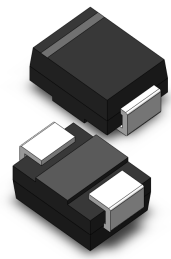
SMB10J5.0/A- SMB10J40/A

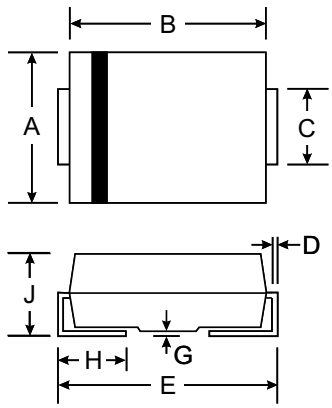
SURFACE MOUNT TRANSIENT VOLAGE SUPPESSOR

VOLTAGE RANGE: 5.0 - 40V
POWER: 1000 Watts



Features

- Low profile package
- Ideal for automated placement
- Glass passivated chip junction
- Available in uni-directional and bi-directional
- Excellent clamping capability
- Very fast response time
- Low incremental surge resistance



SMB(DO-214AA)		
Dim	**Min**	**Max**
A	3.30	3.94
B	4.06	4.70
C	1.91	2.21
D	0.15	0.31
E	5.00	5.59
G	0.10	0.20
H	0.76	1.52
J	2.00	2.62
All Dimensions in mm		

Mechanical Data

- Case: SMB/DO-214AA, Molded Plastic
- Terminals: Solder Plated, Solderable per MIL-STD-750, Method 2026
- Polarity: Cathode Band or Cathode Notch
- Marking: Type Number
- Weight: 0.093 grams (approx.)

RoHS COMPLIANT

Maximum Ratings @ T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Peak pulse power dissipation with a 10/1000 µs waveform (1)(2) (Fig. 1) uni-directional bi-directional	P_{PPM}	1000	W
Peak pulse current with a 10/1000 µs waveform (1)	I_{PPM}	See next table	A
Peak forward surge current 8.3 ms single half sine-wave uni-directional only (2)	I_{FSM}	100	A
Operating junction and storage temperature range	T_J, T_{STG}	- 55 to + 150	°C

Notes:

(1) Non-repetitive current pulse, per Fig. 3 and derated above T_A = 25 °C per Fig. 2

(2) Mounted on 0.2 x 0.2" (5.0 x 5.0 mm) copper pads to each terminal

ELECTRICAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)

TYPE	Marking	Breakdown Voltage Min. @I_T	Breakdown Voltage Max. @ I_T	Test Current	Reverse Stand-Off Voltage	Maximum Reverse Leakage AT V_{WM}	Peak Pulse Current	Clamping Voltage @I_{PP}
		$V_{BR\ MIN}$(V)	$V_{BR\ MAX}$(V)	I_T (mA)	V_{RWM}(V)	I_D (μA)	I_{PP}(A)	V_C(V)
SMB10J5.0	1AD	6.40	7.82	10	5.0	1000	104.2	9.6
SMB10J5.0A	1AE	6.40	7.07	10	5.0	1000	108.7	9.2
SMB10J6.0	1AF	6.67	8.15	10	6.0	1000	87.7	11.4
SMB10J6.0A	1AG	6.67	7.37	10	6.0	1000	97.1	10.3
SMB10J6.5	1AH	7.22	8.82	10	6.5	500	81.3	12.3
SMB10J6.5A	1AK	7.22	7.98	10	6.5	500	89.3	11.2
SMB10J7.0	1AL	7.78	9.51	10	7.0	200	75.2	13.3
SMB10J7.0A	1AM	7.78	8.60	10	7.0	200	83.3	12.0
SMB10J7.5	1AN	8.33	10.2	1.0	7.5	100	69.9	14.3
SMB10J7.5A	1AP	8.33	9.21	1.0	7.5	100	77.5	12.9
SMB10J8.0	1AQ	8.89	10.9	1.0	8.0	50	66.7	15.0
SMB10J8.0A	1AR	8.89	9.83	1.0	8.0	50	73.5	13.6
SMB10J8.5	1AS	9.44	11.5	1.0	8.5	20	62.9	15.9
SMB10J8.5A	1AT	9.44	10.4	1.0	8.5	20	69.4	14.4
SMB10J9.0	1AU	10.0	12.2	1.0	9.0	10	59.2	16.9
SMB10J9.0A	1AV	10.0	11.1	1.0	9.0	10	64.9	15.4
SMB10J10	1AW	11.1	13.6	1.0	10	5.0	53.2	18.8
SMB10J10A	1AX	11.1	12.3	1.0	10	5.0	58.8	17.0
SMB10J11	1AY	12.2	14.9	1.0	11	5.0	49.8	20.1
SMB10J11A	1AZ	12.2	13.5	1.0	11	5.0	54.9	18.2
SMB10J12	1BD	13.3	16.3	1.0	12	5.0	45.5	22.0
SMB10J12A	1BE	13.3	14.7	1.0	12	5.0	50.3	19.9
SMB10J13	1BF	14.4	17.6	1.0	13	1.0	42.0	23.8
SMB10J13A	1BG	14.4	15.9	1.0	13	1.0	46.5	21.5
SMB10J14	1BH	15.6	19.1	1.0	14	1.0	38.8	25.8
SMB10J14A	1BK	15.6	17.2	1.0	14	1.0	43.1	23.2
SMB10J15	1BL	16.7	20.4	1.0	15	1.0	37.2	26.9
SMB10J15A	1BM	16.7	18.5	1.0	15	1.0	41.0	24.4
SMB10J16	1BN	17.8	21.8	1.0	16	1.0	34.7	28.8
SMB10J16A	1BP	17.8	19.7	1.0	16	1.0	38.5	26.0
SMB10J17	1BQ	18.9	23.1	1.0	17	1.0	32.8	30.5
SMB10J17A	1BR	18.9	20.9	1.0	17	1.0	36.2	27.6
SMB10J18	1BS	20.0	24.4	1.0	18	1.0	31.1	32.2
SMB10J18A	1BT	20.0	22.1	1.0	18	1.0	34.2	29.2
SMB10J20	1BU	22.2	27.1	1.0	20	1.0	27.9	35.8
SMB10J20A	1BV	22.2	24.5	1.0	20	1.0	30.9	32.4
SMB10J22	1BW	24.4	29.8	1.0	22	1.0	25.4	39.4
SMB10J22A	1BX	24.4	26.9	1.0	22	1.0	28.2	35.5
SMB10J24	1BY	26.7	32.6	1.0	24	1.0	23.3	43.0
SMB10J24A	1BZ	26.7	29.5	1.0	24	1.0	25.7	38.9
SMB10J26	1CD	28.9	35.3	1.0	26	1.0	21.5	46.6
SMB10J26A	1CE	28.9	31.9	1.0	26	1.0	23.8	42.1
SMB10J28	1CF	31.1	38.0	1.0	28	1.0	20.0	50.0
SMB10J28A	1CG	31.1	34.4	1.0	28	1.0	22.0	45.4
SMB10J30	1CH	33.3	40.7	1.0	30	1.0	18.7	53.5
SMB10J30A	1CK	33.3	36.8	1.0	30	1.0	20.7	48.4
SMB10J33	1CL	36.7	44.9	1.0	33	1.0	16.9	59.0
SMB10J33A	1CM	36.7	40.6	1.0	33	1.0	18.8	53.3
SMB10J36	1CN	40.0	48.9	1.0	36	1.0	15.6	64.3
SMB10J36A	1CP	40.0	44.2	1.0	36	1.0	17.2	58.1
SMB10J40	1CQ	44.4	54.3	1.0	40	1.0	14.0	71.4
SMB10J40A	1CR	44.4	49.1	1.0	40	1.0	15.5	64.5

Notes:

(1) Pulse test: $t_p \leq 50$ ms

(2) Surge current waveform per Fig. 3 and derate per Fig. 2

(3) All terms and symbols are consistent with ANSI/IEEE C62.35

(4) V_F = 3.5 V at I_F = 50 A (uni-directional only)

RATINGS AND CHARACTERISTICS CURVES(T_A = 25 °C unless otherwise noted)

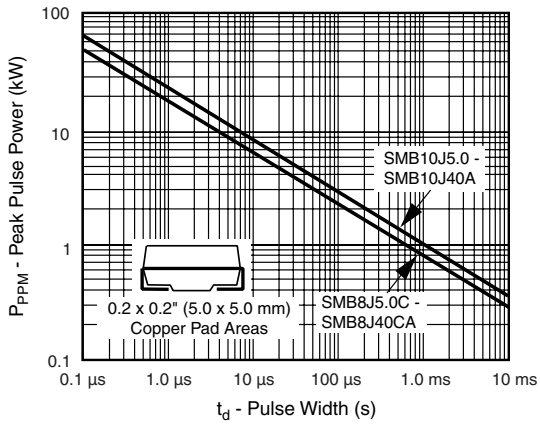


Figure 1. Peak Pulse Power Rating Curve

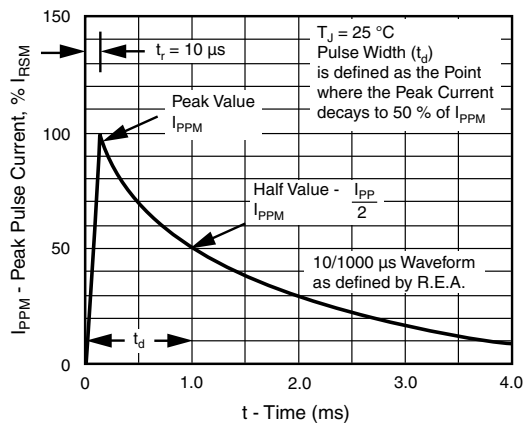


Figure 3. Pulse Waveform

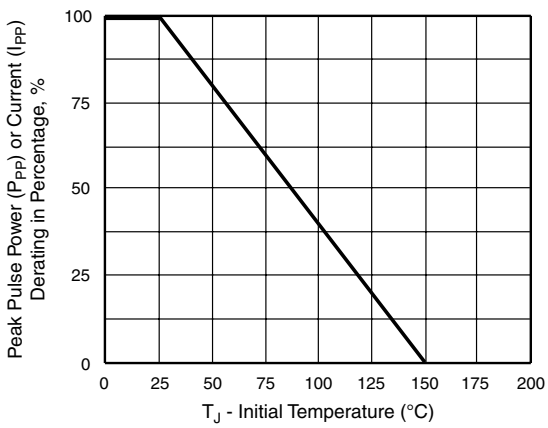


Figure 2. Pulse Power or Current vs. Initial Junction Temperature

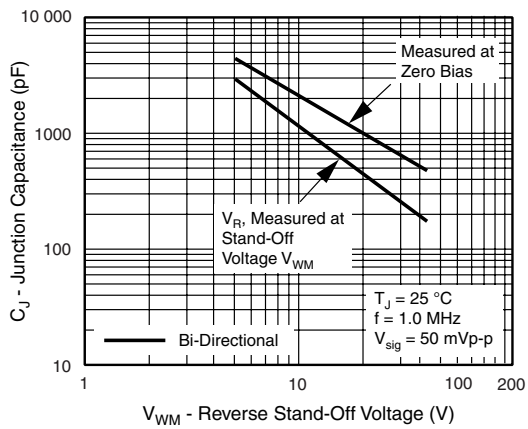


Figure 4. Typical Junction Capacitance

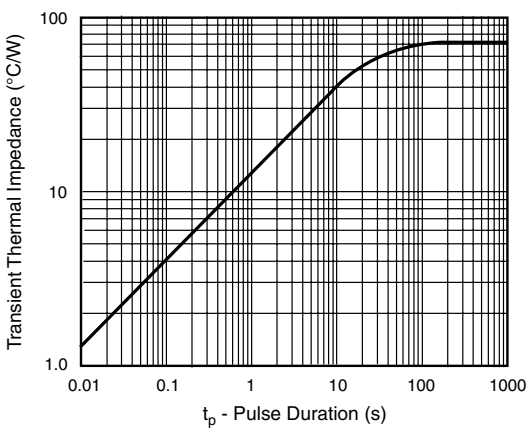


Figure 5. Typical Transient Thermal Impedance

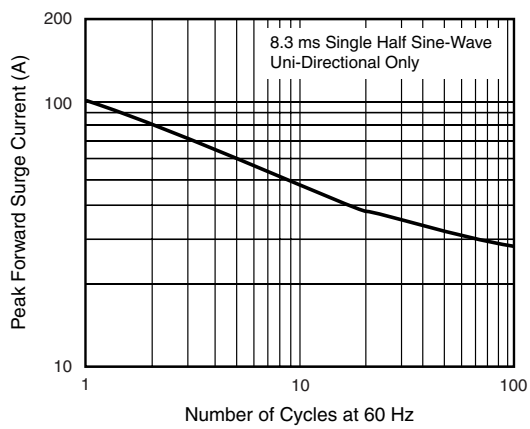


Figure 6. Maximum Non-Repetitive Forward Surge Current