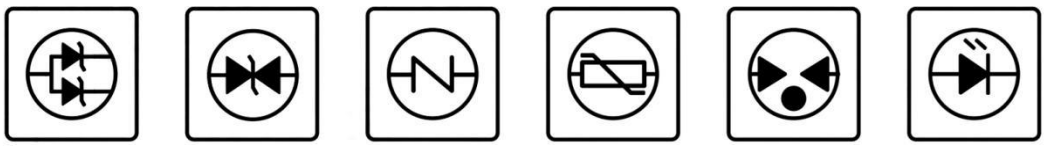
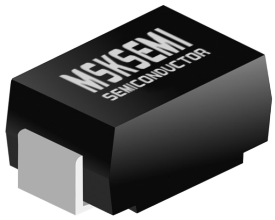
MSKSEMI
SEMICONDUCTOR



Product data sheet



SMB

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.)

Maximum Ratings @ T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Peak Pulse Power Dissipation (Non repetitive current pulse derated above T_A = 25°C) (Note 1)	P_{PK}	600	W
Peak Forward Surge Current, 8.3ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method) (Notes1, 2, & 3)	I_{FSM}	100	A
Instantaneous Forward Voltage @ I_{PP}= 35A (Notes 1, 2, & 3) V_{BR}<100V V_{BR} Ś100V	V_F	3.5 5.0	V V
Operating and Storage Temperature Range	T_j, T_{STG}	-55 to +150	°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.

P/N		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)
SMBJ5.0A	SMBJ5.0CA	5.0	6.40	7.25	10	9.2	65.2	800.0
SMBJ6.0A	SMBJ6.0CA	6.0	6.67	7.67	10	10.3	58.3	800.0
SMBJ6.5A	SMBJ6.5CA	6.5	7.22	8.30	10	11.2	53.6	500.0
SMBJ7.0A	SMBJ7.0CA	7.0	7.78	8.95	10	12.0	50.0	200.0
SMBJ7.5A	SMBJ7.5CA	7.5	8.33	9.58	1.0	12.9	46.5	100.0
SMBJ8.0A	SMBJ8.0CA	8.0	8.89	10.23	1.0	13.6	44.1	50.0
SMBJ8.5A	SMBJ8.5CA	8.5	9.44	10.82	1.0	14.4	41.7	20.0
SMBJ9.0A	SMBJ9.0CA	9.0	10.0	11.5	1.0	15.4	39.0	10.0
SMBJ10A	SMBJ10CA	10	11.1	12.8	1.0	17.0	35.3	5.0
SMBJ11A	SMBJ11CA	11	12.2	14.0	1.0	18.2	33.0	5.0
SMBJ12A	SMBJ12CA	12	13.3	15.3	1.0	19.9	30.2	5.0
SMBJ13A	SMBJ13CA	13	14.4	16.5	1.0	21.5	27.9	5.0
SMBJ14A	SMBJ14CA	14	15.6	17.9	1.0	23.2	25.9	5.0
SMBJ15A	SMBJ15CA	15	16.7	19.2	1.0	24.4	24.6	5.0
SMBJ16A	SMBJ16CA	16	17.8	20.5	1.0	26.0	23.1	5.0
SMBJ17A	SMBJ17CA	17	18.9	21.7	1.0	27.6	21.7	5.0
SMBJ18A	SMBJ18CA	18	20.0	23.3	1.0	29.2	20.5	5.0
SMBJ20A	SMBJ20CA	20	22.2	25.5	1.0	32.4	18.5	5.0
SMBJ22A	SMBJ22CA	22	24.4	28.0	1.0	35.5	16.9	5.0
SMBJ24A	SMBJ24CA	24	26.7	30.7	1.0	38.9	15.4	5.0
SMBJ26A	SMBJ26CA	26	28.9	33.2	1.0	42.1	14.3	5.0
SMBJ28A	SMBJ28CA	28	31.1	35.8	1.0	45.4	13.2	5.0
SMBJ30A	SMBJ30CA	30	33.3	38.3	1.0	48.4	12.4	5.0
SMBJ33A	SMBJ33CA	33	36.7	42.2	1.0	53.3	11.3	5.0
SMBJ36A	SMBJ36CA	36	40.0	46.0	1.0	58.1	10.3	5.0
SMBJ40A	SMBJ40CA	40	44.4	51.1	1.0	64.5	9.3	5.0
SMBJ43A	SMBJ43CA	43	47.8	54.9	1.0	69.4	8.6	5.0
SMBJ45A	SMBJ45CA	45	50.0	57.5	1.0	72.7	8.3	5.0
SMBJ48A	SMBJ48CA	48	53.3	61.3	1.0	77.4	7.8	5.0
SMBJ51A	SMBJ51CA	51	56.7	65.2	1.0	82.4	7.3	5.0
SMBJ54A	SMBJ54CA	54	60.0	69.0	1.0	87.1	6.9	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 then the D.C. or continuous peak operating voltage level.

P/N		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)
SMBJ58A	SMBJ58CA	58	64.4	74.1	1.0	93.6	6.4	5.0
SMBJ60A	SMBJ60CA	60	66.7	76.7	1.0	96.8	6.2	5.0
SMBJ64A	SMBJ64CA	64	71.1	81.8	1.0	103	5.8	5.0
SMBJ70A	SMBJ70CA	70	77.8	89.5	1.0	113	5.3	5.0
SMBJ75A	SMBJ75CA	75	83.0	95.8	1.0	121	5.0	5.0
SMBJ78A	SMBJ78CA	78	86.0	99.7	1.0	126	4.8	5.0
SMBJ85A	SMBJ85CA	85	94.0	108.2	1.0	137	4.4	5.0
SMBJ90A	SMBJ90CA	90	100	115.5	1.0	146	4.1	5.0
SMBJ100A	SMBJ100CA	100	111	128.0	1.0	162	3.7	5.0
SMBJ110A	SMBJ110CA	110	122	140.5	1.0	177	3.4	5.0
SMBJ120A	SMBJ120CA	120	133	153.0	1.0	193	3.1	5.0
SMBJ130A	SMBJ130CA	130	144	165.5	1.0	209	2.9	5.0
SMBJ150A	SMBJ150CA	150	167	192.5	1.0	243	2.5	5.0
SMBJ160A	SMBJ160CA	160	178	205.0	1.0	259	2.3	5.0
SMBJ170A	SMBJ170CA	170	189	217.5	1.0	275	2.2	5.0
SMBJ180A	SMBJ180CA	180	200	230.4	1.0	290	2.1	5.0
SMBJ190A	SMBJ190CA	190	211	243.2	1.0	306	2.0	5.0
SMBJ200A	SMBJ200CA	200	222	256.0	1.0	322	1.9	5.0
SMBJ210A	SMBJ210CA	210	233	268.8	1.0	339	1.8	5.0
SMBJ220A	SMBJ220CA	220	244	281.6	1.0	355	1.7	5.0
SMBJ250A	SMBJ250CA	250	278	309.0	1.0	403	1.5	5.0
SMBJ300A	SMBJ300CA	300	333	371.0	1.0	484	1.2	5.0
SMBJ350A	SMBJ350CA	350	389	432.0	1.0	565	1.1	5.0
SMBJ400A	SMBJ400CA	400	444	494.0	1.0	645	0.9	5.0
SMBJ440A	SMBJ440CA	440	489	543.0	1.0	710	0.8	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 then the D.C. or continuous peak operating voltage level.

Ratings and Characteristic Curves T_A =25°C unless otherwise noted

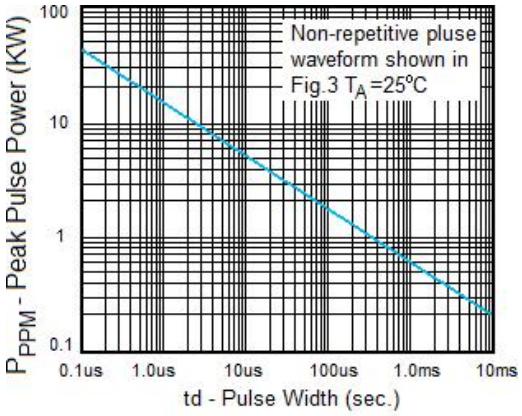


Fig. 1 Peak Pulse Power Rating

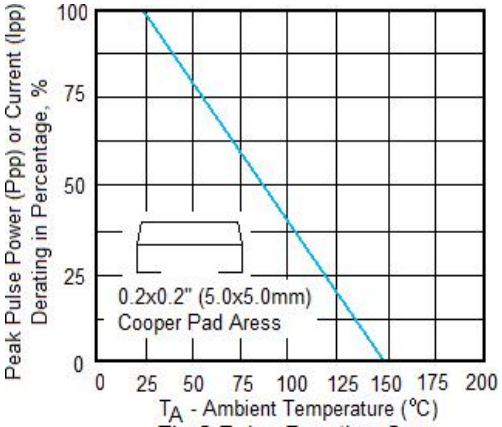


Fig.2 Pulse Derating Cure

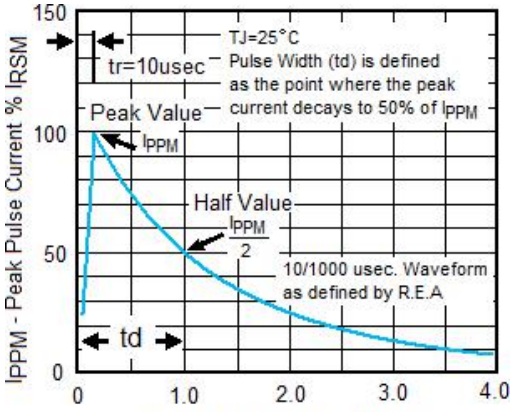


Fig.3 Pulse Waveform

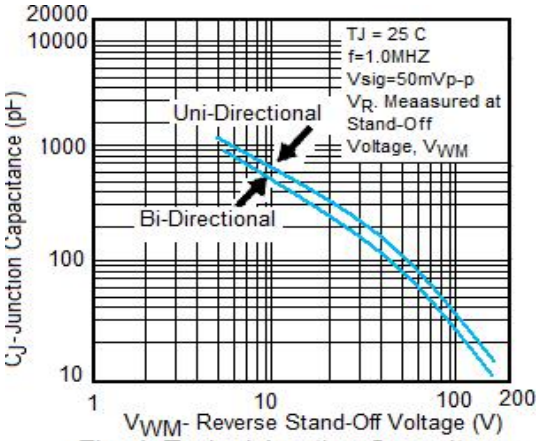
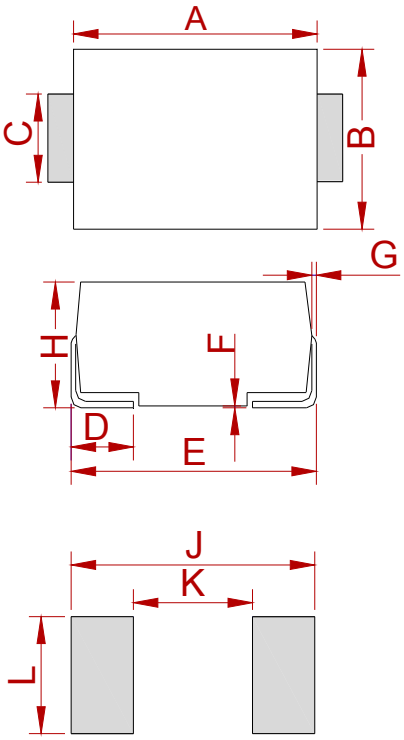


Fig. 4- Typical Junction Capacitance

PACKAGE MECHANICAL DATA



DO-214AA (SMB)

Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	4.25	4.75	0.167	0.187
B	3.30	3.94	0.130	0.155
C	1.85	2.21	0.073	0.087
D	0.76	1.52	0.030	0.060
E	5.08	5.59	0.200	0.220
F	0.051	0.203	0.002	0.008
G	0.15	0.31	0.006	0.012
H	2.11	2.44	0.083	0.096
J	6.80		0.270	
K		2.60		0.100
L	2.40		0.090	

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