

## Features

- Peak power dissipation 600W@10 x 1000 us Pluse
- 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



SMB top view



Bi-directional



Uni-direction

## 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



Halogen-Free

## Maximum Ratings( $T_a=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Unit
$P_{PPM}$	Peak Pulse Power Dissipation on 10/1000 us Waveform (Note1,2,FIG.1)	Min600	W
$P_D$	Power Dissipation on Infinite Heat Sink at $T_L=50^{\circ}\text{C}$	5	W
$I_{PPM}$	Peak Pulse Current of on 10/1000 us Waveform (Note1,FIG.3)	SeeTable1	A
$I_{FSM}$	Peak Forward Surge Current,8.3ms Single Half Sine-Wave (Note2.3)	100	A
$T_J$	Operating Junction Temperature Range	-55~+150	$^{\circ}\text{C}$
$T_{stg}$	Storage Temperature Range	-55~+150	$^{\circ}\text{C}$

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.

**T<sub>a</sub>=25°C unless otherwise specified**

Typt Number		Marking		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	Uni	Bi	V <sub>RMW</sub> (V)	V <sub>BR MIN</sub> (V)	V <sub>BR MAX</sub> (V)	IT (mA)	V <sub>C</sub> (V)	I <sub>PP</sub> (A)	I <sub>R</sub> (uA)
SMBJ5.0A	SMBJ5.0CA	KE	KE	5.0	6.40	7.07	10	9.2	65.2	800.0
SMBJ6.0A	SMBJ6.0CA	KG	KG	6.0	6.67	7.37	10	10.3	58.3	800.0
SMBJ6.5A	SMBJ6.5CA	KK	AK	6.5	7.22	7.98	10	11.2	53.6	500.0
SMBJ7.0A	SMBJ7.0CA	KM	KM	7.0	7.78	8.60	10	12.0	50.0	200.0
SMBJ7.5A	SMBJ7.5CA	KP	AP	7.5	8.33	9.21	1	12.9	46.5	100.0
SMBJ8.0A	SMBJ8.0CA	KR	AR	8.0	8.89	9.83	1	13.6	44.1	50.0
SMBJ8.5A	SMBJ8.5CA	KT	AT	8.5	9.44	10.40	1	14.4	41.7	20.0
SMBJ9.0A	SMBJ9.0CA	KV	AV	9.0	10.00	11.10	1	15.4	39.0	10.0
SMBJ10A	SMBJ10CA	KX	AX	10.0	11.10	12.30	1	17.0	35.3	5.0
SMBJ11A	SMBJ11CA	KZ	KZ	11.0	12.20	13.50	1	18.2	33.0	5.0
SMBJ12A	SMBJ12CA	LE	BE	12.0	13.30	14.70	1	19.9	30.2	5.0
SMBJ13A	SMBJ13CA	LG	LG	13.0	14.40	15.90	1	21.5	27.9	1.0
SMBJ14A	SMBJ14CA	LK	BK	14.0	15.60	17.20	1	23.2	25.9	1.0
SMBJ15A	SMBJ15CA	LM	BM	15.0	16.70	18.50	1	24.4	24.6	1.0
SMBJ16A	SMBJ16CA	LP	LM	16.0	17.80	19.70	1	26.0	23.1	1.0
SMBJ17A	SMBJ17CA	LR	LR	17.0	18.90	20.90	1	27.6	21.7	1.0
SMBJ18A	SMBJ18CA	LT	BT	18.0	20.00	22.10	1	29.2	20.5	1.0
SMBJ20A	SMBJ20CA	LV	LV	20	22.20	24.50	1	32.4	18.5	1.0
SMBJ22A	SMBJ22CA	LX	BX	22	24.40	26.90	1	35.5	16.9	1.0
SMBJ24A	SMBJ24CA	LZ	BZ	24	26.70	29.50	1	38.9	15.4	1.0
SMBJ26A	SMBJ26CA	ME	CE	26	28.90	31.90	1	42.1	14.3	1.0
SMBJ28A	SMBJ28CA	MG	MG	28	31.10	34.40	1	45.4	13.2	1.0
SMBJ30A	SMBJ30CA	MK	CK	30	33.30	36.80	1	48.4	12.4	1.0
SMBJ33A	SMBJ33CA	MM	CM	33	36.70	40.60	1	53.3	11.3	1.0
SMBJ36A	SMBJ36CA	MP	CP	36	40.00	44.20	1	58.1	10.3	1.0
SMBJ40A	SMBJ40CA	MR	CR	40	44.40	49.10	1	64.5	9.3	1.0
SMBJ43A	SMBJ43CA	MT	CT	43	47.80	52.80	1	69.4	8.6	1.0
SMBJ45A	SMBJ45CA	MV	MV	45	50.00	55.30	1	72.7	8.3	1.0
SMBJ48A	SMBJ48CA	MX	MX	48	53.30	58.90	1	77.4	7.8	1.0
SMBJ51A	SMBJ51CA	MZ	MZ	51	56.70	62.70	1	82.4	7.3	1.0
SMBJ54A	SMBJ54CA	NE	NE	54	60.00	66.30	1	87.1	6.9	1.0
SMBJ58A	SMBJ58CA	NG	NG	58	64.40	71.20	1	93.6	6.4	1.0
SMBJ60A	SMBJ60CA	NK	NK	60	66.70	73.70	1	96.8	6.2	1.0
SMBJ64A	SMBJ64CA	NM	NM	64	71.10	78.60	1	103.0	5.8	1.0
SMBJ70A	SMBJ70CA	NP	NP	70	77.80	86.00	1	113.0	5.3	1.0
SMBJ75A	SMBJ75CA	NR	NR	75	83.30	92.10	1	121.0	5.0	1.0
SMBJ78A	SMBJ78CA	NT	NT	78	86.70	95.80	1	126.0	4.8	1.0
SMBJ85A	SMBJ85CA	NV	NV	85	94.40	104.00	1	137.0	4.4	1.0
SMBJ90A	SMBJ90CA	NX	NX	90	100.00	111.00	1	146.0	4.1	1.0
SMBJ100A	SMBJ100CA	NZ	NZ	100	111.00	123.00	1	162.0	3.7	1.0
SMBJ110A	SMBJ110CA	PE	PE	110	122.00	135.00	1	177.0	3.4	1.0
SMBJ120A	SMBJ120CA	PG	PG	120	133.00	147.00	1	193.0	3.1	1.0
SMBJ130A	SMBJ130CA	PK	PK	130	144.00	159.00	1	209.0	2.9	1.0
SMBJ150A	SMBJ150CA	PM	PM	150	167.00	185.00	1	243.0	2.5	1.0
SMBJ160A	SMBJ160CA	PP	PP	160	178.00	197.00	1	259.0	2.3	1.0
SMBJ170A	SMBJ170CA	PR	PR	170	189.00	209.00	1	275.0	2.2	1.0
SMBJ188A	SMBJ188CA	PS	PS	188	209.00	231.00	1	328.0	2.0	1.0

Notes: 1. For Bi-directional type having VRWM of 10 Volts and less, the IR limit is double.  
 2. For parts without A, the VBR is ± 10% and VC is 5% higher than with A parts.

Typical Characteristics

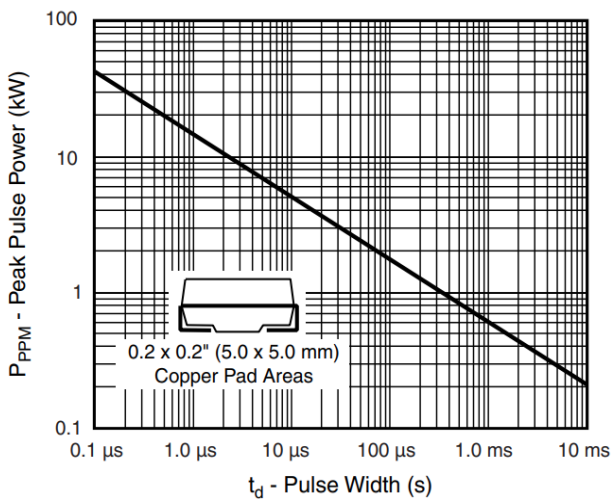


Fig. 1 - Peak Pulse Power Rating Curve

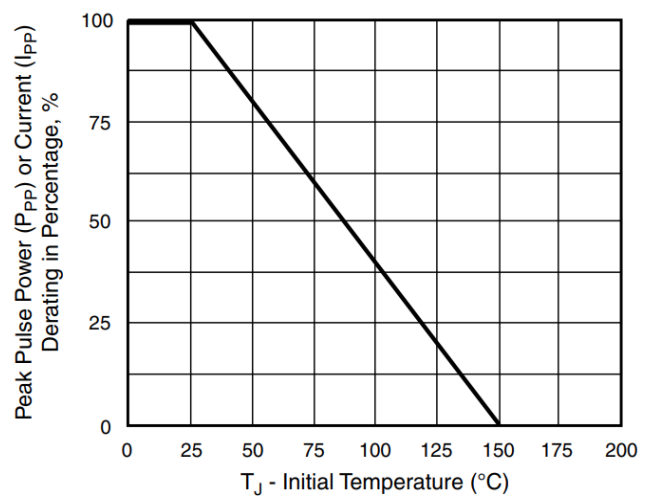


Fig. 2 - Pulse Power or Current vs. Initial Junction Temperature

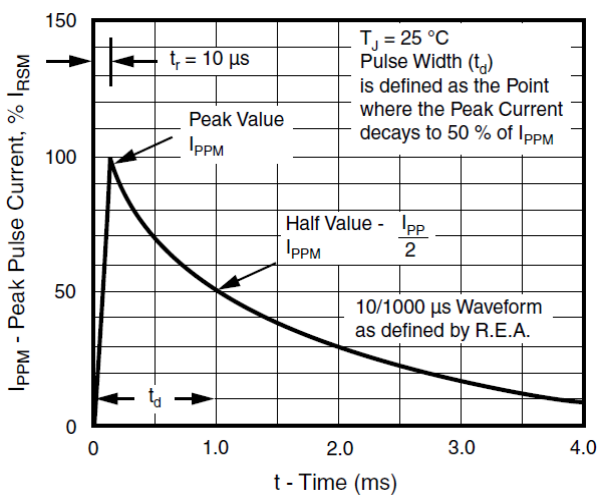


Fig. 3 - Pulse Waveform

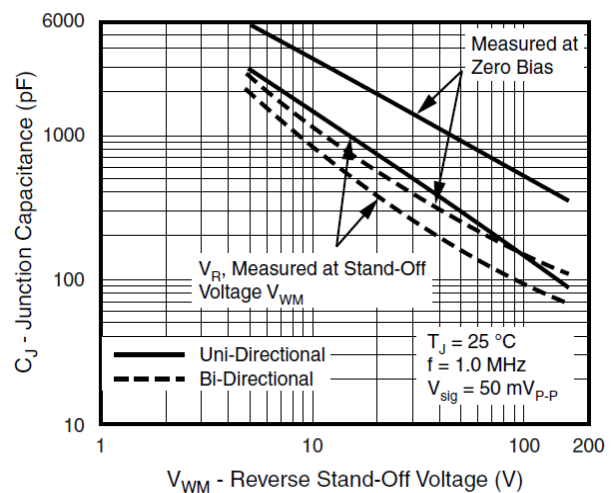
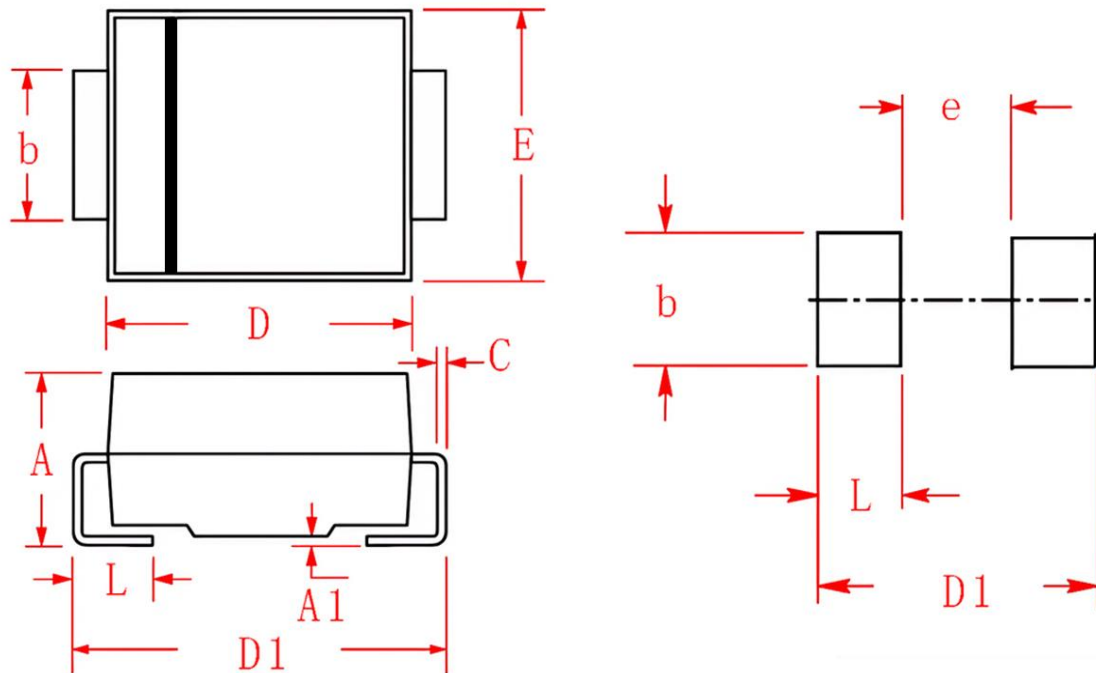


Fig. 4 - Typical Junction Capacitance

**SMB Package information**
**SMB (DO-214AA)**


Symbol	Dimensions in Millimeters(mm)		Dimensions In Inches	
	Min	Max	Min	Max
A	2.130	2.440	0.084	0.096
A1	0.050	0.200	0.002	0.008
b	1.900	2.200	0.075	0.087
C	0.152	0.305	0.006	0.012
D	4.060	4.700	0.160	0.185
D1	5.080	5.590	0.200	0.220
E	3.300	3.940	0.130	0.155
e	-	2.159	-	0.085
L	0.800	1.500	0.031	0.059