

Transient Voltage Suppressors (TVS) Data Sheet

Features

- High current transient suppressor
- Glass passivated junction.
- Low leakage current
- Excellent Clamping Capability.
- 10000W peak pulse power capability at 10/1000 μ s waveform, repetition rate (duty cycle): 0.01%
- Fast response time
- Uni/Bi-directional polarity
- Meets RoHS2.0 (2011/65/EU) but Halogen
- Meets MSL level 1, per J-STD-020
- Meets ISO7637-2 5a surge specification
- AEC-Q101 qualified (Automotive grade with suffix "Q".)
- Exsemi technology

Mechanical Data

- Case: DO-218AB
- Polarity: Heatsink is anode
- Epoxy: UL 94V-0 rate flame retardant

Applications

- SM8T36AH~SM8T36CAH TVS diodes can be used in sensitive electronics protection against voltage transients induced by inductive load switching and lighting, especially for automotive load dump protection application.

Maximum Ratings and Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Rating	Symbol	Value	Units
Peak pulse power dissipation at 10/1000 μ s waveform (Note1)	P _{PPM}	Minimum 10000	Watts
Peak pulse current of at 10/1000 μ s waveform (Note 1)	I _{PPM}	See Table	Amps
Power dissipation on infinite heatsink at T _L =25°C	P _D	8	Watts
Peak forward surge current, 8.3ms single half sine-wave	I _{FSM}	700	Amps
Operating junction and Storage Temperature Rang	T _J , T _{STG}	-55 to +175	°C

Note: 1. Non-repetitive current pulse, per Fig.3 and derated above T_A=25°C per Fig.2.

Electrical Characteristics ($T_A=25^{\circ}\text{C}$)

Part Number		V_R	$I_R@V_R$		$V_{BR} @ I_T$		I_T	$V_c @ I_{pp}$	I_{pp}
Uni-polar	Bi-polar	V	$\mu\text{A}@25^{\circ}\text{C}$	$\mu\text{A}@175^{\circ}\text{C}$	min(V)	max (V)	mA	V	A
SM8T36AH	SM8T36CAH	36.0	5	150	40.0	44.2	5	58.1	172

Note:

①. For all types maximum $V_F = 1.8\text{ V}$ at $I_F = 100\text{ A}$ measured on 8.3 ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum.

②. Surge waveform: 10/1000 μs

V_R : Stand-off Voltage -- Maximum voltage that can be applied

V_{BR} : Breakdown Voltage

V_C : Clamping Voltage -- Peak voltage measured across the suppressor at a specified I_{pp}

I_R : Reverse Leakage Current

I_T : Test current

DO-218AB

Dimension	Inches		Millimeters	
	Min	Max	Min	Max
A	0.374	0.413	9.5	10.5
B	0.327	0.342	8.3	8.7
C	0.524	0.539	13.3	13.7
D	0.592	0.628	15.0	16.0
E	0.335	0.358	8.5	9.1
F	0.374	0.398	9.5	10.1
G	0.098	0.137	2.5	3.5
H	0.020	0.028	0.5	0.7
J	0.098	0.137	2.5	3.5
K	0.075	0.083	1.9	2.1
L	0.185	0.204	4.7	5.2
M	0.059	0.098	1.5	2.5