TRANSIENT VOLTAGE SUPPRESSOR

FEATURE

- Plastic package.
- Glass passivated chip junction in SMB Package
- Excellent clamping capability.
- Low zener impedance.
- 600W peak pulse power capability on 10/1000μs waveform.
- Typical IR less than 1μA above 13V.
- Fast response time: typically less than 1.0ps from 0 Volts to BV min.
- High temperature soldering guaranteed: 265℃/10 seconds

MECHANICAL DATE

- Case: JEDEC SMB Molded Plastic.
- Terminals: Axial leads, solderable per MIL-STD-750, Method 2026.
- Polarity: Color band denoted cathode except bidirectional.
- Mounting Position: Any.

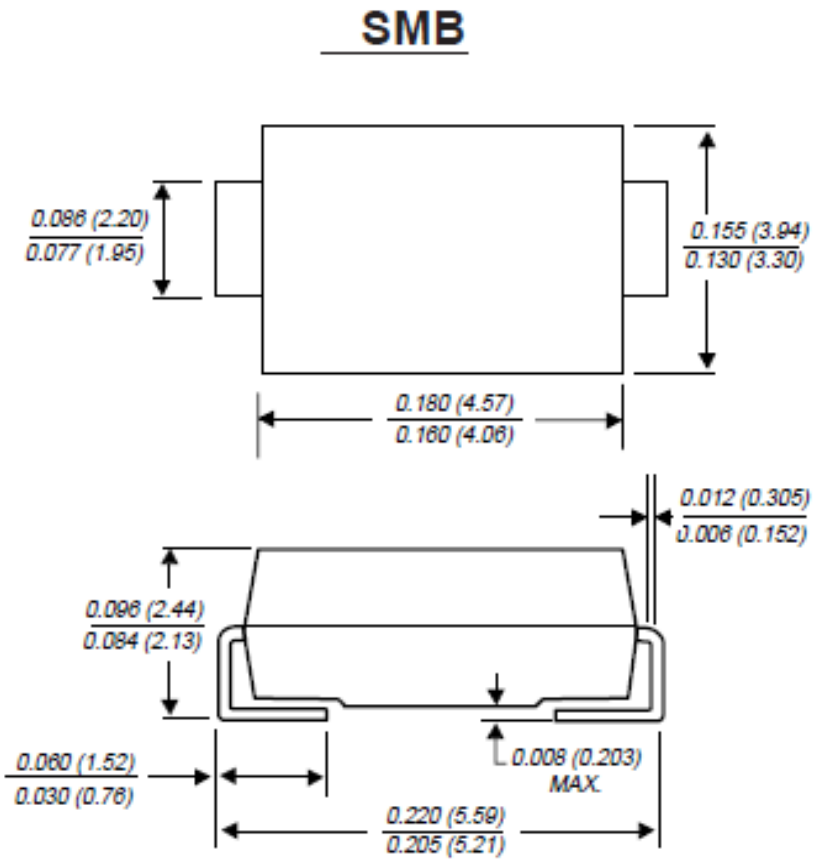
MAXIMUM RATINGS AND CHRACTERISTICS

Ratings at 25ć ambient temperature unless otherwise specified.

RATING	SYMBOL	VALUE	UNITS
Peak Pulse Power Dissipation on 10/1000us waveform (Note1, Fig.1).	P_{PPM}	Minimum 600	Watts
Peak Pulse Current of on 10/1000us waveform. (Note1, Fig.3)	I_{PPM}	See Table	Amps
Steady State Power Dissipation at TL =75℃, Lead lengths.375″, (9.5mm) (Fig.5).	$P_{M(AV)}$	5.0	Watts
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load, (JEDEC Method) (Note 2, Fig.6).	I_{FSM}	100	Amps
Operating junction and Storage Temperature Range.	T_J, T_{STG}	-55 to +150	℃

Notes:

1. Non-repetitive current pulse, per Fig. 3 and derated above TA = 25℃ per Fig. 2.
2. 8.3ms single half sine-wave, or equivalent square wave, Duty cycle = 4 pulses per minutes maximum.



ELECTRICAL CHARACTERISTICS

Part Number		Marking		Reverse Stand-Off Voltage	Breakdown Voltage NIN.@IT	Breakdown Voltage MAX.@IT	Reverse Leakage @VRWM	Test Current	Peak Pulse Current	Maximum Clamping Voltage
UNT	BI	UNT	BI	VR(V)	VBL(V)	VBH(V)	IR(uA)	IT(mA)	IPP(A)	VCH(V)
SMBJ5.0A	SMBJ5.0CA	KE	AE	5.0	6.40	7.00	800	10	65.3	9.2
SMBJ6.0A	SMBJ6.0CA	KG	AG	6.0	6.67	7.37	800	10	58.3	10.3
SMBJ6.5A	SMBJ6.5CA	KK	AK	6.5	7.22	7.98	500	10	53.6	11.2
SMBJ7.0A	SMBJ7.0CA	KM	AM	7.0	7.78	8.60	200	10	50.0	12.0
SMBJ7.5A	SMBJ7.5CA	KP	AP	7.5	8.33	9.21	100	1	46.6	12.9
SMBJ8.0A	SMBJ8.0CA	KR	AR	8.0	8.89	9.83	50	1	44.2	13.6
SMBJ8.5A	SMBJ8.5CA	KT	AT	8.5	9.44	10.40	20	1	41.7	14.4
SMBJ9.0A	SMBJ9.0CA	KV	AV	9.0	10.00	11.10	10	1	39.0	15.4
SMBJ10A	SMBJ10CA	KX	AX	10	11.10	12.30	5	1	35.3	17.0
SMBJ11A	SMBJ11CA	KZ	AZ	11	12.20	13.50	1	1	33.0	18.2
SMBJ12A	SMBJ12CA	LE	BE	12	13.30	14.70	1	1	30.2	19.9
SMBJ13A	SMBJ13CA	LG	BG	13	14.40	15.90	1	1	28.0	21.5

Part Number		Marking		Reverse Stand-Off Voltage	Breakdown Voltage NIN.@IT	Breakdown Voltage MAX.@IT	Reverse Leakage @VRWM	Test Current	Peak Pulse Current	Maximum Clamping Voltage @IPP
UNT	BI	UNT	BI	VR(V)	VBL(V)	VBH(V)	IR(uA)	IT(mA)	IPP(A)	VCH(V)
SMBJ14A	SMBJ14CA	LK	BK	14	15.60	17.20		1	25.9	23.2
SMBJ15A	SMBJ15CA	LM	BM	15	16.70	18.50	1	1	24.6	24.4
SMBJ16A	SMBJ16CA	LP	BP	16	17.80	19.70	1	1	23.1	26.0
SMBJ17A	SMBJ17CA	LR	BR	17	18.90	20.90	1	1	21.8	27.6
SMBJ18A	SMBJ18CA	LT	BT	18	20.00	22.10	1	1	20.6	29.2
SMBJ20A	SMBJ20CA	LV	BV	20	22.20	24.50	1	1	18.6	32.4
SMBJ22A	SMBJ22CA	LX	BX	22	24.40	26.90	1	1	16.9	35.5
SMBJ24A	SMBJ24CA	LZ	BZ	24	26.70	29.50	1	1	15.5	38.9
SMBJ26A	SMBJ26CA	ME	CE	26	28.90	31.90	1	1	14.3	42.1
SMBJ28A	SMBJ28CA	MG	CG	28	31.10	34.40	1	1	13.3	45.4
SMBJ30A	SMBJ30CA	MK	CK	30	33.30	36.80	1	1	12.4	48.4
SMBJ33A	SMBJ33CA	MM	CM	33	36.70	40.60	1	1	11.3	53.3
SMBJ36A	SMBJ36CA	MP	CP	36	40.00	44.20	1	1	10.4	58.1
SMBJ40A	SMBJ40CA	MR	CR	40	44.40	49.10	1	1	9.3	64.5
SMBJ43A	SMBJ43CA	MT	CT	43	47.80	52.80	1	1	8.7	69.4
SMBJ45A	SMBJ45CA	MV	CV	45	50.00	55.30	1	1	8.3	72.7
SMBJ48A	SMBJ48CA	MX	CX	48	53.30	58.90	1	1	7.8	77.4
SMBJ51A	SMBJ51CA	MZ	CZ	51	56.70	62.70	1	1	7.3	82.4
SMBJ54A	SMBJ54CA	NE	DE	54	60.00	66.30	1	1	6.9	87.1
SMBJ58A	SMBJ58CA	NG	DG	58	64.40	71.20	1	1	6.5	93.6
SMBJ60A	SMBJ60CA	NK	DK	60	66.70	73.70	1	1	6.2	96.8
SMBJ64A	SMBJ64CA	NM	DM	64	71.10	78.60	1	1	5.9	103
SMBJ70A	SMBJ70CA	NP	DP	70	77.80	86.00	1	1	5.3	113
SMBJ75A	SMBJ75CA	NR	DR	75	83.30	92.10	1	1	5.0	121
SMBJ78A	SMBJ78CA	NT	DT	78	86.70	95.80	1	1	4.8	126
SMBJ85A	SMBJ85CA	NV	DV	85	94.4	104.0	1	1	4.4	137
SMBJ90A	SMBJ90CA	NX	DX	90	100.0	111.0	1	1	4.1	146
SMBJ100A	SMBJ100CA	NZ	DZ	100	111.0	123.0	1	1	3.7	162
SMBJ110A	SMBJ110CA	PE	EE	110	122.0	135.0	1	1	3.4	177
SMBJ120A	SMBJ120CA	PG	EG	120	133.0	147.0	1	1	3.1	193
SMBJ130A	SMBJ130CA	PK	EK	130	144.0	159.0	1	1	2.9	209
SMBJ150A	SMBJ150CA	PM	EM	150	167.0	185.0	1	1	2.5	243
SMBJ160A	SMBJ160CA	PP	EP	160	178.0	197.0	1	1	2.3	259
SMBJ170A	SMBJ170CA	PR	ER	170	189.0	209.0	1	1	2.2	275
SMBJ180A	SMBJ180CA	PT	ET	180	201.0	222.0	1	1	2.1	292
SMBJ190A	SMBJ190CA	PA	EC	190	209.0	243.0	1	1	2.0	308
SMBJ200A	SMBJ200CA	PV	EV	200	224.0	247.0	1	1	1.9	324
SMBJ220A	SMBJ220CA	PX	EX	220	246.0	272.0	1	1	1.7	356
SMBJ250A	SMBJ250CA	PZ	EZ	250	279.0	309.0	1	1	1.5	405
SMBJ300A	SMBJ300CA	QE	FE	300	335.0	371.0	1	1	1.3	486
SMBJ350A	SMBJ350CA	QG	FG	350	391.0	432.0	1	1	1.1	567
SMBJ400A	SMBJ400CA	QK	FK	400	447.0	494.0	1	1	0.9	648
SMBJ440A	SMBJ440CA	QM	FM	440	492.0	543.0	1	1	0.9	713

Notes: For bidirectional type having V_{RWM} of 10 volts and less, the I_R limit is double

RATINGS AND CHARACTERISTIC CURVES (TA=25℃ unless otherwise noted)

Fig. 1 – Peak Pulse Power Rating Curve

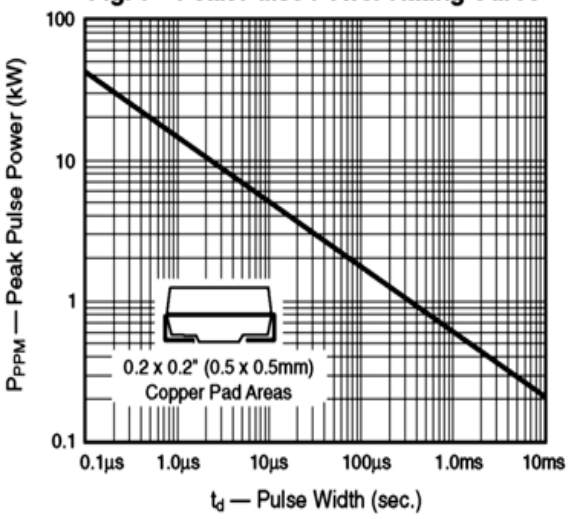


Fig. 2 – Pulse Derating Curve

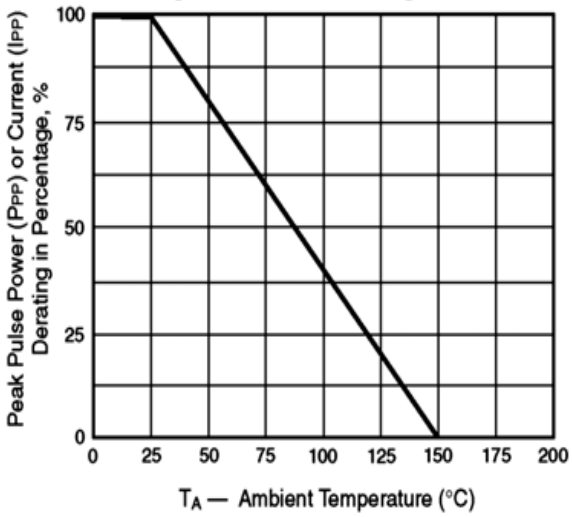


Fig. 3 – Pulse Waveform

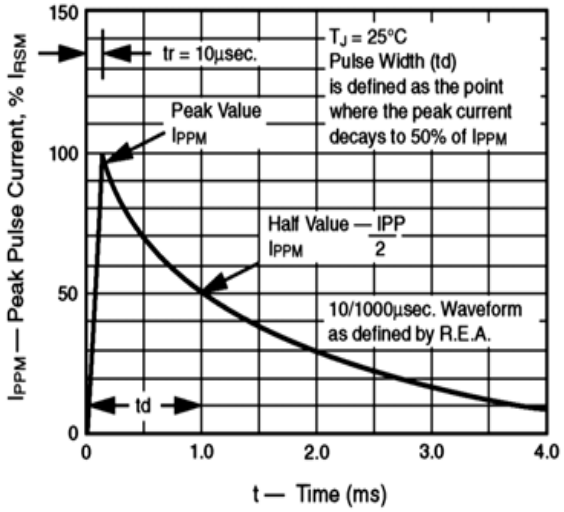


Fig. 4 – Typical Junction Capacitance

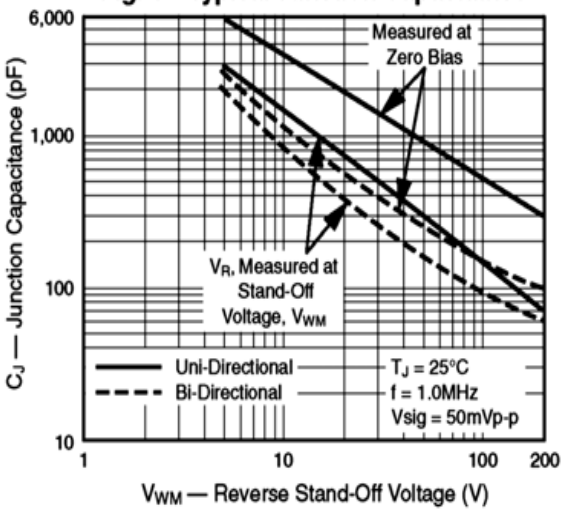


Fig. 5 – Typical Transient Thermal Impedance

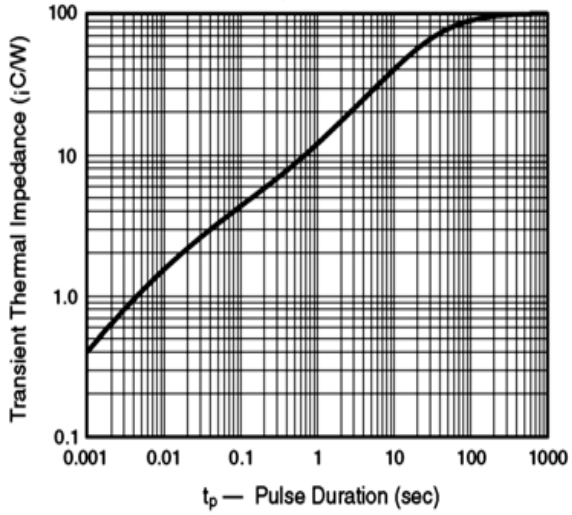
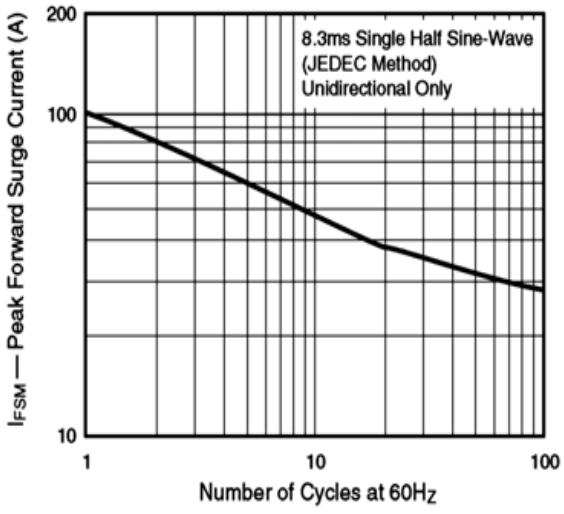


Fig. 6 – Maximum Non-Repetitive Peak Forward Surge Current



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