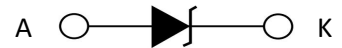


S-SM8SxxA Series

Surface Mount Transient Voltage Suppressor

1. FEATURES

- Junction passivation optimized design passivated anisotropic rectifier technology
- $T_J=175^{\circ}\text{C}$ capability suitable for high reliability and automotive requirement
- Low leakage current
- Low forward voltage drop
- Meets RoHS2.0 (2011/65/EU)
- Meets MSL level 1, per J-STD-020
- Meet ISO7637-2 surge specification
- AEC-Q101 qualified
- S- prefix for automotive and other applications requiring unique site and control change requirements; AEC-Q101 qualified and PPAP capable



2. MECHANICAL DATA

Case: DO-218AB

Molding compound meets UL 94V-0 flammability rating

Base P/NHE3-RoHS-compliant, AEC-Q101 qualified

Terminals: Matte tin plated leads, solderable per J-STD-002

Polarity: Heatsink is anode

Weight: 2.7g

3. MAXIMUM RATINGS($T_C=25^{\circ}\text{C}$)

Parameter	Symbol	Limit	Unit
Peak pulse power dissipation at 10/1000 μs waveform	P _{PPM}	6600	W
Peak pulse power dissipation at 10/10000 μs waveform		5200	W
Power dissipation on infinite heat sink at $T_C=25^{\circ}\text{C}$	P _D	8.0	W
Peak forward surge current, 8.3ms single half sine-wave	I _{FSM}	700	A
Operating junction and storage temperature range	T _J , T _{STG}	-55 ~ +175	$^{\circ}\text{C}$
Typical thermal resistance junction to case	R _{θJC}	0.9	$^{\circ}\text{C}/\text{W}$

4.ELECTRICAL CHARACTERISTICS

Uni-Directional Part Number	Device Marking Code	Reverse Stand-off Voltage VRWM (V)	Breakdown Voltage VBR (V) Min. @IT	Breakdown Voltage VBR (V) Max. @IT	Test Current IT (mA)	Maximum Clamping Voltage VC(V)@IPP	Peak Pulse Current Ipp (A)	Reverse Leakage @VRWM IR (uA)
S-SM8S10A	SM8S10A	10.0	11.1	12.3	5	17.0	388	15
S-SM8S11A	SM8S11A	11.0	12.2	13.5	5	18.2	363	10
S-SM8S12A	SM8S12A	12.0	13.3	14.7	5	19.9	332	10
S-SM8S13A	SM8S13A	13.0	14.4	15.9	5	21.5	307	10
S-SM8S14A	SM8S14A	14.0	15.6	17.2	5	23.2	284	10
S-SM8S15A	SM8S15A	15.0	16.7	18.5	5	24.4	270	10
S-SM8S16A	SM8S16A	16.0	17.8	19.7	5	26.0	253	10
S-SM8S17A	SM8S17A	17.0	18.9	20.9	5	27.6	239	10
S-SM8S18A	SM8S18A	18.0	20.0	22.1	5	29.2	226	10
S-SM8S20A	SM8S20A	20.0	22.2	24.5	5	32.4	204	10
S-SM8S22A	SM8S22A	22.0	24.4	26.9	5	35.5	186	10
S-SM8S24A	SM8S24A	24.0	26.7	29.5	5	38.9	170	10
S-SM8S26A	SM8S26A	26.0	28.9	31.9	5	42.1	157	10
S-SM8S28A	SM8S28A	28.0	31.1	34.4	5	45.4	145	10
S-SM8S30A	SM8S30A	30.0	33.3	36.8	5	48.4	136	10
S-SM8S32A	SM8S32A	32.0	35.5	39.4	5	51.4	128.5	10
S-SM8S33A	SM8S33A	33.0	36.7	40.6	5	53.3	124	10
S-SM8S36A	SM8S36A	36.0	40.0	44.2	5	58.1	114	10
S-SM8S40A	SM8S40A	40.0	44.4	49.1	5	64.5	102	10
S-SM8S43A	SM8S43A	43.0	47.8	52.8	5	69.4	95.1	10
S-SM8S48A	SM8S48A	48.0	53.2	58.7	5	77.4	85	10

5. ELECTRICAL CHARACTERISTICS CURVES

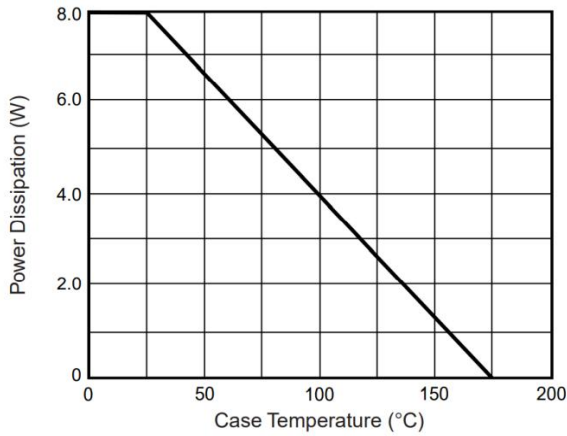


Fig.1: Power Derating Curve

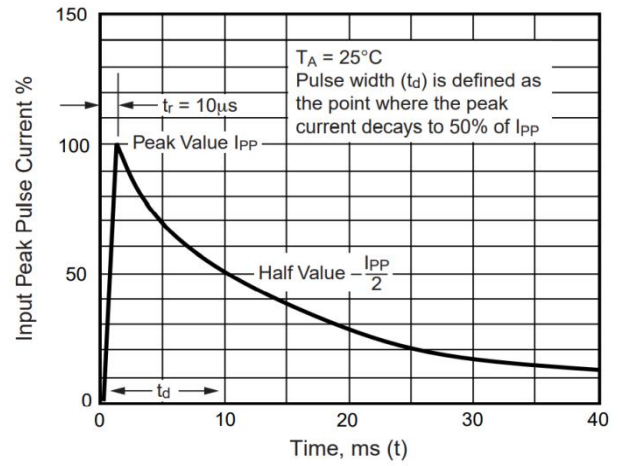


Fig.2: Pulse Waveform

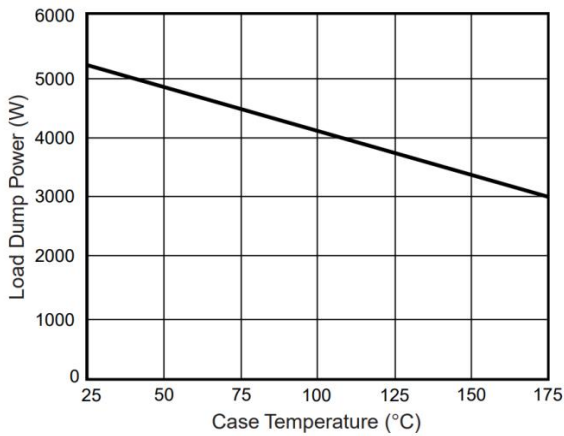


Fig.3: Load Dump Power Characteristics
(10 ms Exponential Waveform)

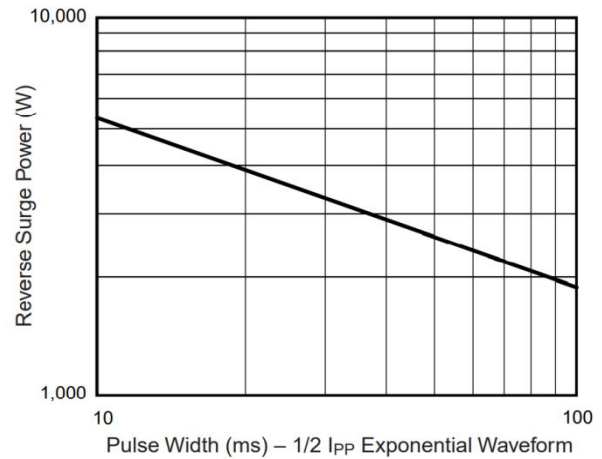
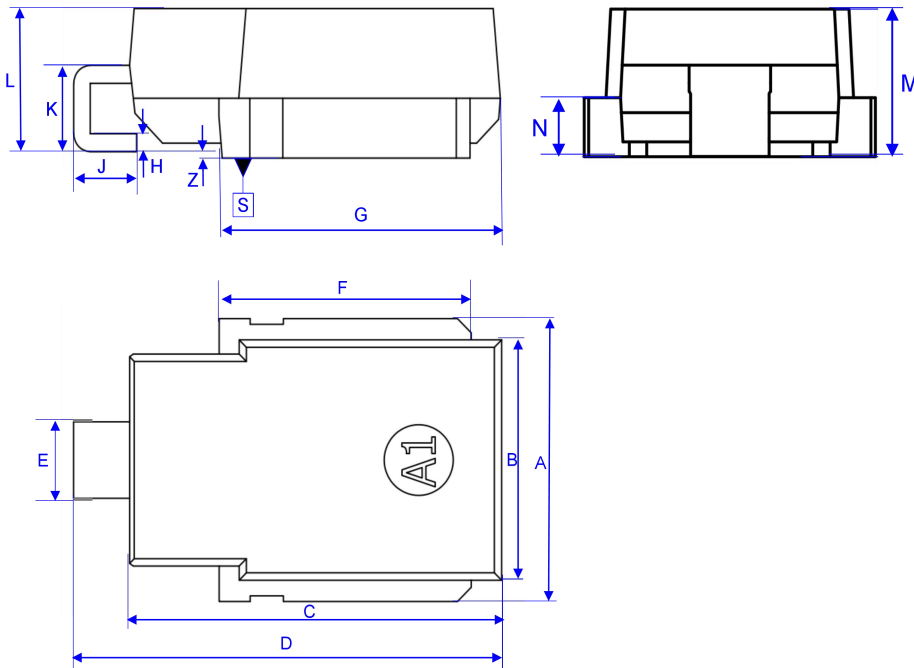


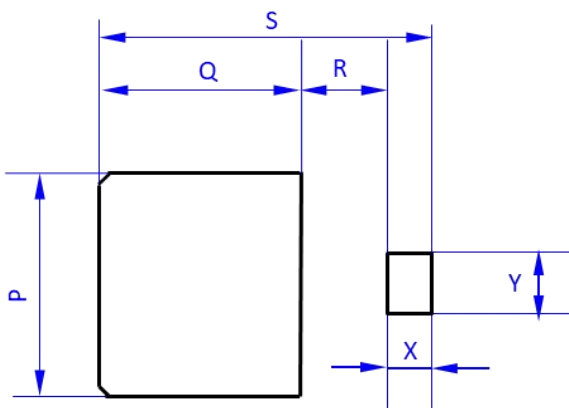
Fig.4: Reverse Power Capability

6. OUTLINE AND DIMENSIONS



DO-218AB			
DIM	Min	Max	Typ.
A	9.5	10.5	10.0
B	8.3	8.7	8.5
C	13.3	13.7	13.5
D	15.0	16.0	15.5
E	2.4	3.1	2.7
F	8.7	9.3	9.0
G	9.8	10.4	10.1
H	0.5	0.7	0.6
J	1.6	2.2	2.0
K	2.5	3.5	3.1
L	4.8	5.8	5.0
M	4.9	5.2	5.0
N	1.9	2.1	2.0
Z	-0.15	0.15	0.00
All Dimensions in mm			

7. SOLDERING FOOTPRINT



DO-218AB			
DIM	Min	Max	Typ.
P	9.5	10.5	10.0
Q	8.7	9.3	9.0
R	3.2	3.8	3.5
S	14.1	14.9	14.5
X	1.7	2.3	2.0
Y	2.4	3.0	2.7
All Dimensions in mm			

DISCLAIMER

- Curve guarantee in the specification. The curve of test items with electric parameter is used as quality guarantee. The curve of test items without electric parameter is used as reference only.
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