

P6SMB*** CA Series

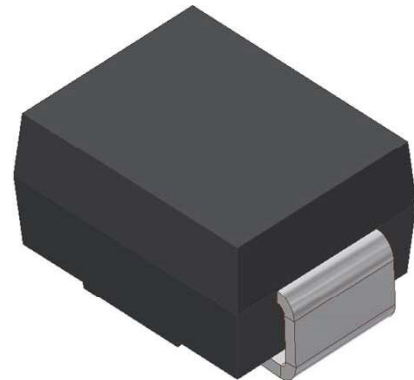
SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

VOLTAGE 6.8 TO 600 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

SMB
(JEDEC DO-214AA)



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 (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 600	Watts
Steady State Power Dissipation at $T_L=75^\circ\text{C}$ (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 $T_A=25^\circ\text{C}$ per Fig. 2.
2. Mounted on Copper Leaf area of 1.57in²(40mm²).
3. 8.3ms single half sine-wave, duty cycle= 4 pulses per minutes maximum.

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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 @PP VC (V)	Peak Pulse Current Ipp (A)	Reverse Leakage @VRWM IR (uA)
P6SMB6.8CA	6.8CA	5.80	6.45	7.14	10.0	10.5	58.10	500
P6SMB7.5CA	7.5CA	6.40	7.13	7.88	10.0	11.3	54.00	500
P6SMB8.2CA	8.2CA	7.02	7.79	8.61	10.0	12.1	50.40	200
P6SMB9.1CA	9.1CA	7.78	8.65	9.55	1.0	13.4	45.50	50
P6SMB10CA	10CA	8.55	9.50	10.50	1.0	14.5	42.10	10
P6SMB11CA	11CA	9.40	10.50	11.60	1.0	15.6	39.10	5
P6SMB12CA	12CA	10.20	11.40	12.60	1.0	16.7	36.50	5
P6SMB13CA	13CA	11.10	12.40	13.70	1.0	18.2	33.50	1
P6SMB15CA	15CA	12.80	14.30	15.80	1.0	21.2	28.80	1
P6SMB16CA	16CA	13.60	15.20	16.80	1.0	22.5	27.10	1
P6SMB18CA	18CA	15.30	17.10	18.90	1.0	25.5	24.20	1
P6SMB20CA	20CA	17.10	19.00	21.00	1.0	27.7	22.00	1
P6SMB22CA	22CA	18.80	20.90	23.10	1.0	30.6	19.90	1
P6SMB24CA	24CA	20.50	22.80	25.20	1.0	33.2	18.40	1
P6SMB27CA	27CA	23.10	25.70	28.40	1.0	37.5	16.30	1
P6SMB30CA	30CA	25.60	28.50	31.50	1.0	41.4	14.70	1
P6SMB33CA	33CA	28.20	31.40	34.70	1.0	45.7	13.30	1
P6SMB36CA	36CA	30.80	34.20	37.80	1.0	49.9	12.20	1
P6SMB39CA	39CA	33.30	37.10	41.00	1.0	53.9	11.30	1
P6SMB43CA	43CA	36.80	40.90	45.20	1.0	59.3	10.30	1
P6SMB47CA	47CA	40.20	44.70	49.40	1.0	64.8	9.40	1
P6SMB51CA	51CA	43.60	48.50	53.60	1.0	70.1	8.70	1
P6SMB56CA	56CA	47.80	53.20	58.80	1.0	77.0	7.90	1
P6SMB58CA	58CA	52.78	55.10	60.90	1.0	79.8	7.70	1
P6SMB62CA	62CA	53.00	58.90	65.10	1.0	85.0	7.20	1
P6SMB68CA	68CA	58.10	64.60	71.40	1.0	92.0	6.60	1
P6SMB75CA	75CA	64.10	71.30	78.80	1.0	103.0	5.90	1
P6SMB82CA	82CA	70.10	77.90	86.10	1.0	113.0	5.40	1
P6SMB91CA	91CA	77.80	86.50	95.50	1.0	125.0	4.90	1
P6SMB100CA	100CA	85.5	95.0	105.0	1.0	137.0	4.50	1
P6SMB110CA	110CA	94.0	105.0	116.0	1.0	152.0	4.00	1
P6SMB120CA	120CA	102.0	114.0	126.0	1.0	165.0	3.70	1
P6SMB130CA	130CA	111.0	124.0	137.0	1.0	179.0	3.40	1
P6SMB150CA	150CA	128.0	143.0	158.0	1.0	207.0	2.90	1
P6SMB160CA	160CA	136.0	152.0	168.0	1.0	219.0	2.80	1
P6SMB170CA	170CA	145.0	162.0	179.0	1.0	234.0	2.60	1
P6SMB180CA	180CA	154.0	171.0	189.0	1.0	246.0	2.50	1
P6SMB200CA	200CA	171.0	190.0	210.0	1.0	274.0	2.20	1
P6SMB210CA	210CA	179.6	199.5	220.5	1.0	288.0	2.10	1
P6SMB220CA	220CA	185.0	209.0	231.0	1.0	328.0	1.90	1
P6SMB250CA	250CA	214.0	237.0	263.0	1.0	344.0	1.80	1
P6SMB300CA	300CA	256.0	285.0	315.0	1.0	414.0	1.50	1
P6SMB350CA	350CA	300.0	332.0	368.0	1.0	482.0	1.30	1
P6SMB400CA	400CA	342.0	380.0	420.0	1.0	548.0	1.10	1
P6SMB440CA	440CA	376.0	418.0	462.0	1.0	602.0	1.00	1
P6SMB480CA	480CA	408.0	456.0	504.0	1.0	658.0	0.90	1
P6SMB510CA	510CA	434.0	485.0	535.0	1.0	698.0	0.90	1
P6SMB530CA	530CA	451.0	503.5	556.5	1.0	725.0	0.80	1
P6SMB540CA	540CA	460.0	513.0	567.0	1.0	740.0	0.80	1
P6SMB550CA	550CA	468.0	522.5	577.5	1.0	760.0	0.80	1
P6SMB600CA	600CA	512.0	570.0	630.0	1.0	828.0	0.75	1

5. ELECTRICAL CHARACTERISTICS CURVES

Fig. 1-Peak Pulse Power Rating Curve

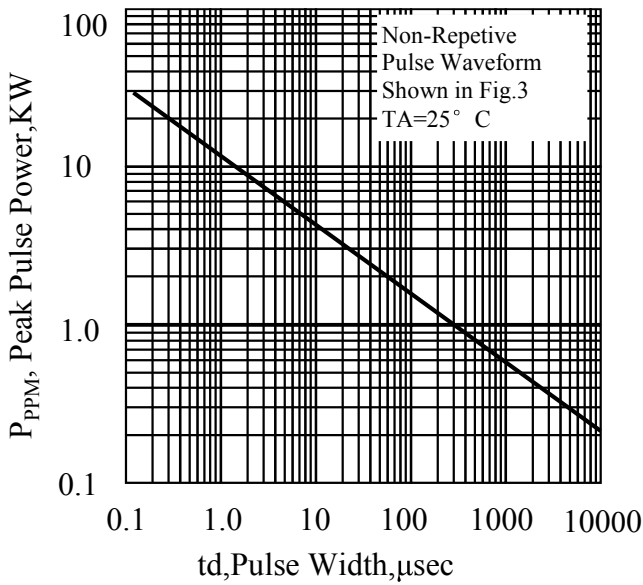


Fig. 2-Pulse Derating Curve

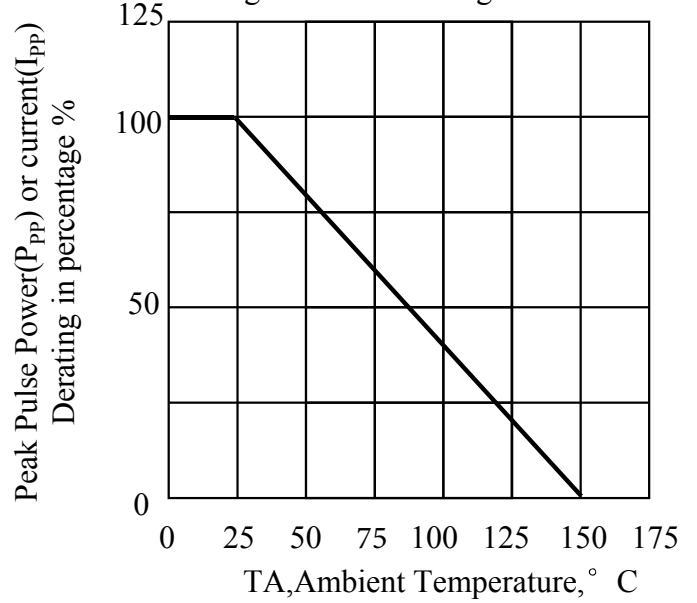


Fig. 3-Pulse Waveform

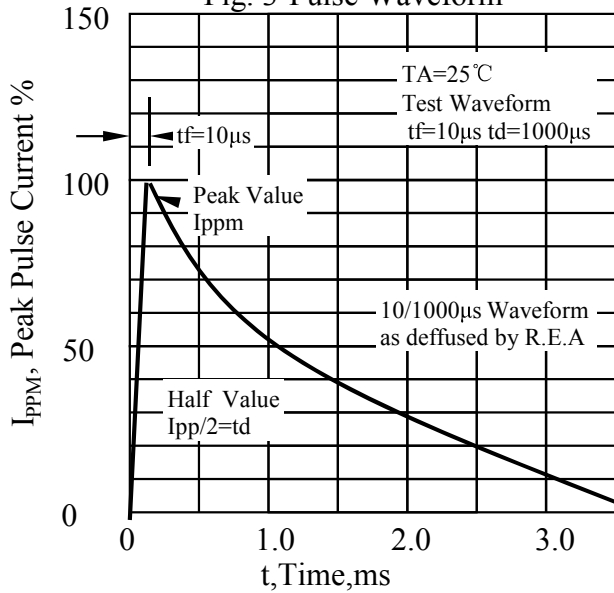
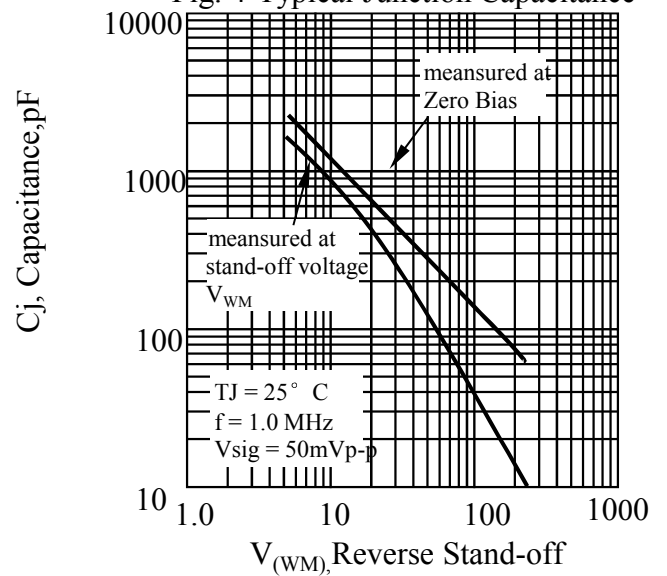
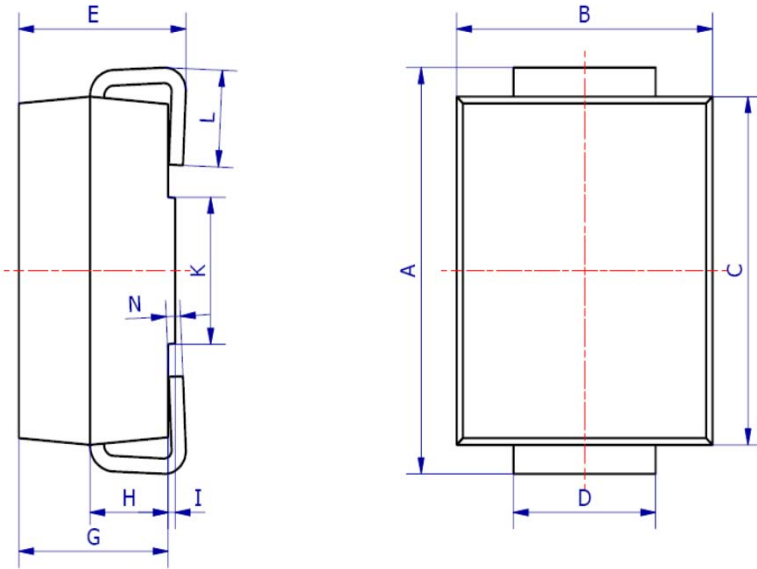


Fig. 4-Typical Junction Capacitance

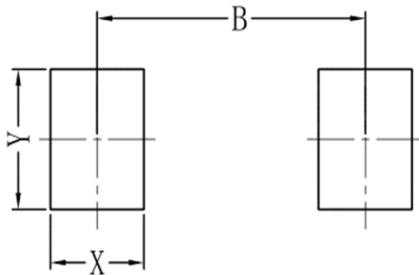


6. OUTLINE AND DIMENSIONS



SMB			
DIM	Min	Max	Typ.
A	5.20	5.45	5.25
B	3.20	4.00	3.60
C	4.30	4.60	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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