



E480232

Features

- AEC-Q101 Qualified
- Meet ISO 7637-2 5a/5b and ISO 16750 Load Dump Test (Varied by Test Condition)
- Low Leakage Current
- Excellent Clamping Capability
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant ^(Note1) ("P" Suffix Designates RoHS Compliant. See Ordering Information)
- ESD protection of data lines in accordance with IEC 61000-4-2, $\pm 30\text{kV(Air)}, \pm 30\text{kV(Contact)}$

Maximum Ratings

Parameter	Symbol	Value	Unit
Peak Pulse Power Surge Current with a 10/1000 μs Waveform ^(Note2)	I_{PPM}	See Next Table	A
Peak Pulse Power Dissipation with a 10/1000 μs Waveform	P_{PPM}	6600	W
Peak Pulse Power Dissipation with a 10/10000 μs Waveform	P_{PPM}	5200	W
Power Dissipation On Infinite Heatsink TL=25°C	P_D	8.0	W
Peak Forward Surge Current Unidirectional Only ^(Note3)	I_{FSM}	700	A
Operating Junction Temperature Range	T_J	-55 to +175	°C
Storage Temperature Range	T_{STG}	-55 to +175	°C
Typical Thermal Resistance Junction to Case	$R_{\theta JC}$	1.1	°C/W

Note: 1. High Temperature Solder Exemptions Applied, see EU Directive Annex 7a.
2. Non-repetitive current pulse, per Fig.2 and derated above $T_A=25^\circ\text{C}$ per Fig.3
3. 8.3 ms single half sine-wave

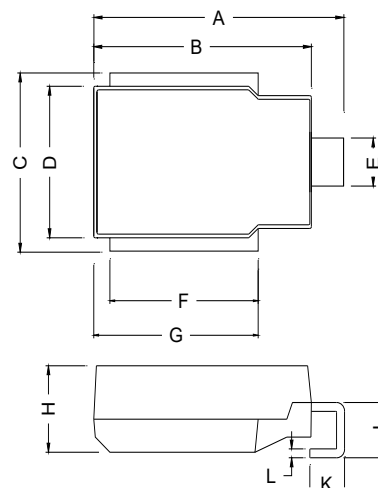
Internal Structure

Description	Simplified outline	Graphic symbol
Uni-directional		
Bi-directional		

XXXX = Marking code YYWW = Date Code

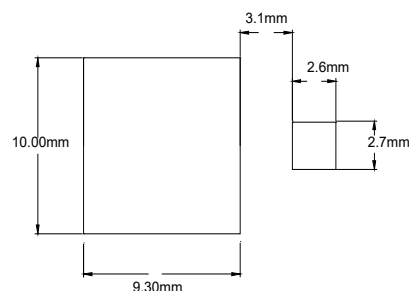
**6600 Watt
TVS
10 to 85 Volts**

DO-218AB



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.590	0.630	15.00	16.00	
B	0.524	0.539	13.30	13.70	
C	0.374	0.413	9.50	10.50	
D	0.323	0.339	8.20	8.70	
E	0.091	0.114	2.30	3.00	
F	0.343	0.366	8.70	9.50	
G	0.382	0.406	9.70	10.50	
H	0.189	0.205	4.70	5.20	
J	0.098	0.138	2.50	3.50	
K	0.067	0.106	1.70	2.80	
L	0.020	0.028	0.50	0.70	

SUGGESTED SOLDER PAD LAYOUT



Electrical Characteristics @ 25°C Unless Otherwise Specified

Part Number	Working Peak Reverse Voltage V_{RWM}	Breakdown Voltage $V_{BR} @ I_T$			Maximum Reverse Leakage I_R $@ V_{RWM}$	Maximum I_R $@ V_{RWM}$ $T_J = 175^\circ C$	Maximum Reverse Surge Current I_{PP}	Maximum Clamping Voltage $V_C @ I_{PP}$	Marking Code
Uni	(V)	Min (V)	Max (V)	I_T (mA)	(μA)	(μA)	(A)	(V)	
SM8S10AHE3	10	11.1	12.3	5.0	15	250	388	17.0	SM8S10A
SM8S11AHE3	11	12.2	13.5	5.0	10	150	363	18.2	SM8S11A
SM8S12AHE3	12	13.3	14.7	5.0	10	150	332	19.9	SM8S12A
SM8S13AHE3	13	14.4	15.9	5.0	10	150	307	21.5	SM8S13A
SM8S14AHE3	14	15.6	17.2	5.0	10	150	284	23.2	SM8S14A
SM8S15AHE3	15	16.7	18.5	5.0	10	150	270	24.4	SM8S15A
SM8S16AHE3	16	17.8	19.7	5.0	10	150	254	26.0	SM8S16A
SM8S17AHE3	17	18.9	20.9	5.0	10	150	239	27.6	SM8S17A
SM8S18AHE3	18	20.0	22.1	5.0	10	150	226	29.2	SM8S18A
SM8S20AHE3	20	22.2	24.5	5.0	10	150	204	32.4	SM8S20A
SM8S22AHE3	22	24.4	26.9	5.0	10	150	186	35.5	SM8S22A
SM8S24AHE3	24	26.7	29.5	5.0	10	150	170	38.9	SM8S24A
SM8S26AHE3	26	28.9	31.9	5.0	10	150	157	42.1	SM8S26A
SM8S28AHE3	28	31.1	34.4	5.0	10	150	145	45.4	SM8S28A
SM8S30AHE3	30	33.3	36.8	5.0	10	150	136	48.4	SM8S30A
SM8S33AHE3	33	36.7	40.6	5.0	10	150	124	53.3	SM8S33A
SM8S36AHE3	36	40.0	44.2	5.0	10	150	114	58.1	SM8S36A
SM8S40AHE3	40	44.4	49.1	5.0	10	150	102	64.5	SM8S40A
SM8S43AHE3	43	47.8	52.8	5.0	10	150	95	69.4	SM8S43A
SM8S45AHE3	45	50.0	55.3	5.0	10	150	91	72.7	SM8S45A
SM8S48AHE3	48	53.3	58.9	5.0	10	150	85	77.4	SM8S48A
SM8S51AHE3	51	56.7	62.7	5.0	10	150	80	82.4	SM8S51A
SM8S54AHE3	54	60	66.3	5.0	10	150	76	87.1	SM8S54A
SM8S58AHE3	58	64.4	71.2	5.0	10	150	70	93.6	SM8S58A
SM8S60AHE3	60	66.7	73.7	5.0	10	150	68	96.8	SM8S60A
SM8S64AHE3	64	71.1	78.6	5.0	10	150	64	103	SM8S64A
SM8S70AHE3	70	77.8	86.0	5.0	10	150	58	113	SM8S70A
SM8S75AHE3	75	83.3	92.1	5.0	10	150	55	121	SM8S75A
SM8S78AHE3	78	86.7	95.8	5.0	10	150	52	126	SM8S78A
SM8S85AHE3	85	94.4	104.0	5.0	10	150	48	137	SM8S85A

Note: 1. Surge current waveform is defined at 10/1000us waveform

2. 10 to 43V have already obtained UL certification, Above 43V, the UL certification is scheduled to be carried out in the second phase.

Electrical Characteristics @ 25°C Unless Otherwise Specified

Part Number	Working Peak Reverse Voltage V_{RWM}	Breakdown Voltage V_{BR} @ I_T			Maximum Reverse Leakage I_R @ V_{RWM}	Maximum I_R @ V_{RWM} $T_J=175^\circ\text{C}$	Maximum Reverse Surge Current I_{PP}	Maximum Clamping Voltage V_C @ I_{PP}	Marking Code
Bi	(V)	Min (V)	Max (V)	I_T (mA)	(μA)	(μA)	(A)	(V)	
SM8S10CAHE3	10	11.1	12.3	5.0	15	250	388	17.0	SM8S10CA
SM8S11CAHE3	11	12.2	13.5	5.0	10	150	363	18.2	SM8S11CA
SM8S12CAHE3	12	13.3	14.7	5.0	10	150	332	19.9	SM8S12CA
SM8S13CAHE3	13	14.4	15.9	5.0	10	150	307	21.5	SM8S13CA
SM8S14CAHE3	14	15.6	17.2	5.0	10	150	284	23.2	SM8S14CA
SM8S15CAHE3	15	16.7	18.5	5.0	10	150	270	24.4	SM8S15CA
SM8S16CAHE3	16	17.8	19.7	5.0	10	150	254	26.0	SM8S16CA
SM8S17CAHE3	17	18.9	20.9	5.0	10	150	239	27.6	SM8S17CA
SM8S18CAHE3	18	20.0	22.1	5.0	10	150	226	29.2	SM8S18CA
SM8S20CAHE3	20	22.2	24.5	5.0	10	150	204	32.4	SM8S20CA
SM8S22CAHE3	22	24.4	26.9	5.0	10	150	186	35.5	SM8S22CA
SM8S24CAHE3	24	26.7	29.5	5.0	10	150	170	38.9	SM8S24CA
SM8S26CAHE3	26	28.9	31.9	5.0	10	150	157	42.1	SM8S26CA
SM8S28CAHE3	28	31.1	34.4	5.0	10	150	145	45.4	SM8S28CA
SM8S30CAHE3	30	33.3	36.8	5.0	10	150	136	48.4	SM8S30CA
SM8S33CAHE3	33	36.7	40.6	5.0	10	150	124	53.3	SM8S33CA
SM8S36CAHE3	36	40.0	44.2	5.0	10	150	114	58.1	SM8S36CA
SM8S40CAHE3	40	44.4	49.1	5.0	10	150	102	64.5	SM8S40CA
SM8S43CAHE3	43	47.8	52.8	5.0	10	150	95	69.4	SM8S43CA
SM8S45CAHE3	45	50.0	55.3	5.0	10	150	91	72.7	SM8S45CA
SM8S48CAHE3	48	53.3	58.9	5.0	10	150	85	77.4	SM8S48CA
SM8S51CAHE3	51	56.7	62.7	5.0	10	150	80	82.4	SM8S51CA
SM8S54CAHE3	54	60	66.3	5.0	10	150	76	87.1	SM8S54CA
SM8S58CAHE3	58	64.4	71.2	5.0	10	150	70	93.6	SM8S58CA
SM8S60CAHE3	60	66.7	73.7	5.0	10	150	68	96.8	SM8S60CA
SM8S64CAHE3	64	71.1	78.6	5.0	10	150	64	103	SM8S64CA
SM8S70CAHE3	70	77.8	86.0	5.0	10	150	58	113	SM8S70CA
SM8S75CAHE3	75	83.3	92.1	5.0	10	150	55	121	SM8S75CA
SM8S78CAHE3	78	86.7	95.8	5.0	10	150	52	126	SM8S78CA
SM8S85CAHE3	85	94.4	104.0	5.0	10	150	48	137	SM8S85CA

Note: 1. Surge current waveform is defined at 10/1000us waveform

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Curve Characteristics

Fig. 1 - Peak Pulse Power Rating Curve

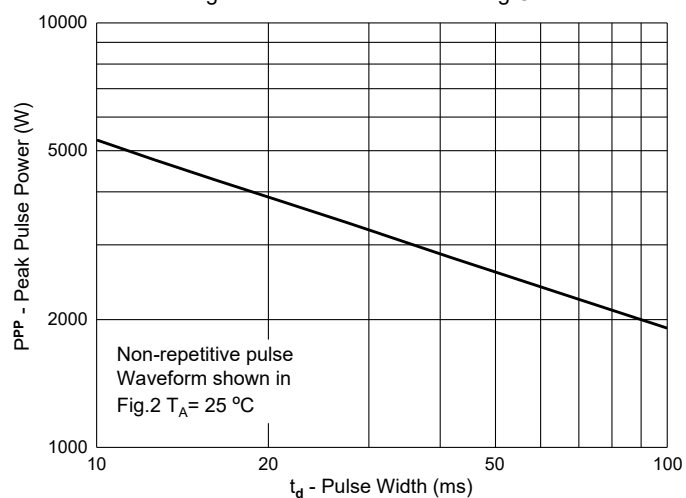


Fig. 2 - Pulse Waveform

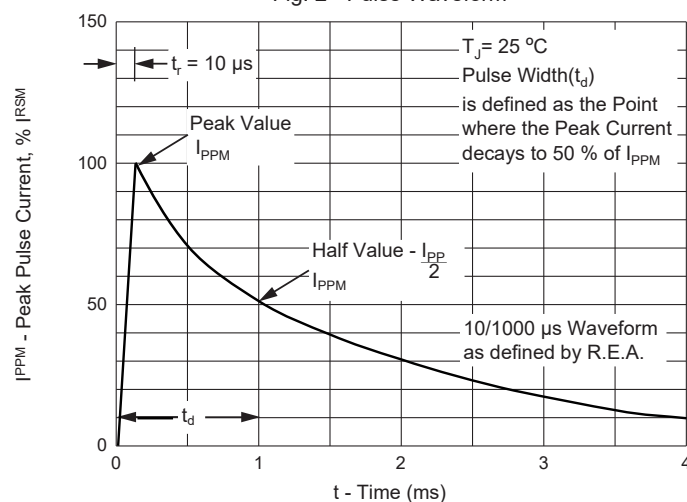


Fig. 3 - Pulse Derating Curve

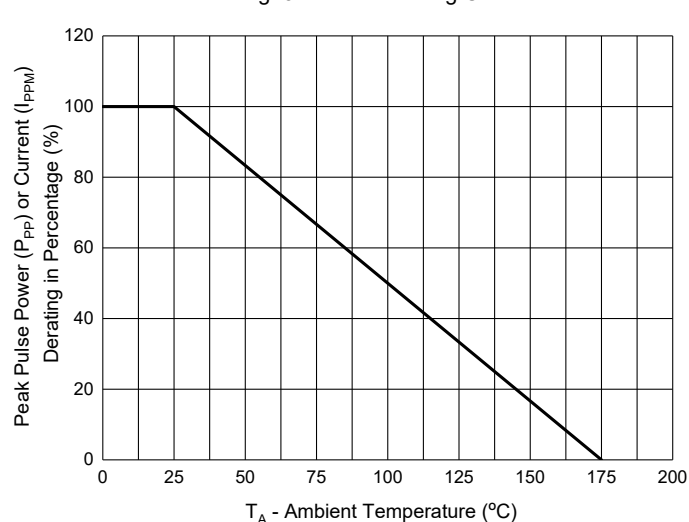
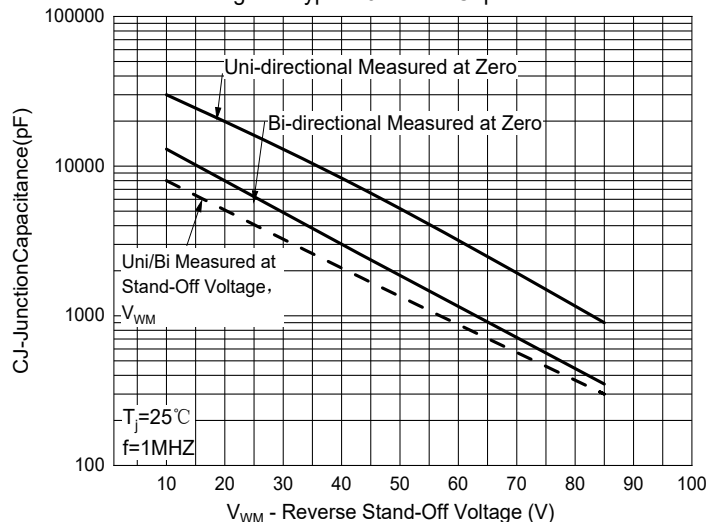


Fig. 4 - Typical Junction Capacitance



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel:750pcs/Reel

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