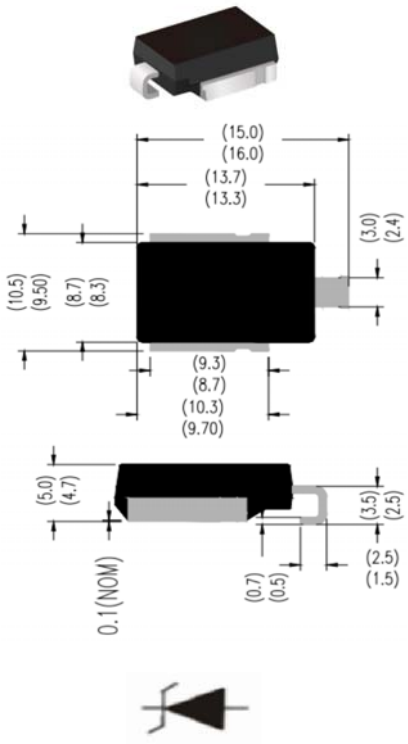
6.6kW SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

DO-218

Unit:mm



Features

- ISO10605(C=330 pF,R=330Ω): ± 30kV Air, ± 30kV Contact
- HBM ≧ ± 8 kV & CDM ≧ ± 2 kV
- Rated for load dump protection (ISO 16750-2) in automotive applications
- Meets ISO 7637-2 Requirements
- Meets MSL Level 1 per J-STD-020
- AEC-Q101 qualified
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

Mechanical Data

- Case: Molded plastic, DO-218
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.099 ounces, 2.821 grams
- Only suitable for P-type chip

Maximum Ratings and Thermal Characteristics (T_A = 25 °C unless otherwise noted)

PARAMETER	SYMBOL	LIMIT	UNITS
10/1,000us Peak Pulse Power Dissipation on T_A = 25℃	P_{PPM1} (1)	6600	W
10/10,000us Peak Pulse Power Dissipation on T_A = 25℃	P_{PPM2}	5200	W
Peak Surge Current (60Hz half wave)	I_{FSM}	700	A
Typical Thermal Resistance Junction to Case	$R_{\theta JC}$	0.9	°C/W
Power Dissipation on infinite heatsink T_C = 25℃	P_D	8	W
ISO10605(C=330 pF,R=330Ω) Contact	V_{ESD}	30	kV
ISO10605(C=330 pF,R=330Ω) Air	V_{ESD}	30	kV
Operating and Storage Temperature Range	T_J,T_{STG}	-55 to 175	°C

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

Part Number	V_{RWM}	V_{BR}			Reverse Leakage		V_C@I_{PP} (1)	
		Min.	Max.	I_T	I_R@V_{RWM}	I_R@V_{RWM} T_J=175 °C		
	V	V	V	mA	uA	uA	V	A
6600W Transient Voltage Suppressor								
SM8S14A/CA(3)	14	15.6	17.2	5	1	150	23.2	284
SM8S15A/CA	15	16.7	18.5	5	1	150	24.4	270
SM8S16A/CA	16	17.8	19.7	5	1	150	26	254
SM8S17A/CA	17	18.9	20.9	5	1	150	27.6	239
SM8S18A/CA	18	20	22.1	5	0.5	150	29.2	226
SM8S20A/CA	20	22.2	24.5	5	0.5	150	32.4	204
SM8S22A/CA	22	24.4	26.9	5	0.5	150	35.5	186
SM8S24A/CA	24	26.7	29.5	5	0.5	150	38.9	170
SM8S26A/CA	26	28.9	31.9	5	0.5	150	42.1	157
SM8S28A/CA	28	31.1	34.4	5	0.5	150	45.4	145
SM8S30A/CA	30	33.3	36.8	5	0.5	150	48.4	136
SM8S33A/CA	33	36.7	40.6	5	0.5	150	53.3	124
SM8S36A/CA	36	40	44.2	5	0.5	150	58.1	114
SM8S40A/CA	40	44.4	49.1	5	0.5	150	64.5	102
SM8S43A/CA	43	47.8	52.8	5	0.5	150	69.4	95
SM8S48A/CA	48	53.3	58.7	5	0.5	150	80.6	82

NOTES:

1. Non-repetitive current pulse, per Fig.3 and derated above T_A=25°C per Fig.1
2. TVS is a transient protection device, it is strongly recommended not to use as a Zener.
3. Add suffix "CA" after part number to specify Bi-directional devices

TYPICAL CHARACTERISTIC CURVES

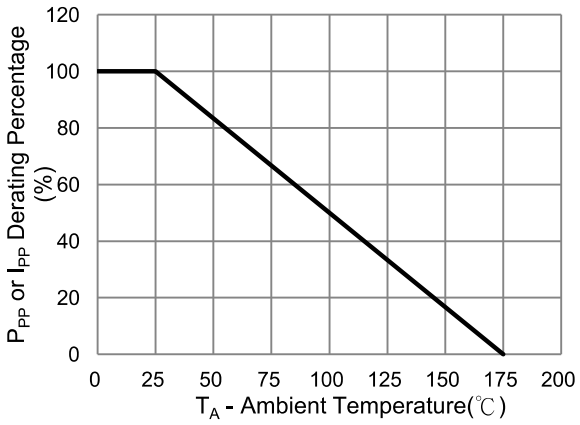


Fig.1 Pulse Power Rating Curve

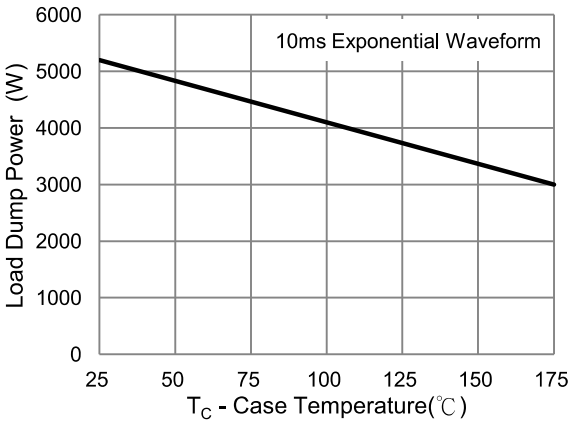


Fig.2 Load Dump Power Characteristics

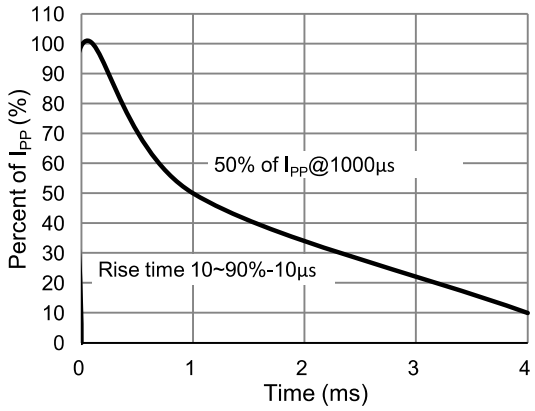


Fig.3 Pulse Waveform

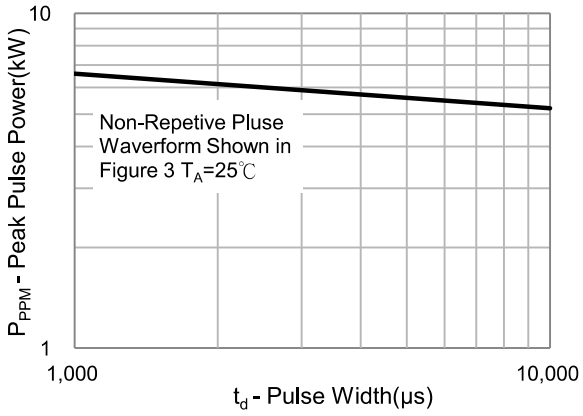


Fig.4 Peak Pulse Power Rating Curve

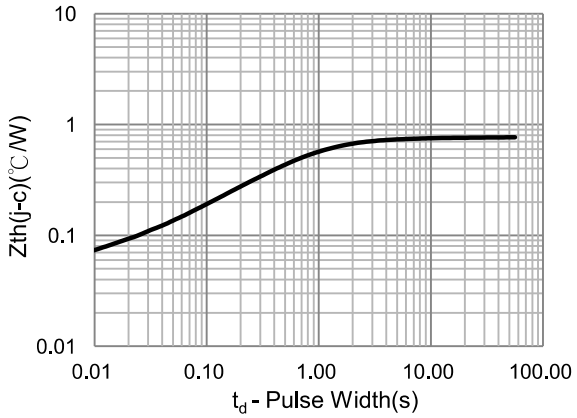


Fig.5 Typical Transient Thermal Impedance

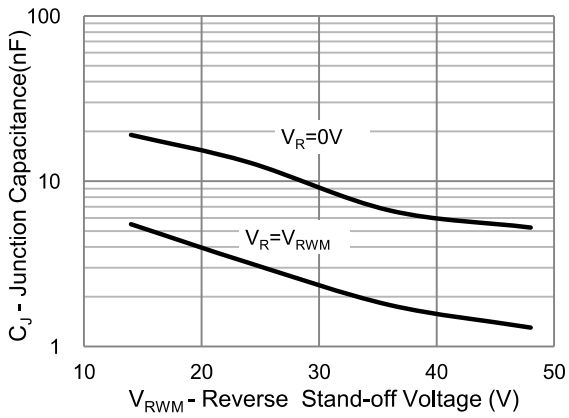


Fig.6 Typical Capacitance

TYPICAL CHARACTERISTIC CURVES

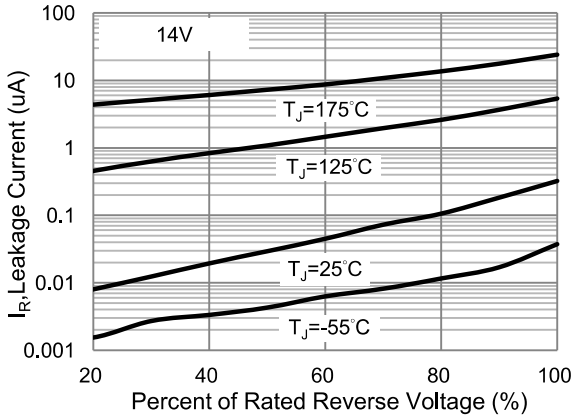


Fig.7 Typical Reverse Characteristics

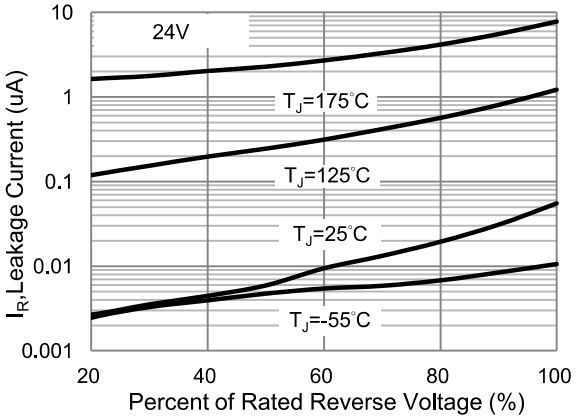


Fig.8 Typical Reverse Characteristics

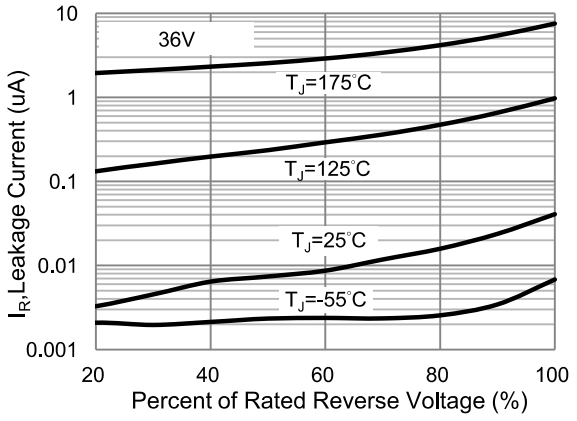


Fig.9 Typical Reverse Characteristics

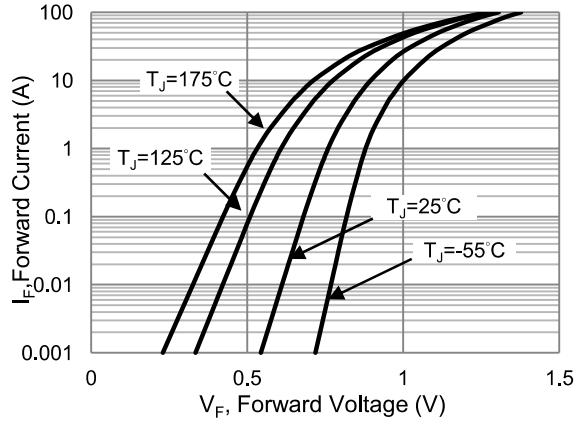


Fig.10 Typical Forward Characteristics