-5.0SMDJ18CA	5.0SMDJ18CA	18	20	22.1	1	29.2	172.0	10
S-5.0SMDJ20CA	5.0SMDJ20CA	20	22.2	24.5	1	32.4	155.0	5
S-5.0SMDJ22CA	5.0SMDJ22CA	22	24.4	26.9	1	35.5	141.0	5
S-5.0SMDJ24CA	5.0SMDJ24CA	24	26.7	29.5	1	38.9	129.0	2
S-5.0SMDJ26CA	5.0SMDJ26CA	26	28.9	31.9	1	42.1	119.0	2
S-5.0SMDJ28CA	5.0SMDJ28CA	28	31.1	34.4	1	45.4	110.0	2
S-5.0SMDJ30CA	5.0SMDJ30CA	30	33.3	36.8	1	48.4	103.0	2
S-5.0SMDJ33CA	5.0SMDJ33CA	33	36.7	40.6	1	53.3	93.9	2
S-5.0SMDJ36CA	5.0SMDJ36CA	36	40	44.2	1	58.1	86.1	2
S-5.0SMDJ40CA	5.0SMDJ40CA	40	44.4	49.1	1	64.5	77.6	2
S-5.0SMDJ43CA	5.0SMDJ43CA	43	47.8	52.8	1	69.4	72.1	2
S-5.0SMDJ45CA	5.0SMDJ45CA	45	50	55.3	1	72.7	68.8	2
S-5.0SMDJ48CA	5.0SMDJ48CA	48	53.3	58.9	1	77.4	64.7	2
S-5.0SMDJ51CA	5.0SMDJ51CA	51	56.7	62.7	1	82.4	60.7	2
S-5.0SMDJ54CA	5.0SMDJ54CA	54	60	66.3	1	87.1	57.5	2
S-5.0SMDJ58CA	5.0SMDJ58CA	58	64.4	71.2	1	93.6	53.5	2
S-5.0SMDJ60CA	5.0SMDJ60CA	60	66.7	73.7	1	96.8	51.7	2
S-5.0SMDJ64CA	5.0SMDJ64CA	64	71.1	78.6	1	103	48.6	2
S-5.0SMDJ70CA	5.0SMDJ70CA	70	77.8	86	1	113	44.3	2
S-5.0SMDJ75CA	5.0SMDJ75CA	75	83.3	92.1	1	121	41.4	2
S-5.0SMDJ78CA	5.0SMDJ78CA	78	86.7	95.8	1	126	39.7	2
S-5.0SMDJ85CA	5.0SMDJ85CA	85	94.4	104	1	137	36.5	2
S-5.0SMDJ90CA	5.0SMDJ90CA	90	100	111	1	146	34.3	2
S-5.0SMDJ100CA	5.0SMDJ100CA	100	111	123	1	162	30.9	2
S-5.0SMDJ110CA	5.0SMDJ110CA	110	122	135	1	177	28.3	2
S-5.0SMDJ120CA	5.0SMDJ120CA	120	133	147	1	193	26.0	2
S-5.0SMDJ130CA	5.0SMDJ130CA	130	144	159	1	209	24.0	2
S-5.0SMDJ150CA	5.0SMDJ150CA	150	167	185	1	243	20.6	2
S-5.0SMDJ160CA	5.0SMDJ160CA	160	178	197	1	259	19.3	2
S-5.0SMDJ170CA	5.0SMDJ170CA	170	189	209	1	275	18.2	2

5. ELECTRICAL CHARACTERISTICS CURVES

Fig. 1-Peak Pulse Power Rating Curve

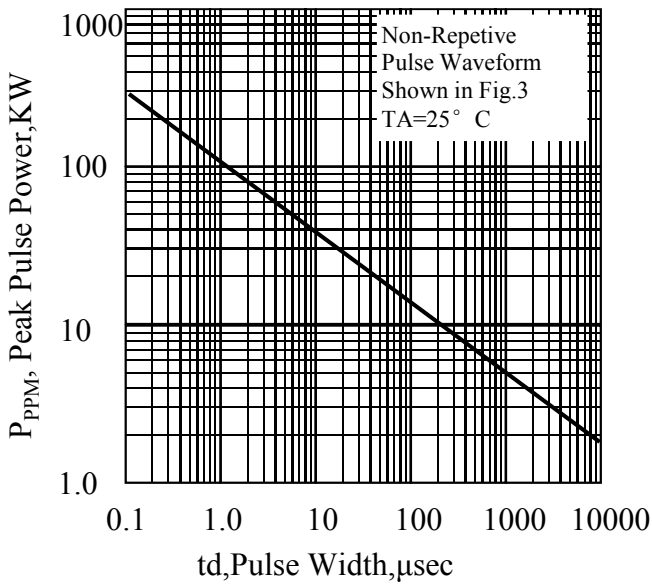


Fig. 2-Pulse Derating Curve

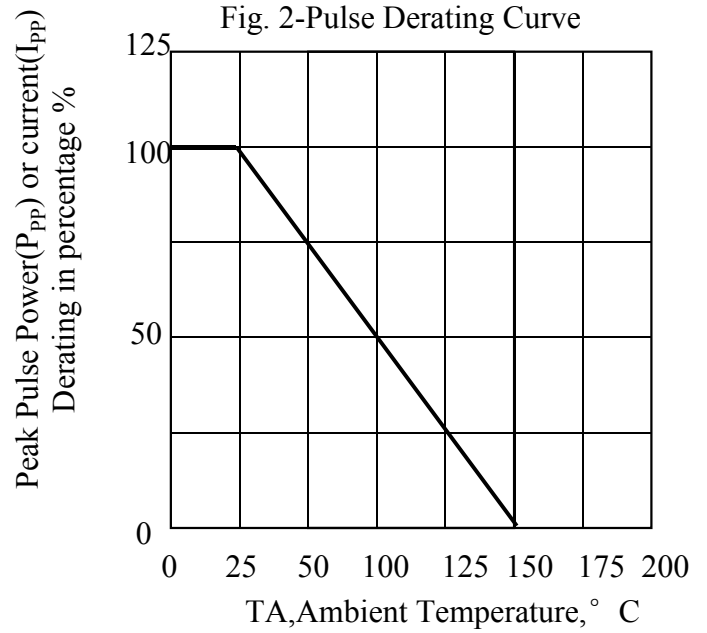
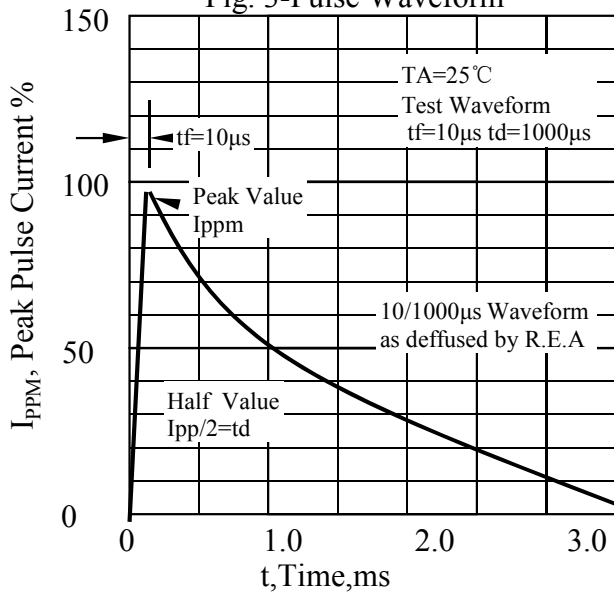
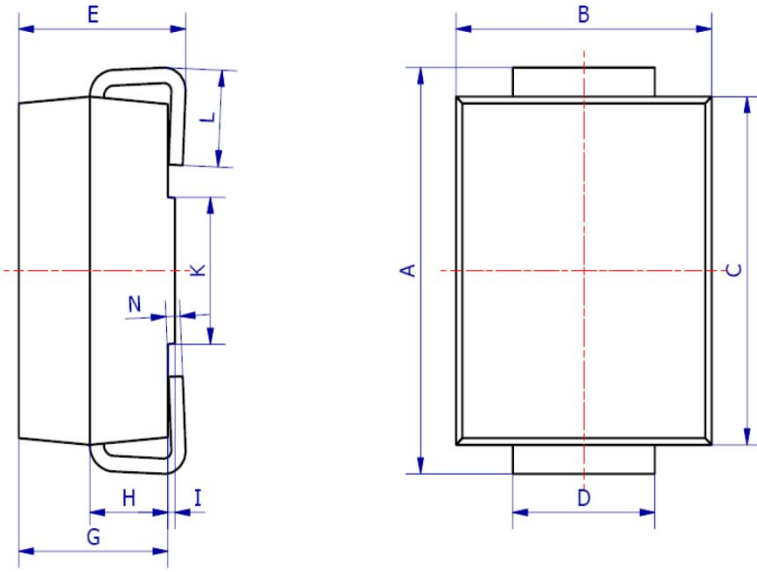


Fig. 3-Pulse Waveform

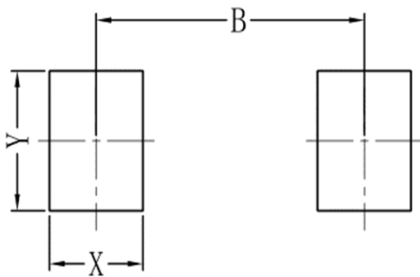


6. OUTLINE AND DIMENSIONS



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

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