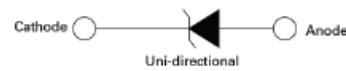


## SMBJ Series

### Transient Voltage Suppression Diodes

#### Feature

- Bi/Uni-directional configurations
- Plastic package has Underwriters
- Glass passivated chip junction in SMBJ package
- 600 Watts peak pulse power (tp=10/1000uS)
- Fast response time :typical less than 1.0ps
- Halogen free and Rohs compliant
- Fast response time: typically less than
  - 1.0ps from 0 Volts to V(BR) for uni directional and
  - 5.0ns for bi-directional types
- High temperature soldering guaranteed:
  - 250°C/10 seconds at terminals



#### Mechanical Characteristics

- Molded JEDEC SMBJ Package
- Flammability rating UL 94V-0
- Halogen Free

#### Device Characteristics

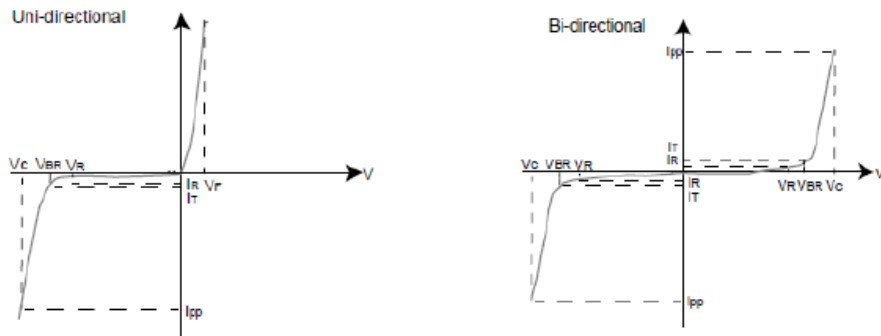
Maximum Ratings@25 unless otherwise specified			
Parameter	Symbol	Value	Units
Peak pulse power (tp=10/1000us) see fig 1.(note1)	PPP	600	Watts
Operating Temperature	TJ	-55~+150	°C
Storage Temperature	TSTG	-55~+150	°C
Peak Forward Surge Current,8.3mS signal half sine wave Uni-directional only(note2)	IFSM	100	A
Maximum instantaneous Forward Voltage at 100A for Uni-direction only(note3)	VF	3.5/5.0	V

#### Notes:

1. Non-repetitive current pulse,per Fig.3 and derated above TA=25°C per Fig 2.
2. Measured on 8.3ms signal half sine wave or equivalent square wave,duty cycle=4 per minute maximum.
3. VF<3.5V for device of VBR<200V and VF<5.0V for device of VBR>201V.

Part Number		Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Reverse Leakage		Max. Clamp Voltage	Peak Pulse Current	Package
			VRWM	VBR @ IT		IR @ VRWM				
UNI	BI	V		Min	Max		IT	UNI	BI	Vc @ IPP
		V	V	V	m A	µA	µA	V	A	
600 W Transient Voltage Suppressors SMBJ Series										
SMBJ5.0A	SMBJ5.0CA	5.0	6.40	7.00	10	200	400	9.2	87.0	SMBJ
SMBJ6.0A	SMBJ6.0CA	6.0	6.67	7.37	10	200	400	10.3	77.7	SMBJ
SMBJ6.5A	SMBJ6.5CA	6.5	7.22	7.98	10	200	400	11.2	71.4	SMBJ
SMBJ7.0A	SMBJ7.0CA	7.0	7.79	8.61	10	200	400	12.0	66.7	SMBJ
SMBJ7.5A	SMBJ7.5CA	7.5	8.33	9.21	1	50	100	12.9	62.0	SMBJ
SMBJ8.0A	SMBJ8.0CA	8.0	8.89	9.83	1	50	100	13.6	58.8	SMBJ
SMBJ8.5A	SMBJ8.5CA	8.5	9.44	10.40	1	10	20	14.4	55.6	SMBJ
SMBJ9.0A	SMBJ9.0CA	9.0	10	11	1	5	10	15.4	51.9	SMBJ
SMBJ10A	SMBJ10CA	10	11	12	1	5	10	17.0	47.1	SMBJ
SMBJ11A	SMBJ11CA	11	12	14	1	1	1	18.2	44.0	SMBJ
SMBJ12A	SMBJ12CA	12	13	15	1	1	1	19.9	40.2	SMBJ
SMBJ13A	SMBJ13CA	13	14	16	1	1	1	21.5	37.2	SMBJ
SMBJ14A	SMBJ14CA	14	16	17	1	1	1	23.2	34.5	SMBJ
SMBJ15A	SMBJ15CA	15	17	19	1	1	1	24.4	32.8	SMBJ
SMBJ16A	SMBJ16CA	16	18	20	1	1	1	26.0	30.8	SMBJ
SMBJ17A	SMBJ17CA	17	19	21	1	1	1	27.6	29.0	SMBJ
SMBJ18A	SMBJ18CA	18	20	22	1	1	1	29.2	27.4	SMBJ
SMBJ20A	SMBJ20CA	20	22	25	1	1	1	32.4	24.7	SMBJ
SMBJ22A	SMBJ22CA	22	24	27	1	1	1	35.5	22.5	SMBJ
SMBJ24A	SMBJ24CA	24	27	30	1	1	1	38.9	20.6	SMBJ
SMBJ26A	SMBJ26CA	26	29	32	1	1	1	42.1	19.0	SMBJ
SMBJ28A	SMBJ28CA	28	31	34	1	1	1	45.4	17.6	SMBJ
SMBJ30A	SMBJ30CA	30	33	37	1	1	1	48.4	16.5	SMBJ
SMBJ33A	SMBJ33CA	33	37	41	1	1	1	53.3	15.0	SMBJ
SMBJ36A	SMBJ36CA	36	40	44	1	1	1	58.1	13.8	SMBJ
SMBJ40A	SMBJ40CA	40	44	49	1	1	1	64.5	12.4	SMBJ
SMBJ43A	SMBJ43CA	43	48	53	1	1	1	69.4	11.5	SMBJ
SMBJ45A	SMBJ45CA	45	50	55	1	1	1	72.7	11.0	SMBJ
SMBJ48A	SMBJ48CA	48	53	59	1	1	1	77.4	10.3	SMBJ
SMBJ51A	SMBJ51CA	51	57	63	1	1	1	82.4	9.7	SMBJ
SMBJ54A	SMBJ54CA	54	60	66	1	1	1	87.1	9.2	SMBJ
SMBJ58A	SMBJ58CA	58	64	71	1	1	1	93.6	8.5	SMBJ
SMBJ60A	SMBJ60CA	60	67	74	1	1	1	96.8	8.3	SMBJ
SMBJ64A	SMBJ64CA	64	71	79	1	1	1	103	7.8	SMBJ
SMBJ70A	SMBJ70CA	70	78	86	1	1	1	113	7.1	SMBJ
SMBJ75A	SMBJ75CA	75	83	92	1	1	1	121	6.6	SMBJ
SMBJ78A	SMBJ78CA	78	87	96	1	1	1	126	6.3	SMBJ
SMBJ85A	SMBJ85CA	85	94	104	1	1	1	137	5.8	SMBJ
SMBJ90A	SMBJ90CA	90	100	111	1	1	1	146	5.5	SMBJ
SMBJ100A	SMBJ100CA	100	111	123	1	1	1	162	4.9	SMBJ
SMBJ110A	SMBJ110CA	110	122	135	1	1	1	177	4.5	SMBJ
SMBJ120A	SMBJ120CA	120	133	147	1	1	1	193	4.1	SMBJ
SMBJ130A	SMBJ130CA	130	144	159	1	1	1	209	3.8	SMBJ
SMBJ150A	SMBJ150CA	150	167	185	1	1	1	243	3.3	SMBJ
SMBJ160A	SMBJ160CA	160	178	197	1	1	1	259	3.1	SMBJ
SMBJ170A	SMBJ170CA	170	189	209	1	1	1	275	2.9	SMBJ
SMBJ180A	SMBJ180CA	180	201	222	1	1	1	292	2.7	SMBJ
SMBJ200A	SMBJ200CA	200	224	247	1	1	1	324	2.5	SMBJ
SMBJ220A	SMBJ220CA	220	246	272	1	1	1	356	2.2	SMBJ
SMBJ250A	SMBJ250CA	250	279	309	1	1	1	405	2.0	SMBJ
SMBJ300A	SMBJ300CA	300	335	371	1	1	1	486	1.6	SMBJ
SMBJ350A	SMBJ350CA	350	391	432	1	1	1	567	1.4	SMBJ
SMBJ400A	SMBJ400CA	400	447	494	1	1	1	648	1.2	SMBJ
SMBJ440A	SMBJ440CA	440	492	543	1	1	1	713	1.1	SMBJ

### I-V Curve Characteristics



- P<sub>PPM</sub>** Peak Pulse Power Dissipation-Max power dissipation
- V<sub>R</sub>** Stand-off Voltage-Maximum voltage that can be applied to the TVS without operation
- I<sub>R</sub>** Reverse Leakage Current-Current measured at V<sub>R</sub>
- V<sub>F</sub>** Forward Voltage Drop for Uni-directional
- V<sub>BR</sub>** Breakdown Voltage-Maximum voltage that flows though the TVS at a specified test current(I<sub>T</sub>)
- V<sub>C</sub>** Clamping Voltage-Peak voltage measured across the suppressor at a specified I<sub>ppm</sub> (peak impulse current)

### Ratings and Characteristics Curve (TA=25°C unless otherwise noted)

Fig 1. Peak Pulse Power Rating Curve

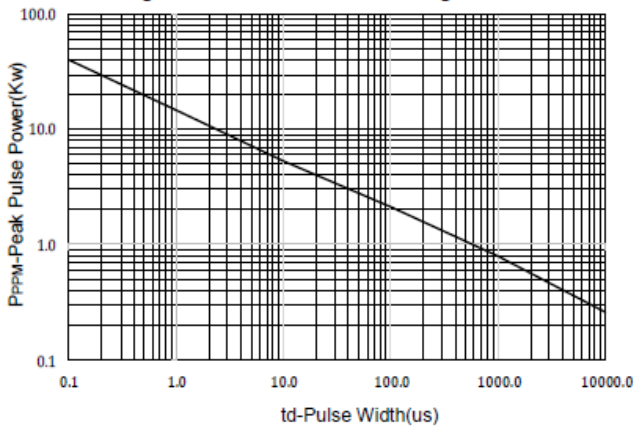


Fig 2. Pulse Derating Curve

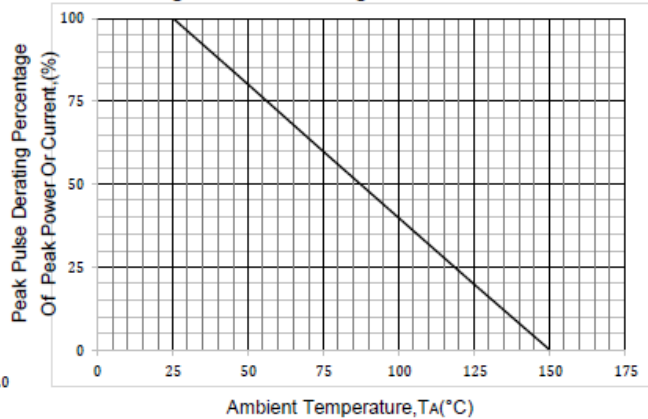


Fig 3. Maximum Non-Repetitive Forward

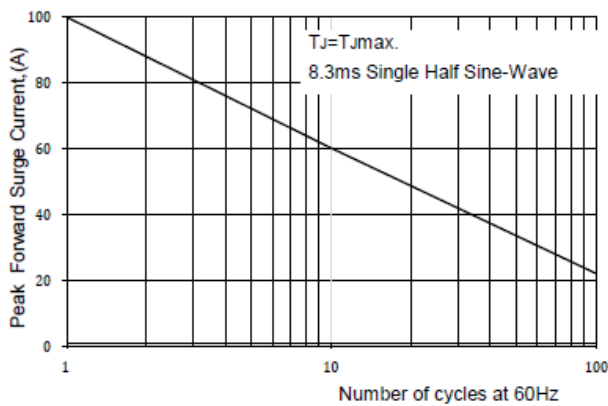
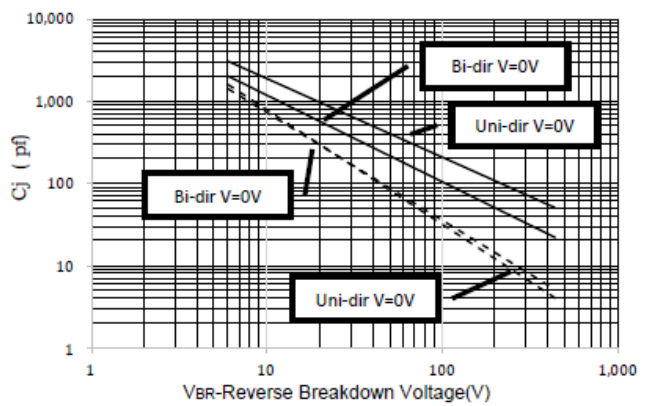
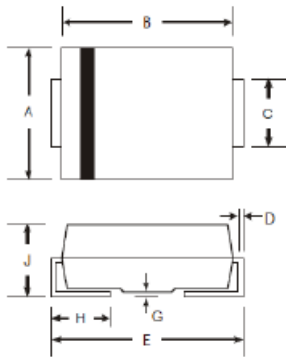


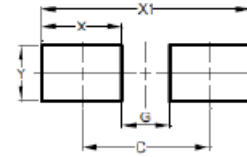
Fig 4. Typical Junction Capacitance



### Dimensions and packing



SMB		
Dim	Min	Max
A	3.30	3.94
B	4.06	4.57
C	1.96	2.21
D	0.15	0.31
E	5.00	5.59
G	0.05	0.20
H	0.76	1.52
J	2.00	2.50
All Dimensions in mm		



Dimensions	Value (in mm)
C	4.30
G	1.90
X	2.50
X1	0.80
Y	2.30

Part Number	Component Package	Quantity	Packaging Option	Packaging Specification
SMBJXX	SMBJ	3,000	Tape&reel-8mm tape/7"reel	EIA STD RS-481

