

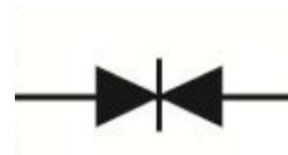
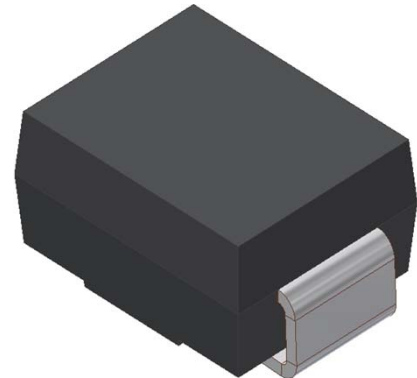
# S-SMBJ\*\*\* CASeries

## SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

VOLTAGE 5.0 TO 250 Volts, 600 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 1mA above 10V
- High temperature soldering guaranteed: 260°C/10 seconds,
- S- prefix for automotive and other applications requiring unique site and control change requirements; AEC-Q101 qualified and PPAP capable.
- Weight: 0.088g



### 2. MECHANICAL DATA

**Case:** Epoxy, Molded

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

**Polarity:** Without Color band denoted cathode

**Mounting Position:** Any

### 3. MAXIMUM RATINGS(T<sub>a</sub> = 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 600	Watts
Steady State Power Dissipation at T <sub>L</sub> =75°C(Note 2)	3.0	Watts
Operating Temperature Range	-55 to +150	°C
Storage Temperature Range	-55 to +150	°C

NOTES:

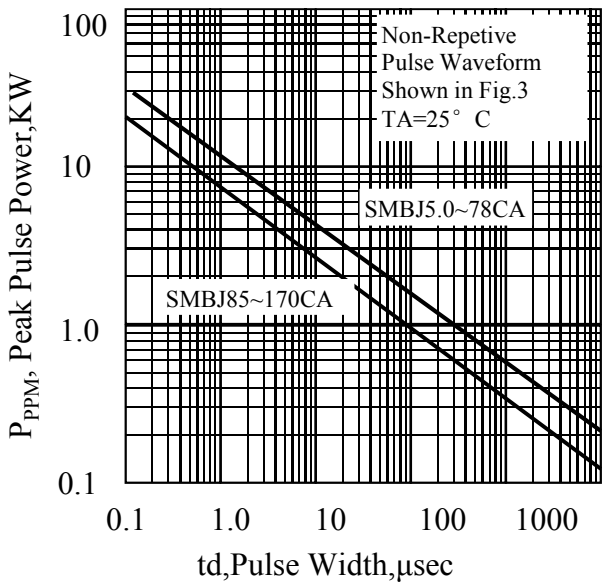
1. Non-repetitive current pulse, per Fig. 3 and derated above T<sub>A</sub>=25°C per Fig. 2.
2. Mounted on Copper Leaf area of 1.57in<sup>2</sup>(40mm<sup>2</sup>).
3. 8.3ms single half sine-wave, duty cycle= 4 pulses per minutes maximum.

## S-SMBJ\*\*\* CA Series

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-SMBJ5.0CA	SMBJ5.0CA	5.00	6.40	7.00	10.00	9.20	65.30	800
S-SMBJ6.0CA	SMBJ6.0CA	6.00	6.67	7.37	10.00	10.30	58.30	800
S-SMBJ6.5CA	SMBJ6.5CA	6.50	7.22	7.98	10.00	11.20	53.60	500
S-SMBJ7.0CA	SMBJ7.0CA	7.00	7.78	8.60	10.00	12.00	50.00	200
S-SMBJ7.5CA	SMBJ7.5CA	7.50	8.33	9.21	1.00	12.90	46.60	100
S-SMBJ8.0CA	SMBJ8.0CA	8.00	8.89	9.83	1.00	13.60	44.20	50
S-SMBJ8.5CA	SMBJ8.5CA	8.50	9.44	10.40	1.00	14.40	41.70	20
S-SMBJ9.0CA	SMBJ9.0CA	9.00	10.00	11.10	1.00	15.40	39.00	10
S-SMBJ10CA	SMBJ10CA	10.00	11.10	12.30	1.00	17.00	35.30	1
S-SMBJ11CA	SMBJ11CA	11.00	12.20	13.50	1.00	18.20	33.00	1
S-SMBJ12CA	SMBJ12CA	12.00	13.30	14.70	1.00	19.90	30.20	1
S-SMBJ13CA	SMBJ13CA	13.00	14.40	15.90	1.00	21.50	28.00	1
S-SMBJ14CA	SMBJ14CA	14.00	15.60	17.20	1.00	23.20	25.90	1
S-SMBJ15CA	SMBJ15CA	15.00	16.70	18.50	1.00	24.40	24.60	1
S-SMBJ16CA	SMBJ16CA	16.00	17.80	19.70	1.00	26.00	23.10	1
S-SMBJ17CA	SMBJ17CA	17.00	18.90	20.90	1.00	27.60	21.80	1
S-SMBJ18CA	SMBJ18CA	18.00	20.00	22.10	1.00	29.20	20.60	1
S-SMBJ20CA	SMBJ20CA	20.00	22.20	24.50	1.00	32.40	18.60	1
S-SMBJ22CA	SMBJ22CA	22.00	24.40	26.90	1.00	35.50	16.90	1
S-SMBJ24CA	SMBJ24CA	24.00	26.70	29.50	1.00	38.90	15.50	1
S-SMBJ26CA	SMBJ26CA	26.00	28.90	31.90	1.00	42.10	14.30	1
S-SMBJ28CA	SMBJ28CA	28.00	31.10	34.40	1.00	45.40	13.30	1
S-SMBJ30CA	SMBJ30CA	30.00	33.30	36.80	1.00	48.40	12.40	1
S-SMBJ33CA	SMBJ33CA	33.00	36.70	40.60	1.00	53.30	11.30	1
S-SMBJ36CA	SMBJ36CA	36.00	40.00	44.20	1.00	58.10	10.40	1
S-SMBJ40CA	SMBJ40CA	40.00	44.40	49.10	1.00	64.50	9.30	1
S-SMBJ43CA	SMBJ43CA	43.00	47.80	52.80	1.00	69.40	8.70	1
S-SMBJ45CA	SMBJ45CA	45.00	50.00	55.30	1.00	72.70	8.30	1
S-SMBJ48CA	SMBJ48CA	48.00	53.30	58.90	1.00	77.40	7.80	1
S-SMBJ51CA	SMBJ51CA	51.00	56.70	62.70	1.00	82.40	7.30	1
S-SMBJ54CA	SMBJ54CA	54.00	60.00	66.30	1.00	87.10	6.90	1
S-SMBJ58CA	SMBJ58CA	58.00	64.40	71.20	1.00	93.60	6.50	1
S-SMBJ60CA	SMBJ60CA	60.00	66.70	73.70	1.00	96.80	6.20	1
S-SMBJ64CA	SMBJ64CA	64.00	71.10	78.60	1.00	103.00	5.90	1
S-SMBJ70CA	SMBJ70CA	70.00	77.80	86.00	1.00	113.00	5.30	1
S-SMBJ75CA	SMBJ75CA	75.00	83.30	92.10	1.00	121.00	5.00	1
S-SMBJ78CA	SMBJ78CA	78.00	86.70	95.80	1.00	126.00	4.80	1
S-SMBJ85CA	SMBJ85CA	85.00	94.40	104.00	1.00	137.00	4.40	1
S-SMBJ90CA	SMBJ90CA	90.00	100.00	111.00	1.00	146.00	4.10	1
S-SMBJ100CA	SMBJ100CA	100.00	111.00	123.00	1.00	162.00	3.70	1
S-SMBJ110CA	SMBJ110CA	110.00	122.00	135.00	1.00	177.00	3.40	1
S-SMBJ120CA	SMBJ120CA	120.00	133.00	147.00	1.00	193.00	3.10	1
S-SMBJ130CA	SMBJ130CA	130.00	144.00	159.00	1.00	209.00	2.90	1
S-SMBJ150CA	SMBJ150CA	150.00	167.00	185.00	1.00	243.00	2.50	1
S-SMBJ160CA	SMBJ160CA	160.00	178.00	197.00	1.00	259.00	2.30	1
S-SMBJ170CA	SMBJ170CA	170.00	189.00	209.00	1.00	275.00	2.20	1
S-SMBJ180CA	SMBJ180CA	180.00	198.00	221.00	1.00	291.00	2.10	1
S-SMBJ190CA	SMBJ190CA	190.00	209.00	233.00	1.00	307.00	2.00	1
S-SMBJ200CA	SMBJ200CA	200.00	220.00	246.00	1.00	324.00	1.90	1
S-SMBJ220CA	SMBJ220CA	220.00	246.00	272.00	1.00	356.00	1.70	1
S-SMBJ250CA	SMBJ250CA	250.00	279.00	309.00	1.00	405.00	1.50	1

### 5. ELECTRICAL CHARACTERISTICS CURVES

Fig. 1-Peak Pulse Power Rating Curve



Peak Pulse Power( $P_{pp}$ ) or current( $I_{pp}$ ) Derating in percentage %

Fig. 2-Pulse Derating Curve

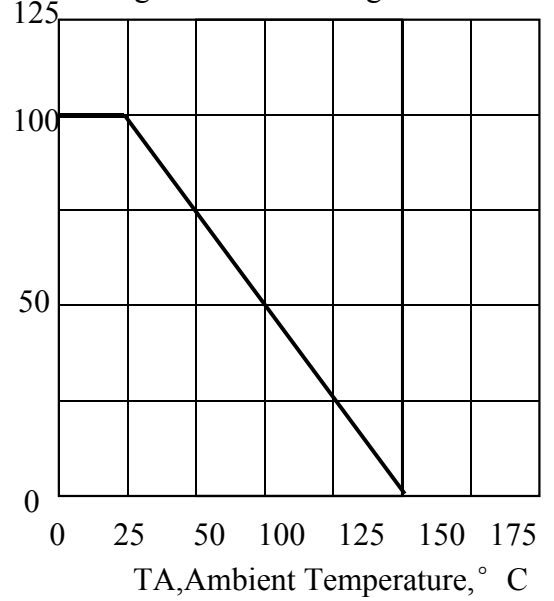


Fig. 3-Pulse Waveform

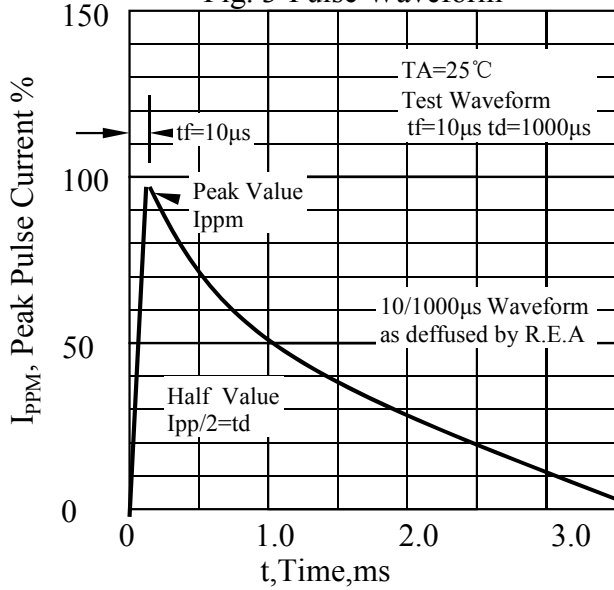
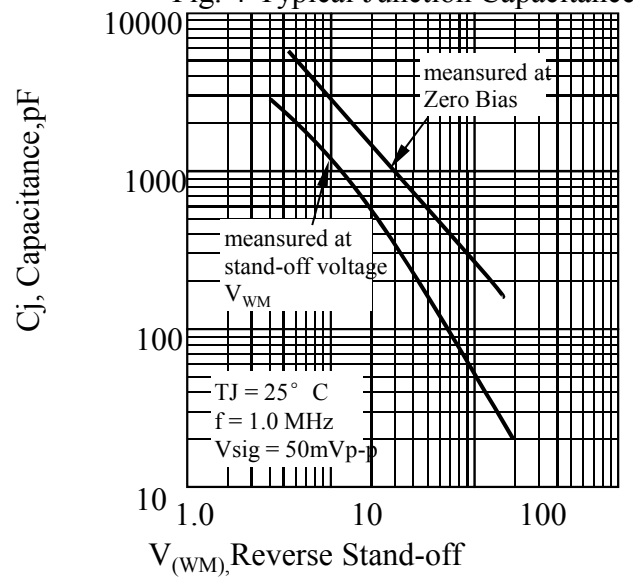
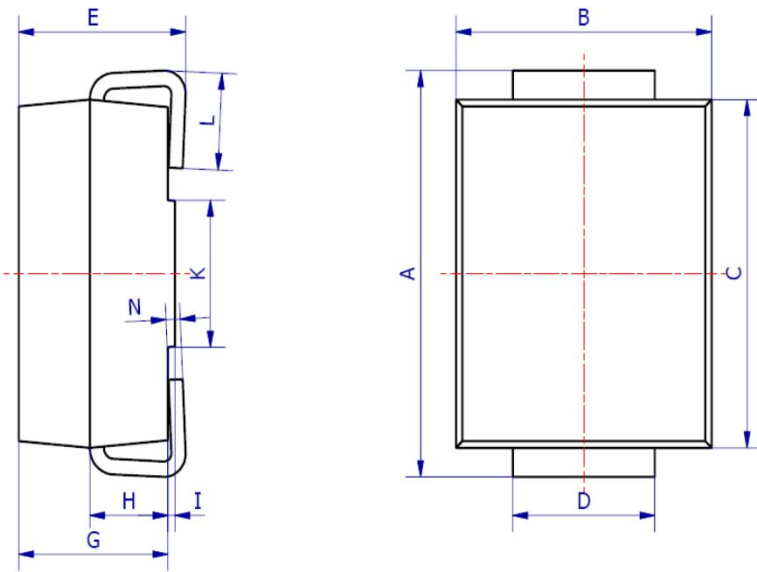


Fig. 4-Typical Junction Capacitance

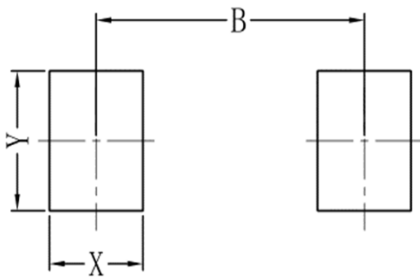


### 6. OUTLINE AND DIMENSIONS



SMB			
DIM	Min	Max	Typ.
A	5.00	5.45	5.25
B	3.20	4.00	3.60
C	4.30	4.70	4.50
D	1.80	2.20	2.00
E	2.20	2.50	2.35
G	1.90	2.30	2.10
H	0.95	1.25	1.10
I	0.05	0.15	0.10
K	1.70	2.10	1.90
L	0.90	1.50	1.20
N	0.10	0.30	0.20
All Dimensions in mm			

### 7. SOLDERING FOOTPRINT



SMB	
DIM	(mm)
X	1.60
Y	2.20
B	4.60

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