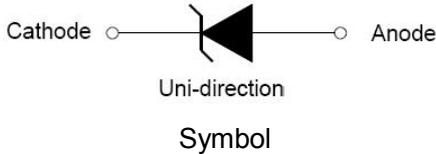


**SMB**

**Features**

- Peak power dissipation 1000W@10 x 1000 us Pulse
- Low incremental surge resistance
- Excellent clamping capability
- Glass passivated junction
- Fast response time
- Typical IR less than 1uA above 10V
- Halogen free and RoHS compliant

**Mechanical Data**

- CASE: SMBJ(DO-214AA) Molded Plastic
- Polarity: By cathode band denotes uni-directional device, none cathode band denotes bi-directional device
- Mounting Position: Any

**Making Code & information**

Cathode Band

1.0SMBJ  
XXXA

Package	Packing Description	Packing Quantity
SMB	Tape/Reel, 13" reel	3000

1.0SMBJ    XXX    C    A

5%  $V_{BR}$  Voltage Tolerance

Bidirectional

$V_{RWM}$  Voltage

Series Code

**Maximum Ratings & Thermal Characteristics**

(Ratings at 25°C ambient temperature unless otherwise specified.)

Parameter	Symbol	Value	Units
Peak Pulse Power Dissipation on 10/1000 us Waveform (Note 1, 2, FIG.1)	$P_{PPM}$	Min1000	W
Power Dissipation on Infinite Heat Sink at $T_L=50^\circ\text{C}$	$P_D$	5	W
Peak Pulse Current of on 10/1000us Waveform (Note 1, FIG.3)	$I_{PPM}$	See Table 1	A
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave (Note 2. 3)	$I_{FSM}$	100	A
Operating Junction Temperature Range	$T_J$	-55 to 150	°C
Storage Temperature Range	$T_{STG}$	-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 5.0x5.0mm<sup>2</sup> (0.03mm thick) Copper Pads to each terminal.
3. Measured on 8.3ms single half sine-wave, or equivalent square wave, for Unidirectional device only.

## Electrical Characteristics

(Ratings at 25°C ambient temperature unless otherwise specified).

Type Number		Reverse Stand-Off Voltage	Breakdown Voltage Min. @I <sub>T</sub>	Breakdown Voltage Max. @ I <sub>T</sub>	Test Current	Maximum Clamping Voltage @I <sub>PP</sub>	Peak Pulse Current	Reverse Leakage @V <sub>RMW</sub>
(Uni)	(Bi)	V <sub>RMW</sub> (V)	V <sub>BR MIN</sub> (V)	V <sub>BR MAX</sub> (V)	I <sub>T</sub> (mA)	V <sub>C</sub> (V)	I <sub>PP</sub> (A)	I <sub>R</sub> (uA)
1.0SMBJ5.0A	1.0SMBJ5.0CA	5	6.4	7	10	9.2	108.7	500
1.0SMBJ6.0A	1.0SMBJ6.0CA	6	6.67	7.37	10	10.3	97.1	500
1.0SMBJ6.5A	1.0SMBJ6.5CA	6.5	7.22	7.98	10	11.2	89.3	300
1.0SMBJ7.0A	1.0SMBJ7.0CA	7	7.78	8.6	10	12	83.3	200
1.0SMBJ7.5A	1.0SMBJ7.5CA	7.5	8.33	9.21	1	12.9	77.5	100
1.0SMBJ8.0A	1.0SMBJ8.0CA	8	8.89	9.83	1	13.6	73.5	50
1.0SMBJ8.5A	1.0SMBJ8.5CA	8.5	9.44	10.4	1	14.4	69.4	20
1.0SMBJ9.0A	1.0SMBJ9.0CA	9	10	11.1	1	15.4	64.9	10
1.0SMBJ10A	1.0SMBJ10CA	10	11.1	12.3	1	17	58.8	5
1.0SMBJ11A	1.0SMBJ11CA	11	12.2	13.5	1	18.2	54.9	1
1.0SMBJ12A	1.0SMBJ12CA	12	13.3	14.7	1	19.9	50.3	1
1.0SMBJ13A	1.0SMBJ13CA	13	14.4	15.9	1	21.5	46.5	1
1.0SMBJ14A	1.0SMBJ14CA	14	15.6	17.2	1	23.2	43.1	1
1.0SMBJ15A	1.0SMBJ15CA	15	16.7	18.5	1	24.4	41.0	1
1.0SMBJ16A	1.0SMBJ16CA	16	17.8	19.7	1	26	38.5	1
1.0SMBJ17A	1.0SMBJ17CA	17	18.9	20.9	1	27.6	36.2	1
1.0SMBJ18A	1.0SMBJ18CA	18	20	22.1	1	29.2	34.2	1
1.0SMBJ20A	1.0SMBJ20CA	20	22.2	24.5	1	32.4	30.9	1
1.0SMBJ22A	1.0SMBJ22CA	22	24.4	26.9	1	35.5	28.2	1
1.0SMBJ24A	1.0SMBJ24CA	24	26.7	29.5	1	38.9	25.7	1
1.0SMBJ26A	1.0SMBJ26CA	26	28.9	31.9	1	42.1	23.8	1
1.0SMBJ28A	1.0SMBJ28CA	28	31.1	34.4	1	45.4	22.0	1
1.0SMBJ30A	1.0SMBJ30CA	30	33.3	36.8	1	48.4	20.7	1
1.0SMBJ33A	1.0SMBJ33CA	33	36.7	40.6	1	53.3	18.8	1
1.0SMBJ36A	1.0SMBJ36CA	36	40	44.2	1	58.1	17.2	1
1.0SMBJ40A	1.0SMBJ40CA	40	44.4	49.1	1	64.5	15.5	1
1.0SMBJ43A	1.0SMBJ43CA	43	47.8	52.8	1	69.4	14.4	1
1.0SMBJ45A	1.0SMBJ45CA	45	50	55.3	1	72.7	13.8	1
1.0SMBJ48A	1.0SMBJ48CA	48	53.3	58.9	1	77.4	12.9	1
1.0SMBJ51A	1.0SMBJ51CA	51	56.7	62.7	1	82.4	12.1	1
1.0SMBJ54A	1.0SMBJ54CA	54	60	66.3	1	87.1	11.5	1
1.0SMBJ58A	1.0SMBJ58CA	58	64.4	71.2	1	93.6	10.7	1
1.0SMBJ60A	1.0SMBJ60CA	60	66.7	73.7	1	96.8	10.3	1
1.0SMBJ64A	1.0SMBJ64CA	64	71.1	78.6	1	103	9.7	1
1.0SMBJ70A	1.0SMBJ70CA	70	77.8	86	1	113	8.8	1
1.0SMBJ75A	1.0SMBJ75CA	75	83.3	92.1	1	121	8.3	1
1.0SMBJ78A	1.0SMBJ78CA	78	86.7	95.8	1	126	7.9	1
1.0SMBJ85A	1.0SMBJ85CA	85	94.4	104	1	137	7.3	1
1.0SMBJ90A	1.0SMBJ90CA	90	100	111	1	146	6.8	1
1.0SMBJ100A	1.0SMBJ100CA	100	111	123	1	162	6.2	1
1.0SMBJ110A	1.0SMBJ110CA	110	122	135	1	177	5.6	1
1.0SMBJ120A	1.0SMBJ120CA	120	133	147	1	193	5.2	1
1.0SMBJ130A	1.0SMBJ130CA	130	144	159	1	209	4.8	1
1.0SMBJ150A	1.0SMBJ150CA	150	167	185	1	243	4.1	1
1.0SMBJ160A	1.0SMBJ160CA	160	178	197	1	259	3.9	1
1.0SMBJ170A	1.0SMBJ170CA	170	189	209	1	275	3.6	1
1.0SMBJ180A	1.0SMBJ180CA	180	201	222	1	292	3.5	1
1.0SMBJ190A	1.0SMBJ190CA	190	211	234	1	307	3.3	1
1.0SMBJ200A	1.0SMBJ200CA	200	224	247	1	324	3.1	1

Notes: For Bi-directional type having V<sub>RMW</sub> of 10 Volts and less, the I<sub>R</sub> limit is double.

For parts without A, the V<sub>BR</sub> is ± 10% and V<sub>C</sub> is 5% higher than with A parts.

## Ratings and Characteristic Curves

(Ratings at 25°C ambient temperature unless otherwise specified).

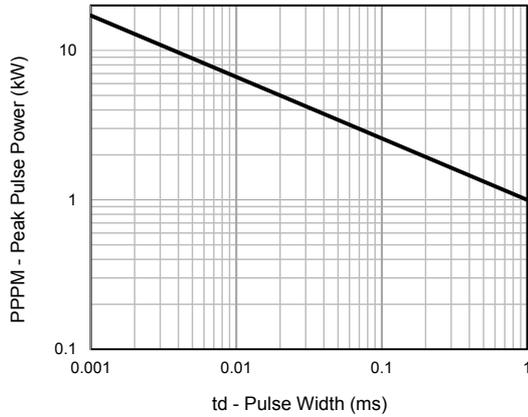


Fig. 1 - Peak Pulse Power Rating

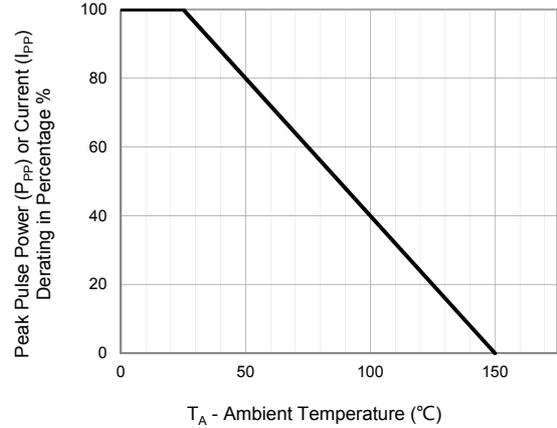


Fig. 2 - Pulse Derating Curve

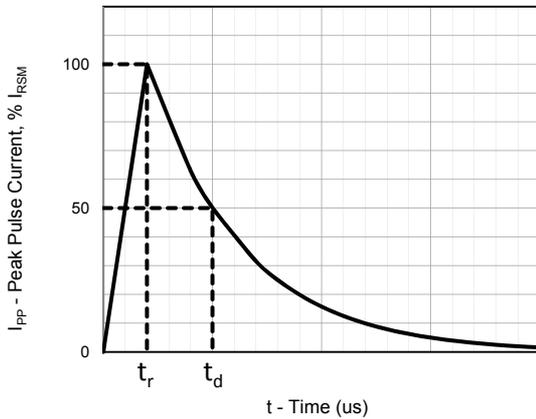


Fig. 3 - Pulse Waveform

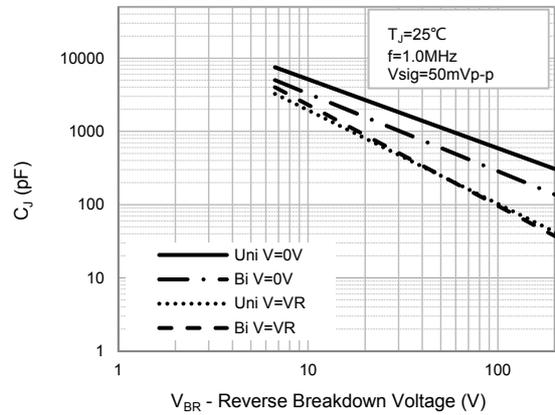


Fig. 4 - Typical Junction Capacitance

## Package Outline Dimensions: SMB(DO-214AA)

Dim	Millimeters		Inches	
	Min	Max	Min	Max
L	4.4	4.6	0.173	0.181
D	3.5	3.7	0.138	0.146
D1	1.9	2.1	0.075	0.083
T	5.1	5.48	0.201	0.216
T1	1.0	1.6	0.039	0.063
d	-	0.2	-	0.008
H	2.2	2.45	0.087	0.096
H1	2.15	2.35	0.085	0.093

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