

VOLTAGE RANGE: 5.0 - 440 V

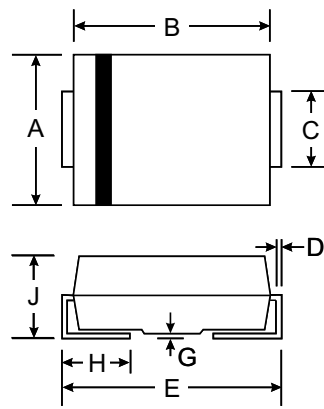
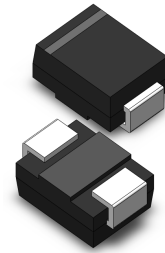
POWER: 600Watts

Features

- Glass Passivated Die Construction
- Uni- and Bi-Directional Versions Available
- Excellent Clamping Capability
- Fast Response Time
- Plastic Material: UL Flammability Classification Rating 94V-0

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.)



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		

Maximum Ratings @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Value	Unit
Peak Pulse Power Dissipation (Non repetitive current pulse derated above $T_A = 25^\circ\text{C}$) (Note 1)	P_{PK}	600	W
Peak Forward Surge Current, 8.3ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method) (Notes 1, 2, & 3)	I_{FSM}	100	A
Instantaneous Forward Voltage @ $I_{PP} = 35\text{A}$ (Notes 1, 2, & 3)	V_F	3.5 5.0	V V
Operating and Storage Temperature Range	T_j, T_{STG}	-55 to +150	$^\circ\text{C}$

- Notes:
1. Valid provided that terminals are kept at ambient temperature.
 2. Measured with 8.3ms single half sine-wave. Duty cycle = 4 pulses per minute maximum.
 3. Unidirectional units only.

TYPE		Reverse Stand-Off Voltage	Breakdown Voltage Min. @ I_T	Breakdown Voltage Max. @ I_T	Test Current	Maximum Clamping Voltage @ I_{PP}	Peak Pulse Current	Reverse Leakage @ V_{RWM}
(Uni)	(Bi)	V_{RWM} (V)	$V_{BR MIN}(V)$	$V_{BR MAX}(V)$	I_T (mA)	$V_C(V)$	$I_{PP}(A)$	I_R (uA)
SMB5.0	SMB5.0C	5.0	6.40	7.55	10	9.6	62.5	800.0
SMB5.0A	SMB5.0CA	5.0	6.40	7.25	10	9.2	65.2	800.0
SMB6.0	SMB6.0C	6.0	6.67	8.45	10	11.4	52.6	800.0
SMB6.0A	SMB6.0CA	6.0	6.67	7.67	10	10.3	58.3	800.0
SMB6.5	SMB6.5C	6.5	7.22	9.14	10	12.3	48.8	500.0
SMB6.5A	SMB6.5CA	6.5	7.22	8.30	10	11.2	53.6	500.0
SMB7.0	SMB7.0C	7.0	7.78	9.86	10	13.3	45.1	200.0
SMB7.0A	SMB7.0CA	7.0	7.78	8.95	10	12.0	50.0	200.0
SMB7.5	SMB7.5C	7.5	8.33	10.67	1.0	14.3	42.0	100.0
SMB7.5A	SMB7.5CA	7.5	8.33	9.58	1.0	12.9	46.5	100.0
SMB8.0	SMB8.0C	8.0	8.89	11.3	1.0	15.0	40.0	50.0
SMB8.0A	SMB8.0CA	8.0	8.89	10.23	1.0	13.6	44.1	50.0
SMB8.5	SMB8.5C	8.5	9.44	11.92	1.0	15.9	37.7	20.0
SMB8.5A	SMB8.5CA	8.5	9.44	10.82	1.0	14.4	41.7	20.0
SMB9.0	SMB9.0C	9.0	10.0	12.6	1.0	16.9	35.5	10.0
SMB9.0A	SMB9.0CA	9.0	10.0	11.5	1.0	15.4	39.0	10.0
SMB10	SMB10C	10	11.1	14.1	1.0	18.8	31.9	5.0
SMB10A	SMB10CA	10	11.1	12.8	1.0	17.0	35.3	5.0
SMB11	SMB11C	11	12.2	15.4	1.0	20.1	29.9	5.0
SMB11A	SMB11CA	11	12.2	14.0	1.0	18.2	33.0	5.0
SMB12	SMB12C	12	13.3	16.9	1.0	22.0	27.3	5.0
SMB12A	SMB12CA	12	13.3	15.3	1.0	19.9	30.2	5.0
SMB13	SMB13C	13	14.4	18.2	1.0	23.8	25.2	5.0
SMB13A	SMB13CA	13	14.4	16.5	1.0	21.5	27.9	5.0
SMB14	SMB14C	14	15.6	19.8	1.0	25.8	23.3	5.0
SMB14A	SMB14CA	14	15.6	17.9	1.0	23.2	25.9	5.0
SMB15	SMB15C	15	16.7	21.1	1.0	26.9	22.3	5.0
SMB15A	SMB15CA	15	16.7	19.2	1.0	24.4	24.6	5.0
SMB16	SMB16C	16	17.8	22.6	1.0	28.8	20.8	5.0
SMB16A	SMB16CA	16	17.8	20.5	1.0	26.0	23.1	5.0
SMB17	SMB17C	17	18.9	23.9	1.0	30.5	19.7	5.0
SMB17A	SMB17CA	17	18.9	21.7	1.0	27.6	21.7	5.0
SMB18	SMB18C	18	20.0	25.3	1.0	32.2	18.6	5.0
SMB18A	SMB18CA	18	20.0	23.3	1.0	29.2	20.5	5.0
SMB20	SMB20C	20	22.2	28.1	1.0	35.8	16.8	5.0
SMB20A	SMB20CA	20	22.2	25.5	1.0	32.4	18.5	5.0

Note:

- (1) V_{BR} measured after I_T applied for 300 μs ., I_T = square wave pulse or equivalent.
- (2) Surge Current Waveform per Figure 5 and Derate per Figure 1
- (3) A Transient suppressor is normally selected according to the reverse " Stand-off Voltage " (V_{WM}) which should be equal to or greater than the D.C. or continuous peak operating voltage level.

TYPE		Reverse Stand-Off Voltage	Breakdown Voltage Min. @I _T	Breakdown Voltage Max. @ I _T	Test Current	Maximum Clamping Voltage @I _{PP}	Peak Pulse Current	Reverse Leakage @V _{RWM}
(Uni)	(Bi)	V _{RWM} (V)	V _{BR} MIN(V)	V _{BR} MAX(V)	I _T (mA)	V _C (V)	I _{PP} (A)	I _R (uA)
SMB22	SMB22C	22	24.4	30.9	1.0	39.4	15.2	5.0
SMB22A	SMB22CA	22	24.4	28.0	1.0	35.5	16.9	5.0
SMB24	SMB24C	24	26.7	33.8	1.0	43.0	14.0	5.0
SMB24A	SMB24CA	24	26.7	30.7	1.0	38.9	15.4	5.0
SMB26	SMB26C	26	28.9	36.6	1.0	46.6	12.9	5.0
SMB26A	SMB26CA	26	28.9	33.2	1.0	42.1	14.3	5.0
SMB28	SMB28C	28	31.1	39.4	1.0	50.0	12.0	5.0
SMB28A	SMB28CA	28	31.1	35.8	1.0	45.4	13.2	5.0
SMB30	SMB30C	30	33.3	42.2	1.0	53.5	11.2	5.0
SMB30A	SMB30CA	30	33.3	38.3	1.0	48.4	12.4	5.0
SMB33	SMB33C	33	36.7	46.5	1.0	59.0	10.2	5.0
SMB33A	SMB33CA	33	36.7	42.2	1.0	53.3	11.3	5.0
SMB36	SMB36C	36	40.0	50.7	1.0	64.3	9.3	5.0
SMB36A	SMB36CA	36	40.0	46.0	1.0	58.1	10.3	5.0
SMB40	SMB40C	40	44.4	56.3	1.0	71.4	8.4	5.0
SMB40A	SMB40CA	40	44.4	51.1	1.0	64.5	9.3	5.0
SMB43	SMB43C	43	47.8	60.5	1.0	76.7	7.8	5.0
SMB43A	SMB43CA	43	47.8	54.9	1.0	69.4	8.6	5.0
SMB45	SMB45C	45	50.0	63.3	1.0	80.3	7.5	5.0
SMB45A	SMB45CA	45	50.0	57.5	1.0	72.7	8.3	5.0
SMB48	SMB48C	48	53.3	67.5	1.0	85.5	7.0	5.0
SMB48A	SMB48CA	48	53.3	61.3	1.0	77.4	7.8	5.0
SMB51	SMB51C	51	56.7	71.8	1.0	91.1	6.6	5.0
SMB51A	SMB51CA	51	56.7	65.2	1.0	82.4	7.3	5.0
SMB54	SMB54C	54	60.0	76.0	1.0	96.3	6.2	5.0
SMB54A	SMB54CA	54	60.0	69.0	1.0	87.1	6.9	5.0
SMB58	SMB58C	58	64.4	81.6	1.0	103	5.8	5.0
SMB58A	SMB58CA	58	64.4	74.1	1.0	93.6	6.4	5.0
SMB60	SMB60C	60	66.7	84.5	1.0	107	5.6	5.0
SMB60A	SMB60CA	60	66.7	76.7	1.0	96.8	6.2	5.0
SMB64	SMB64C	64	71.1	90.1	1.0	114	5.3	5.0
SMB64A	SMB64CA	64	71.1	81.8	1.0	103	5.8	5.0
SMB70	SMB70C	70	77.8	98.6	1.0	125	4.8	5.0
SMB70A	SMB70CA	70	77.8	89.5	1.0	113	5.3	5.0
SMB75	SMB75C	75	83.0	105.7	1.0	134	4.5	5.0
SMB75A	SMB75CA	75	83.0	95.8	1.0	121	5.0	5.0
SMB78	SMB78C	78	86.0	109.8	1.0	139	4.3	5.0

Note:

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- (2) Surge Current Waveform per Figure 5 and Derate per Figure 1
- (3) A Transient suppressor is normally selected according to the reverse "Stand-off Voltage" (V_{WM}) which should be equal to or greater than the D.C. or continuous peak operating voltage level.

TYPE		Reverse Stand-Off Voltage	Breakdown Voltage Min. @I _T	Breakdown Voltage Max. @ I _T	Test Current	Maximum Clamping Voltage @I _{PP}	Peak Pulse Current	Reverse Leakage @V _{RWM}
(Uni)	(Bi)	V _{RWM} (V)	V _{BR MIN} (V)	V _{BR MAX} (V)	I _T (mA)	V _C (V)	I _{PP} (A)	I _R (uA)
SMB78A	SMB78CA	78	86.0	99.7	1.0	126	4.8	5.0
SMB85	SMB85C	85	94.0	119.2	1.0	151	4.0	5.0
SMB85A	SMB85CA	85	94.0	108.2	1.0	137	4.4	5.0
SMB90	SMB90C	90	100	126.5	1.0	160	3.8	5.0
SMB90A	SMB90CA	90	100	115.5	1.0	146	4.1	5.0
SMB100	SMB100C	100	111	141.0	1.0	179	3.4	5.0
SMB100A	SMB100CA	100	111	128.0	1.0	162	3.7	5.0
SMB110	SMB110C	110	122	154.5	1.0	196	3.1	5.0
SMB110A	SMB110CA	100	122	140.5	1.0	177	3.4	5.0
SMB120	SMB120C	120	133	169.0	1.0	214	2.8	5.0
SMB120A	SMB120CA	120	133	153.0	1.0	193	3.1	5.0
SMB130	SMB130C	130	144	182.5	1.0	231	2.6	5.0
SMB130A	SMB130CA	130	144	165.5	1.0	209	2.9	5.0
SMB150	SMB150C	150	167	211.5	1.0	268	2.2	5.0
SMB150A	SMB150CA	150	167	192.5	1.0	243	2.5	5.0
SMB160	SMB160C	160	178	226.0	1.0	287	2.1	5.0
SMB160A	SMB160CA	160	178	205.0	1.0	259	2.3	5.0
SMB170	SMB170C	170	189	239.5	1.0	304	2.0	5.0
SMB170A	SMB170CA	170	189	217.5	1.0	275	2.2	5.0
SMB180	SMB180C	180	200	253.8	1.0	321	1.9	5.0
SMB180A	SMB180CA	180	200	230.4	1.0	290	2.1	5.0
SMB190	SMB190C	190	211	267.9	1.0	339	1.8	5.0
SMB190A	SMB190CA	190	211	243.2	1.0	306	2.0	5.0
SMB200	SMB200C	200	222	282.0	1.0	356	1.7	5.0
SMB200A	SMB200CA	200	222	256.0	1.0	322	1.9	5.0
SMB210	SMB210C	210	233	296.1	1.0	375	1.6	5.0
SMB210A	SMB210CA	210	233	268.8	1.0	339	1.8	5.0
SMB220	SMB220C	220	244	310.2	1.0	392	1.5	5.0
SMB220A	SMB220CA	220	244	281.6	1.0	355	1.7	5.0
SMB250	SMB250C	250	278	342.5	1.0	447	1.3	5.0
SMB250A	SMB250CA	250	278	309.0	1.0	403	1.5	5.0
SMB300	SMB300C	300	333	411.0	1.0	535	1.1	5.0
SMB300A	SMB300CA	300	333	371.0	1.0	484	1.2	5.0
SMB350	SMB350C	350	389	479.5	1.0	624	1.0	5.0
SMB350A	SMB350CA	350	389	432.0	1.0	565	1.1	5.0
SMB400	SMB400C	400	444	548.0	1.0	687	0.9	5.0
SMB400A	SMB400CA	400	444	494.0	1.0	645	0.9	5.0
SMB440	SMB440C	440	489	602.8	1.0	786	0.8	5.0
SMB440A	SMB440CA	440	489	543.0	1.0	710	0.8	5.0

Note:

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- (3) A Transient suppressor is normally selected according to the reverse " Stand-off Voltage " (V_{WM}) which should be equal to or greater then the D.C. or continuous peak operating voltage level.

Ratings and Characteristic Curves $T_A = 25^\circ\text{C}$ unless otherwise noted

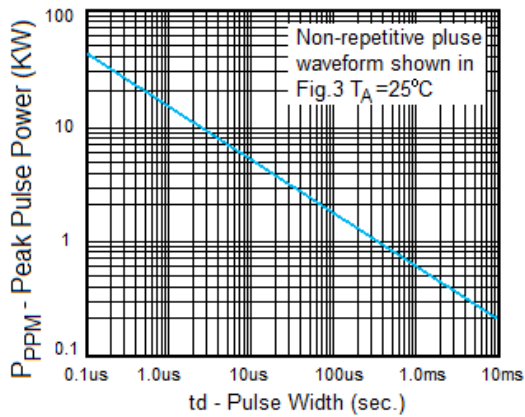


Fig. 1 Peak Pulse Power Rating

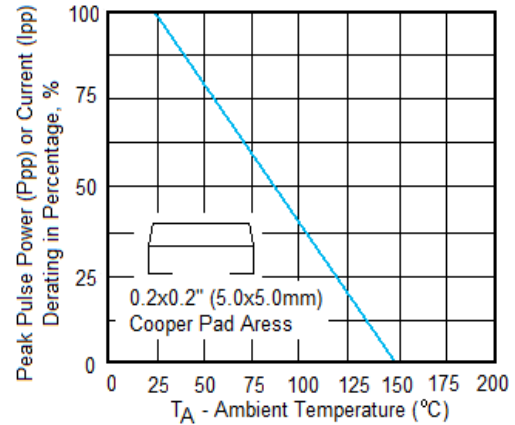


Fig. 2 Pulse Derating Curve

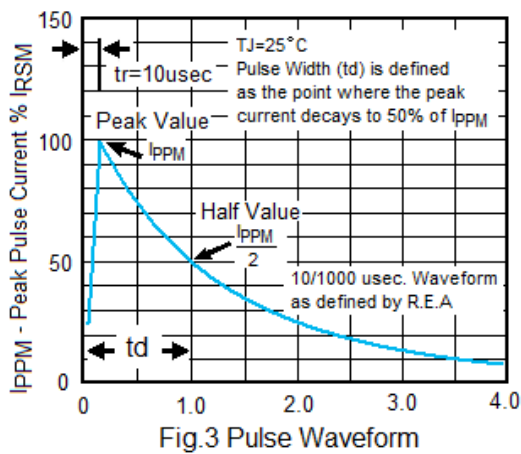


Fig. 3 Pulse Waveform

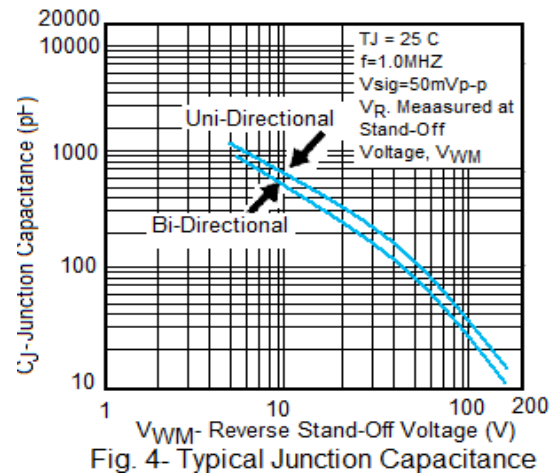


Fig. 4- Typical Junction Capacitance