

# Transient Voltage Suppressor

## 1.0SMBJ6.8A - 1.0SMBJ440A

### Features

- Optimized for LAN protection applications
- Low profile package with built-in strain relief for SMT applications
- Low incremental surge resistance, excellent clamping capability
- 1000W peak pulse power capability with very fast response time
- High temperature soldering guaranteed: 260°C / 10s at terminals
- Uni-directional applications
- RoHS compliant with Halogen-free

HF



### Mechanical Data

- Case: SMB molded plastic
- Molding compound: UL flammability classification rating 94V-0
- Terminals: Solder plated; solderable per MIL- STD-202, Method 208

### Maximum Ratings (@T<sub>A</sub> = 25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak power dissipation with a 10/1000μs waveform *1	P <sub>PPM</sub>	Minimum 1000	W
Peak pulse current with a 10/1000μs waveform *1	I <sub>PPM</sub>	see E. Characteristics	A
Typical Thermal Resistance *2	R <sub>θJA</sub>	60	°C/W
	R <sub>θJC</sub>	23	
	R <sub>θJL</sub>	25	
Operating junction and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	-55 ~ +150	°C

Note \*1: Non-repetitive current pulses

Note \*2: Device mounted on p.c.b. with 10 mm x 20 mm x 0.1 mm copper pad area

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## Electrical Characteristics (@T<sub>A</sub> = 25°C unless otherwise specified)

Type	Breakdown Voltage V <sub>BR</sub> @ I <sub>T</sub>		Test Current	Reverse Standoff Voltage	Max. Reverse Leakage @ V <sub>RWM</sub>	Max. Peak Pulse Current	Max. Clamping Voltage @ I <sub>PP</sub>
	(V)		I <sub>T</sub>	V <sub>RWM</sub>	I <sub>R_MAX</sub>	I <sub>PP_MAX</sub>	V <sub>C</sub>
	Min.	Max.	(mA)	(V)	(μA)	(A)	(V)
1.0SMBJ6.8A	7.56	8.35	10	6.8	500	83.3	12
1.0SMBJ7.0A	7.78	8.6	10	7	200	83.3	12
1.0SMBJ7.5A	8.33	9.21	1	7.5	100	77.5	12.9
1.0SMBJ8.0A	8.89	9.83	1	8	50	73.5	13.6
1.0SMBJ8.5A	9.44	10.4	1	8.5	20	69.4	14.4
1.0SMBJ9.0A	10	11.1	1	9	10	64.9	15.4
1.0SMBJ10A	11.1	12.3	1	10	5	58.8	17
1.0SMBJ11A	12.2	13.5	1	11	1	54.9	18.2
1.0SMBJ12A	13.3	14.7	1	12	1	50.3	19.9
1.0SMBJ13A	14.4	15.9	1	13	1	47.6	21
1.0SMBJ14A	15.6	17.2	1	14	1	43.1	23.2
1.0SMBJ15A	16.7	18.5	1	15	1	41	24.4
1.0SMBJ16A	17.8	19.7	1	16	1	38.5	26
1.0SMBJ17A	18.9	20.9	1	17	1	36.2	27.6
1.0SMBJ18A	20	22.1	1	18	1	34.2	29.2
1.0SMBJ20A	22.2	24.5	1	20	1	30.9	32.4
1.0SMBJ22A	24.4	26.9	1	22	1	28.2	35.5
1.0SMBJ24A	26.7	29.5	1	24	1	25.7	38.9
1.0SMBJ26A	28.9	31.9	1	26	1	23.8	42.1
1.0SMBJ28A	31.1	34.4	1	28	1	22	45.4
1.0SMBJ30A	33.3	36.8	1	30	1	20.7	48.4
1.0SMBJ33A	36.7	40.6	1	33	1	18.8	53.3
1.0SMBJ36A	40	44.2	1	36	1	17.2	58.1
1.0SMBJ40A	44.4	49.1	1	40	1	15.5	64.5
1.0SMBJ43A	47.8	52.8	1	43	1	14.4	69.4
1.0SMBJ45A	50	55.3	1	45	1	13.8	72.7

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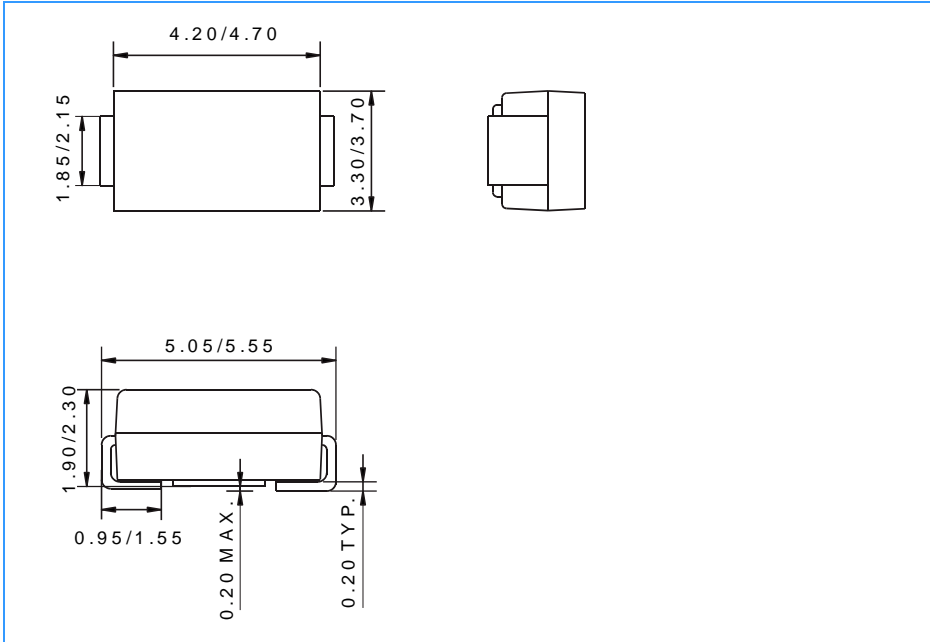
## 1.0SMBJ6.8A - 1.0SMBJ440A

Type	Breakdown Voltage $V_{BR}$ @ $I_T$		Test Current	Reverse Standoff Voltage	Max. Reverse Leakage @ $V_{RWM}$	Max. Peak Pulse Current	Max. Clamping Voltage @ $I_{PP}$
	(V)		$I_T$	$V_{RWM}$	$I_{R\_MAX}$	$I_{PP\_MAX}$	$V_C$
	Min.	Max.	(mA)	(V)	( $\mu$ A)	(A)	(V)
1.0SMBJ48A	53.3	58.9	1	48	1	12.9	77.4
1.0SMBJ51A	56.7	62.7	1	51	1	12.1	82.4
1.0SMBJ54A	60	66.3	1	54	1	11.5	87.1
1.0SMBJ58A	64.4	71.2	1	58	1	10.7	93.6
1.0SMBJ60A	66.7	73.7	1	60	1	10.3	96.8
1.0SMBJ64A	71.1	78.6	1	64	1	9.7	103
1.0SMBJ68A	75.5	83.5	1	68	1	9.2	109
1.0SMBJ70A	77.8	86	1	70	1	8.8	113
1.0SMBJ75A	83.3	92.1	1	75	1	8.3	121
1.0SMBJ78A	86.7	95.8	1	78	1	7.9	126
1.0SMBJ85A	94.4	104	1	85	1	7.3	137
1.0SMBJ90A	100	111	1	90	1	6.8	146
1.0SMBJ100A	111	123	1	100	1	6.2	162
1.0SMBJ110A	122	135	1	110	1	5.6	177
1.0SMBJ120A	133	147	1	120	1	5.2	193
1.0SMBJ130A	144	159	1	130	1	4.8	209
1.0SMBJ150A	167	185	1	150	1	4.1	243
1.0SMBJ160A	178	197	1	160	1	3.9	259
1.0SMBJ170A	189	209	1	170	1	3.6	275
1.0SMBJ188A	209	231	1	188	1	3	328
1.0SMBJ200A	222	246	1	200	1	3.1	323
1.0SMBJ220A	245	270	1	220	1	2.8	355
1.0SMBJ240A	267	295	1	240	1	2.6	388
1.0SMBJ250A	278	307	1	250	1	2.5	404
1.0SMBJ300A	333	368	1	300	1	2.1	485
1.0SMBJ350A	389	429	1	350	1	1.8	566
1.0SMBJ360A	400	442	1	360	1	1.7	582
1.0SMBJ400A	445	491	1	400	1	1.5	646
1.0SMBJ440A	489	540	1	440	1	1.4	711

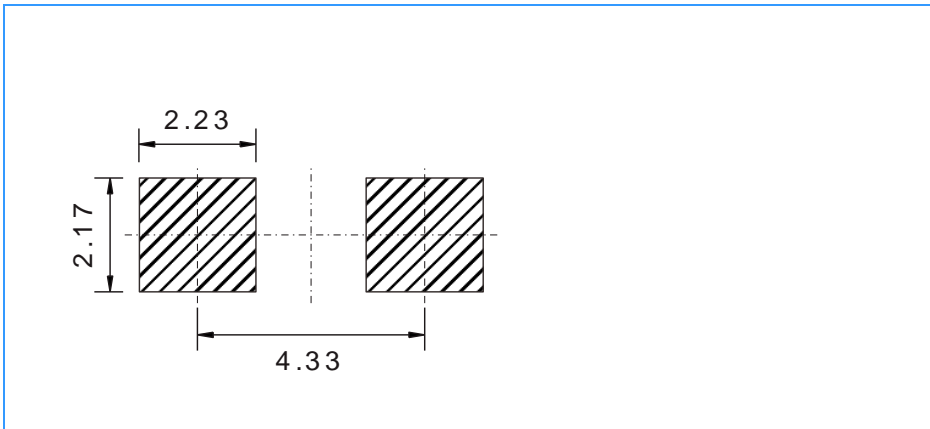
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## Package Outline Dimensions (unit: mm)



## Mounting Pad Layout (unit: mm)



## Ordering Information

Part Number	Package	Package
1.0SMBJ6.8A - 1.0SMBJ440A	SMB	3000 / Tape & Reel