

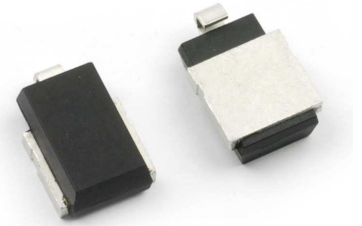
Transient Voltage Suppression Diodes:SM8S Series



SMD Type 6600 W

■ Features

1. AEC-Q101 qualified
2. 6600W peak pulse power capability with a 10/1000 μ s waveform, repetitive rate (duty cycle): 0.01%
3. $T_J = 175^{\circ}\text{C}$ capability suitable for high reliability and automotive requirement
4. Low leakage current
5. Low forward voltage drop
6. Excellent clamping capability
7. Very fast response time
8. RoHS compliant
9. Meet ISO7637-2 5a/5b and ISO16750 load dump test (varied by test condition)
10. ESD protection of data lines in accordance with IEC 61000-4-2,30kV(Air),30kV(Contact)



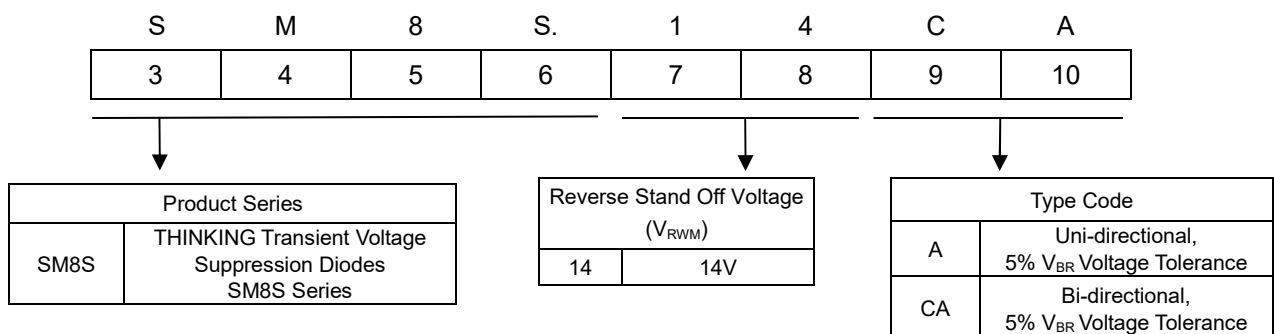
■ Recommended Applications

1. Telecommunication
2. Computer
3. Industrial device
4. Consumer electronic device
5. Automotive

■ Mechanical Data

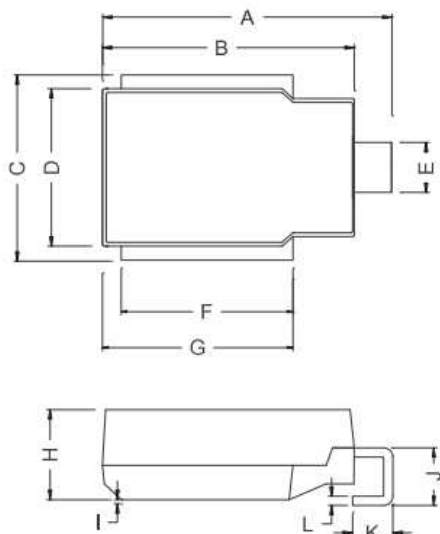
1. Case: Molded plastic, DO-218AB
2. Epoxy: UL 94V-0 rate flame retardant
3. Polarity: Heatsink is anode

■ Part Number Code

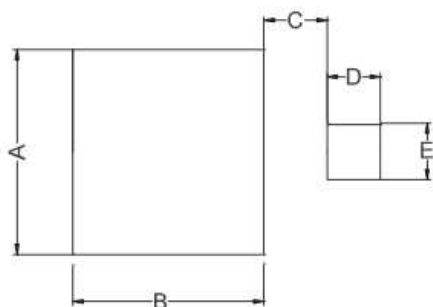


SMD Type 6600 W

Structures and Dimensions



DO-218AB		
Dimensions	Millimeters	
	Min	Max
A	15.00	16.00
B	13.30	13.70
C	9.50	10.50
D	8.30	8.70
E	2.40	3.00
F	8.70	9.50
G	9.70	10.50
H	4.70	5.20
I	0.00	0.20
J	2.50	3.50
K	1.50	2.80
L	0.50	0.70



DO-218AB		
Dimensions	Millimeters	
	Min	Max
A	9.50	10.50
B	9.00	9.60
C	2.80	3.40
D	2.30	2.90
E	2.40	3.00

Maximum Rating ($T_A=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak pulse power dissipation at $T_A=25^\circ\text{C}$ by 10/1000 μs waveform	PPPM	6600	W
Peak forward surge current, 8.3 ms single half sine-wave (Note 1)	I_{FSM}	700	A
Power dissipation on infinite heatsink at $T_C=25^\circ\text{C}$	PD	8.0	W
Maximum instantaneous forward voltage at 100A for unidirectional only	VF	1.8	V
Operating junction and storage temperature range	T_J, T_{STG}	-55~+175	$^\circ\text{C}$

Note: 1. Measured on 8.3ms single half sine wave or equivalent square wave for unidirectional device only, duty cycle=4 per minute maximum

Transient Voltage Suppression Diodes:SM8S Series



SMD Type 6600 W

■ Electrical Characteristics (T_A=25°C unless otherwise noted)

Part No. (Uni)	Part No. (Bi)	Reverse Stand off Voltage	Breakage Voltage VBR @ IT		Test Current IT(mA)	Maximum Clamping Voltage VC @ Ipp	Maximum Peak Pulse Current Ipp(A)	Maximum Reverse Leakage IR @VRWM	Marking Code	
			VRWM (V)	Min(V)					Max(V)	Uni
SM8S10A		10	11.1	12.3	5	17	388	15	SM8S10A	
SM8S11A		11	12.2	13.5	5	18.2	363	10	SM8S11A	
SM8S12A		12	13.3	14.7	5	19.9	332	10	SM8S12A	
SM8S13A		13	14.4	15.9	5	21.5	307	10	SM8S13A	
SM8S14A	SM8S14CA	14	15.6	17.2	5	23.2	284	10	SM8S14A	SM8S14CA
SM8S15A	SM8S15CA	15	16.7	18.5	5	24.4	270	10	SM8S15A	SM8S15CA
SM8S16A	SM8S16CA	16	17.8	19.7	5	26	254	10	SM8S16A	SM8S16CA
SM8S17A	SM8S17CA	17	18.9	20.9	5	27.6	239	10	SM8S17A	SM8S17CA
SM8S18A	SM8S18CA	18	20	22.1	5	29.2	226	10	SM8S18A	SM8S18CA
SM8S20A	SM8S20CA	20	22.2	24.5	5	32.4	204	10	SM8S20A	SM8S20CA
SM8S22A	SM8S22CA	22	24.4	26.9	5	35.5	186	10	SM8S22A	SM8S22CA
SM8S24A	SM8S24CA	24	26.7	29.5	5	38.9	170	10	SM8S24A	SM8S24CA
SM8S26A	SM8S26CA	26	28.9	31.9	5	42.1	157	10	SM8S26A	SM8S26CA
SM8S28A	SM8S28CA	28	31.1	34.4	5	45.4	145	10	SM8S28A	SM8S28CA
SM8S30A	SM8S30CA	30	33.3	36.8	5	48.4	136	10	SM8S30A	SM8S30CA
SM8S33A	SM8S33CA	33	36.7	40.6	5	53.3	124	10	SM8S33A	SM8S33CA
SM8S36A	SM8S36CA	36	40	44.2	5	58.1	114	10	SM8S36A	SM8S36CA
SM8S40A	SM8S40CA	40	44.4	49.1	5	64.5	102	10	SM8S40A	SM8S40CA
SM8S43A	SM8S43CA	43	47.8	52.8	5	69.4	95.1	10	SM8S43A	SM8S43CA
SM8S48A		48	53.3	58.9	5	77.4	85.3	10	SM8S48A	
SM8S58A		58	64.4	71.2	5	93.6	70.5	10	SM8S58A	
SM8S64A		64	71.1	78.6	5	103	64.1	10	SM8S64A	

SMD Type 6600 W

■ Rate and Characteristic Curve ($T_A=25^\circ\text{C}$ unless otherwise noted)

Fig.1 - Pulse Derating Curve

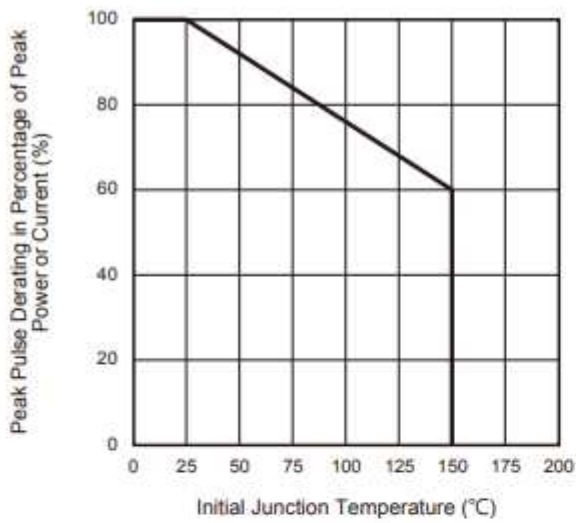


Fig.2 - Pulse Waveform

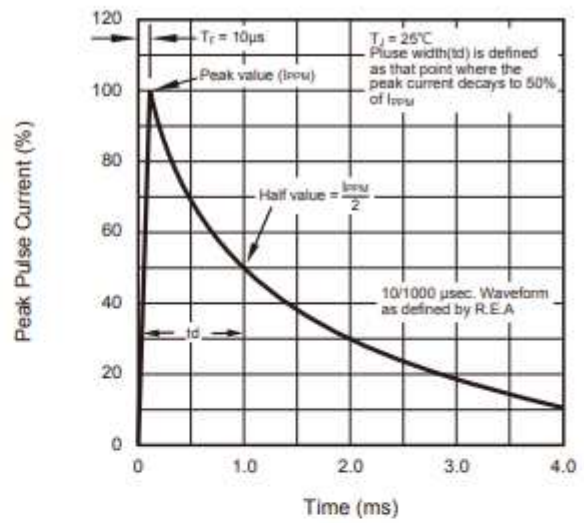


Fig.3 - Steady State Power Derating Curve

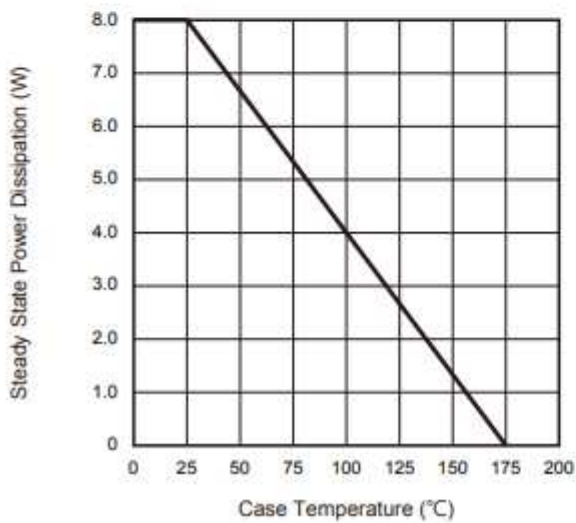
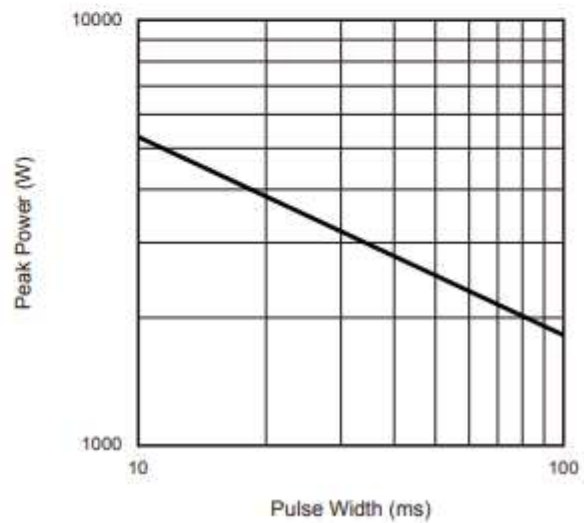
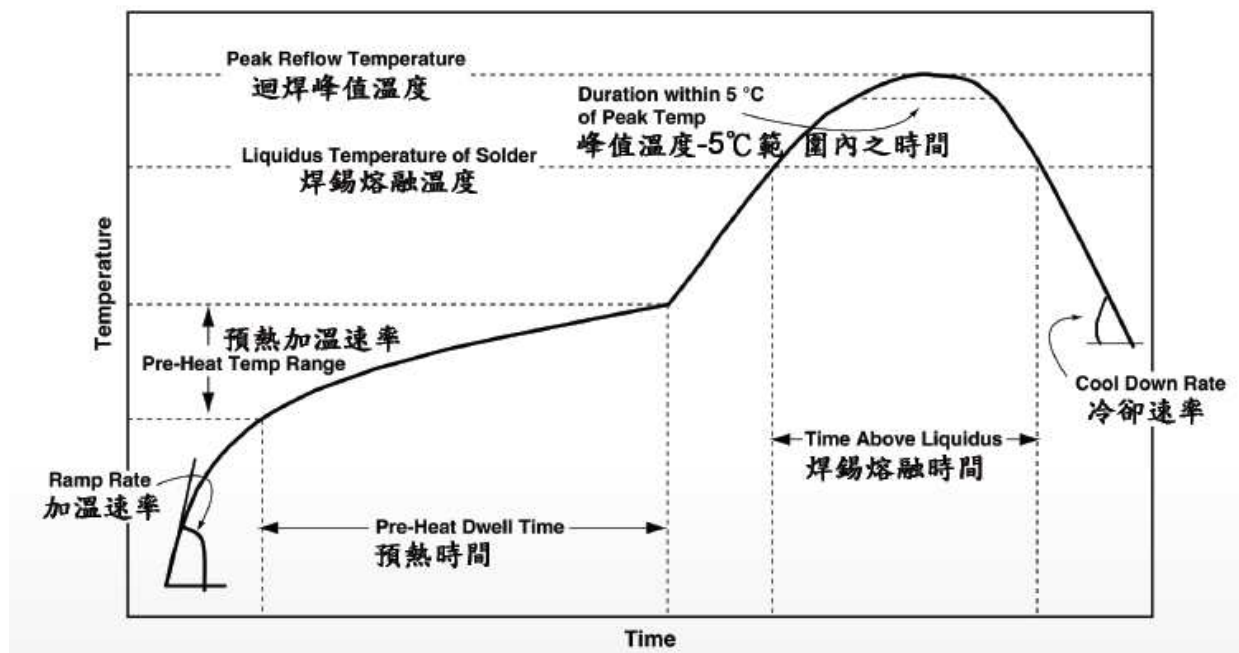


Fig.4 - Peak Pulse Power Rating Curve



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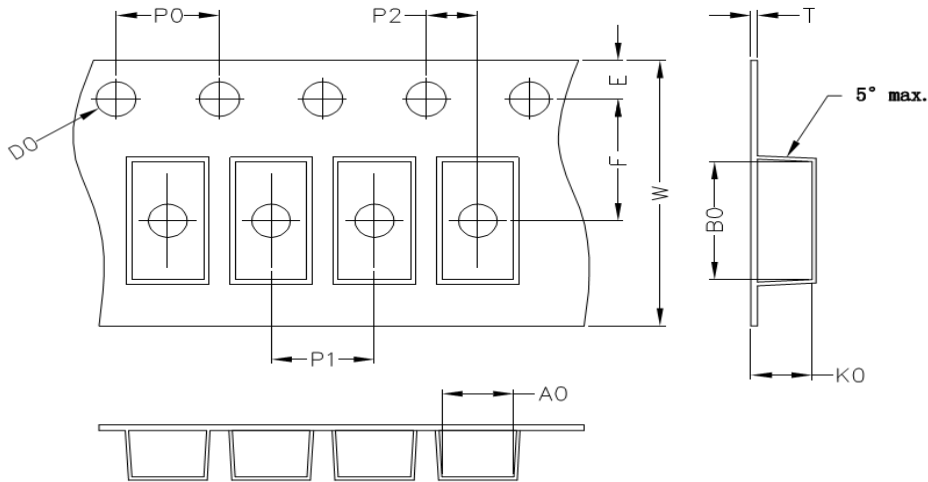
IR-reflow soldering profile



LEAD(Pb)-FREE SOLDER(SnAgCu) REFLOW PROFILE ATTRIBUTES	
PROFILE ATTRIBUTE	PROFILE ATTRIBUTE
Peak Reflow Temperature	260(+8/-8)°C
Time within 5°C of Peak Temperature	30s max
Liquidus Temperature of Solder	217°C
Cool Down Rate	6 °C/s max
Time above Liquidus	60s to 150s
Pre-heat Temperature Range	150°C to 200°C
Pre-heat Dwell Time	60s to 120s
Maximum Ramp Rate	3 °C/s max

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■ Packaging



(Unit : mm)

Index	A0	B0	K0	D0	E	F	P0	P1	P2	T	W
SM8S	10.6	15.9	5.85	1.5	1.75	11.5	4	16	2	0.35	24

■ Quantity

Series Type	Reel size (inch)	Quantity (pcs/reel)
SM8S	13"	750

■ Warehouse Storage Conditions of product

- Storage Condition:
 1. Storage Temperature: $\leq 25^{\circ}\text{C}$
 2. Relative Humidity: 50%~80%RH
 3. Keep away from corrosive atmosphere and sunlight.
- Period of Storage: 1 year.