

Description

The SMBJ series are transient voltage suppressor designed to protect sensitive electronic equipment from damage induced by lightning and voltage transients.



SMB

Mechanical Characteristics

- ◆ Package: DO-214AA
- ◆ Lead Finish: Matte Tin
- ◆ Case Material: "Green" Molding Compound.
- ◆ Moisture Sensitivity: Level 3 per J-STD-020
- ◆ Terminal Connections: See Diagram Below
- ◆ Marking Information: See Below

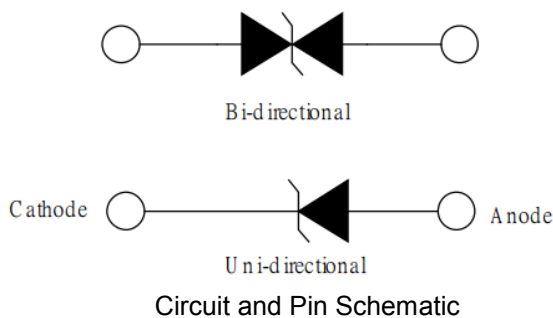
Features

- ◆ 600W Peak Pulse Power (10/1000μs)
- ◆ Fast Response Time: <1ns
- ◆ Unidirectional or Bidirectional Configuration
- ◆ Low Profile Package
- ◆ Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
 - Air discharge: ±15kV
 - Contact discharge: ±8kV
- ◆ RoHS Compliant

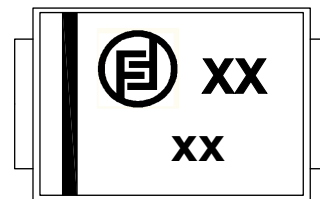
Applications

- ◆ Telecom
- ◆ Computer
- ◆ Industrial
- ◆ Consumer Electronics

Dimensions and Pin Configuration



Marking Information



xx = Device Marking Code

XX = Date Code

Bar denotes Cathode(for unidirectional only)

Absolute Maximum Ratings (T_A=25°C, RH=45%-75%, unless otherwise specified)

Parameter	Symbol	Value	Unit
Storage temperature range	T _{stg}	-55 to +125	°C
Operating junction temperature range	T _j	-55 to +125	°C
Steady state power dissipation at T _L =75°C	P _{M(AV)}	5.0	W
Peak pulse power dissipation on 10/1000 μs waveform	P _{PP}	600	W
Maximum Instantaneous Forward Voltage at 50A for Unidirectional	V _F	5.0	V

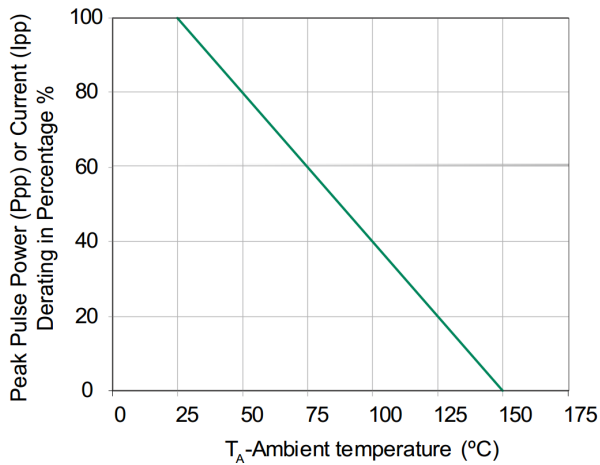
Ordering Information

Part Number	Marking	Packaging	Reel Size
SMBJxxxXX	xx XX	2500/Tape & Reel	13 inch

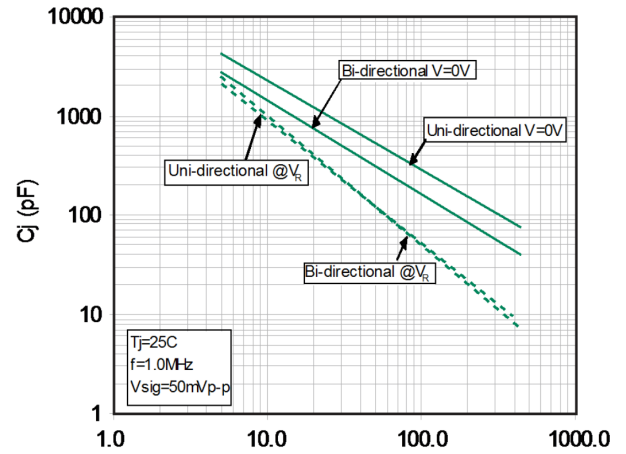
Electrical Characteristics (T_A=25°C unless otherwise specified)

Part Number (Uni)	Part Number (Bi)	Marking		Reverse Stand off Voltage VR (Volts)	Breakdown Voltage VBR (Volts) @ IT		Test Current IT (mA)	Maximum Clamping Voltage VC @ Ipp (V)	Maximum Peak Pulse Current Ipp (A)	Maximum Reverse Leakage IR @ VR (μA)
		UNI	BI		MIN	MAX				
SMBJ3.3A		KC		3.3	4.1		1	7.3	82.5	200
SMBJ5.0A	SMBJ5.0CA	KE	AE	5	6.4	7	10	9.2	65.3	800
SMBJ6.0A	SMBJ6.0CA	KG	AG	6	6.67	7.37	10	10.3	58.3	800
SMBJ6.5A	SMBJ6.5CA	KK	AK	6.5	7.22	7.98	10	11.2	53.6	500
SMBJ7.0A	SMBJ7.0CA	KM	AM	7	7.78	8.60	10	12	50	200
SMBJ7.5A	SMBJ7.5CA	KP	AP	7.5	8.33	9.21	1	12.9	46.6	100
SMBJ8.0A	SMBJ8.0CA	KR	AR	8	8.89	9.83	1	13.6	44.2	50
SMBJ8.5A	SMBJ8.5CA	KT	AT	8.5	9.44	10.4	1	14.4	41.7	20
SMBJ9.0A	SMBJ9.0CA	KV	AV	9	10	11.1	1	15.4	39	10
SMBJ10A	SMBJ10CA	KX	AX	10	11.1	12.3	1	17	35.3	5
SMBJ11A	SMBJ11CA	KZ	AZ	11	12.2	13.5	1	18.2	33	1
SMBJ12A	SMBJ12CA	LE	BE	12	13.3	14.7	1	19.9	30.2	1
SMBJ13A	SMBJ13CA	LG	BG	13	14.4	15.9	1	21.5	28	1
SMBJ14A	SMBJ14CA	LK	BK	14	15.6	17.2	1	23.2	25.9	1
SMBJ15A	SMBJ15CA	LM	BM	15	16.7	18.5	1	24.4	24.6	1
SMBJ16A	SMBJ16CA	LP	BP	16	17.8	19.7	1	26	23.1	1
SMBJ17A	SMBJ17CA	LR	BR	17	18.9	20.9	1	27.6	21.8	1
SMBJ18A	SMBJ18CA	LT	BT	18	20	22.1	1	29.2	20.6	1
SMBJ20A	SMBJ20CA	LV	BV	20	22.2	24.5	1	32.4	18.6	1
SMBJ22A	SMBJ22CA	LX	BX	22	24.4	26.9	1	35.5	16.9	1
SMBJ24A	SMBJ24CA	LZ	BZ	24	26.7	29.5	1	38.9	15.5	1
SMBJ26A	SMBJ26CA	ME	CE	26	28.9	31.9	1	42.1	14.3	1
SMBJ28A	SMBJ28CA	MG	CG	28	31.1	34.4	1	45.4	13.3	1
SMBJ30A	SMBJ30CA	MK	CK	30	33.3	36.8	1	48.4	12.4	1
SMBJ33A	SMBJ33CA	MM	CM	33	36.7	40.6	1	53.3	11.3	1
SMBJ36A	SMBJ36CA	MP	CP	36	40	44.2	1	58.1	10.4	1
SMBJ40A	SMBJ40CA	MR	CR	40	44.4	49.1	1	64.5	9.3	1
SMBJ43A	SMBJ43CA	MT	CT	43	47.8	52.8	1	69.4	8.7	1
SMBJ45A	SMBJ45CA	MV	CV	45	50	55.3	1	72.7	8.3	1
SMBJ48A	SMBJ48CA	MX	CX	48	53.3	58.9	1	77.4	7.8	1
SMBJ51A	SMBJ51CA	MZ	CZ	51	56.7	62.7	1	82.4	7.3	1
SMBJ54A	SMBJ54CA	NE	DE	54	60	66.3	1	87.1	6.9	1
SMBJ58A	SMBJ58CA	NG	DG	58	64.4	71.2	1	93.6	6.5	1
SMBJ60A	SMBJ60CA	NK	DK	60	66.7	73.7	1	96.8	6.2	1
SMBJ64A	SMBJ64CA	NM	DM	64	71.1	78.6	1	103	5.9	1
SMBJ70A	SMBJ70CA	NP	DP	70	77.8	86	1	113	5.3	1
SMBJ75A	SMBJ75CA	NR	DR	75	83.3	92.1	1	121	5	1
SMBJ78A	SMBJ78CA	NT	DT	78	86.7	95.8	1	126	4.8	1
SMBJ85A	SMBJ85CA	NV	DV	85	94.4	104	1	137	4.4	1
SMBJ90A	SMBJ90CA	NX	DX	90	100	111	1	146	4.1	1
SMBJ100A	SMBJ100CA	NZ	DZ	100	111	123	1	162	3.7	1
SMBJ110A	SMBJ110CA	PE	EE	110	122	135	1	177	3.4	1
SMBJ120A	SMBJ120CA	PG	EG	120	133	147	1	193	3.1	1
SMBJ130A	SMBJ130CA	PK	EK	130	144	159	1	209	2.9	1
SMBJ150A	SMBJ150CA	PM	EM	150	167	185	1	243	2.5	1
SMBJ160A	SMBJ160CA	PP	EP	160	178	197	1	259	2.3	1
SMBJ170A	SMBJ170CA	PR	ER	170	189	209	1	275	2.2	1
SMBJ180A	SMBJ180CA	PT	ET	180	201	222	1	292	2.1	1
SMBJ200A	SMBJ200CA	PV	EV	200	224	247	1	324	1.9	1
SMBJ220A	SMBJ220CA	PX	EX	220	246	272	1	356	1.7	1
SMBJ250A	SMBJ250CA	PZ	EZ	250	279	309	1	405	1.5	1
SMBJ300A	SMBJ300CA	QE	FE	300	335	371	1	486	1.3	1
SMBJ350A	SMBJ350CA	QG	FG	350	391	432	1	567	1.1	1
SMBJ400A	SMBJ400CA	QK	FK	400	447	494	1	648	0.9	1
SMBJ440A	SMBJ440CA	QM	FM	440	492	543	1	713	0.9	1

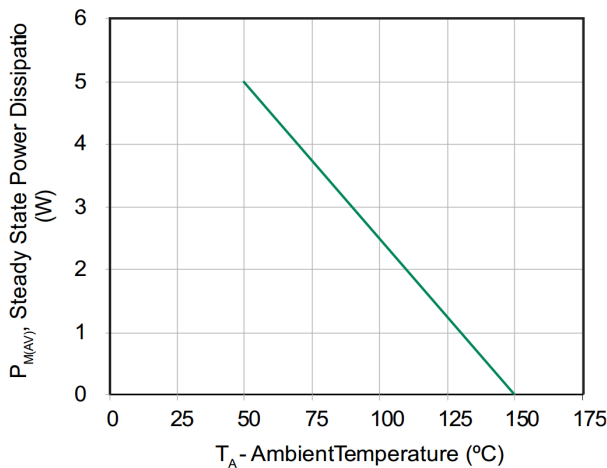
Typical Performance Characteristics (TA=25°C unless otherwise Specified)



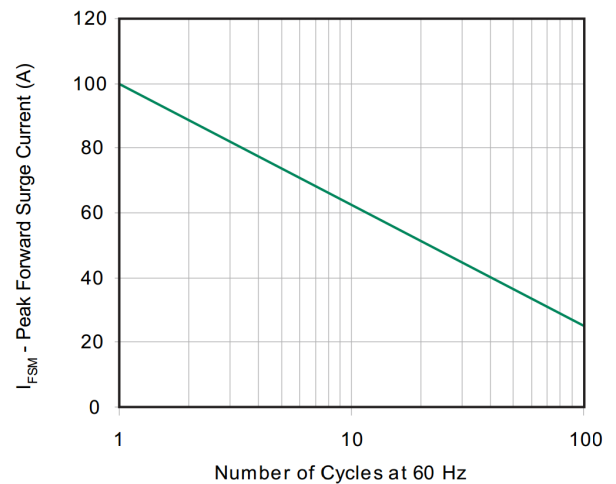
Pulse Derating Curve



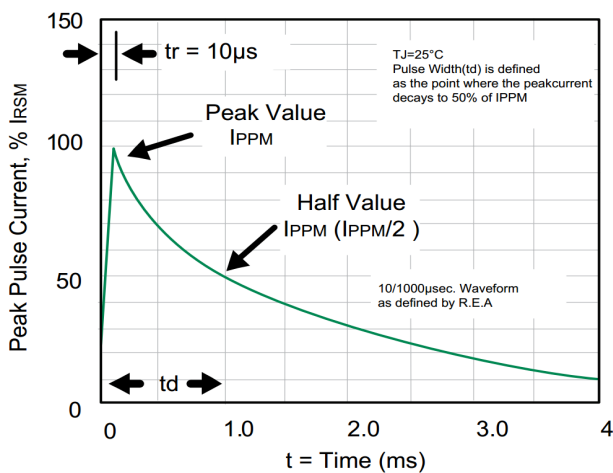
Typical Junction Capacitance



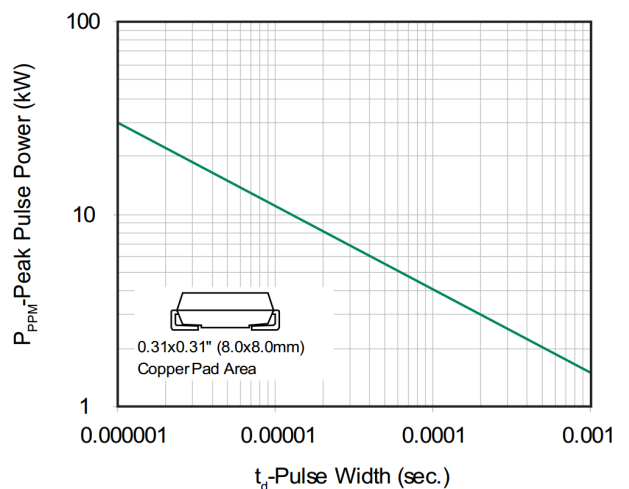
Steady State Power Dissipation Derating Curve



Peak Forward Surge Current

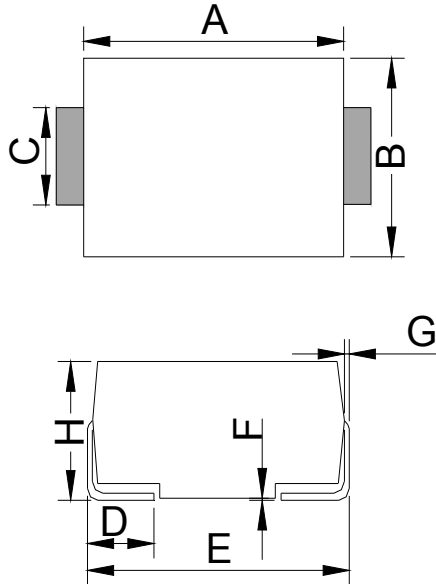


Pulse Waveform



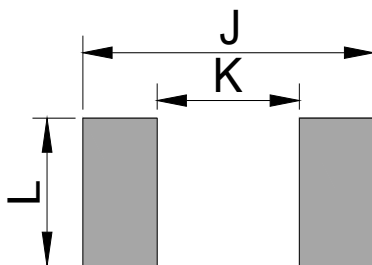
Peak Pulse Power Rating

DO-214AA(SMB) Package Outline Drawing



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	

Suggested Land Pattern



Contact Information

Changzhou D-first Electronics CO.,Ltd.

www.first-electronic.com

Email: yf@first-electronic.cn

Phone: +86 (0519) 8817 1671