

SM6S14A-AU ~ SM6S48A-AU Series

4.6kW SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

Stand-Off Voltage

14~48V

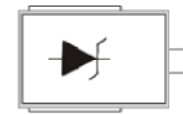
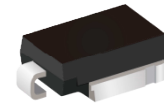
DO-218AB

Features

- ISO10605(C=330 pF,R=330Ω): $\pm 30\text{kV}$ Air, $\pm 30\text{kV}$ Contact
- HBM $\geq \pm 8\text{ kV}$ & CDM $\geq \pm 2\text{ kV}$
- Rated for load dump protection in automotive applications
- Meets ISO 7637-2 / ISO16750-2 Surge specification (varies by test condition)
- 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-218AB
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Approx. Weight : 0.099 ounces, 2.821 grams



Maximum Ratings and Thermal Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	LIMIT	UNITS
10/1,000us Peak Pulse Power Dissipation on $T_A = 25^\circ\text{C}$ (Note 1)	P_{PPM1}	4600	W
10/10,000us Peak Pulse Power Dissipation on $T_A = 25^\circ\text{C}$	P_{PPM2}	3600	W
Peak Surge Current (60Hz half wave)	I_{FSM}	600	A
Typical Thermal Resistance Junction to Case	$R_{\theta JC}$	0.95	$^\circ\text{C/W}$
Power Dissipation on infinite heatsink $T_C = 25^\circ\text{C}$	P_D	6	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}	-55~175	$^\circ\text{C}$



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

Part Number	V _{RWM}	V _{BR}			Reverse Leakage		V _C @I _{PP} (Note 1)		Marking Code
		Min.	Max.	I _T	I _R @V _{RWM}	I _R @V _{RWM} T _J =175 °C			
	V	V	V	mA	µA	µA	V	A	
4600W Transient Voltage Suppressor									
SM6S14A-AU	14	15.6	17.2	5	1	150	23.2	198	6EKG
SM6S15A-AU	15	16.7	18.5	5	1	150	24.4	189	6EKH
SM6S16A-AU	16	17.8	19.7	5	1	150	26	177	6EKK
SM6S17A-AU	17	18.9	20.9	5	1	150	27.6	167	6EKL
SM6S18A-AU	18	20	22.1	5	0.5	150	29.2	158	6EKM
SM6S20A-AU	20	22.2	24.5	5	0.5	150	32.4	142	6EKN
SM6S22A-AU	22	24.4	26.9	5	0.5	150	35.5	130	6EKP
SM6S24A-AU	24	26.7	29.5	5	0.5	150	38.9	118	6EKQ
SM6S26A-AU	26	28.9	31.9	5	0.5	150	42.1	109	6EKR
SM6S28A-AU	28	31.1	34.4	5	0.5	150	45.4	101	6EKS
SM6S30A-AU	30	33.3	36.8	5	0.5	150	48.4	95	6EKT
SM6S33A-AU	33	36.7	40.6	5	0.5	150	53.3	86	6EKU
SM6S36A-AU	36	40	44.2	5	0.5	150	58.1	79	6EKV
SM6S40A-AU	40	44.4	49.1	5	0.5	150	64.5	71	6EKW
SM6S43A-AU	43	47.8	52.8	5	0.5	150	69.4	66	6EKX
SM6S48A-AU	48	53.3	58.7	5	0.5	150	80.6	57	6EKY

NOTES:

1. Non-repetitive current pulse, per Fig.3 and derated above $T_A = 25^\circ\text{C}$ per Fig.1
2. TVS is a transient protection device, it is strongly recommended not to use as a Zener.



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TYPICAL CHARACTERISTIC CURVES

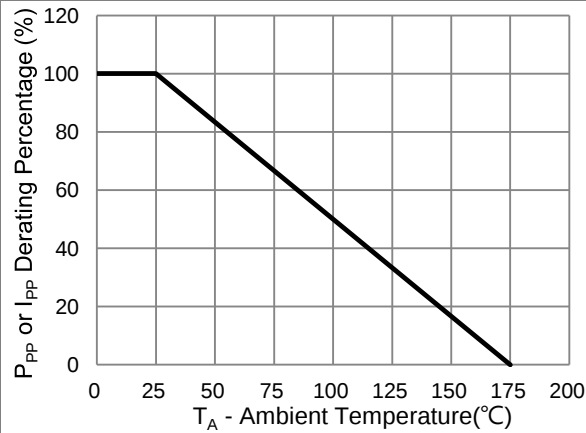


Fig.1 Pulse Power Rating Curve

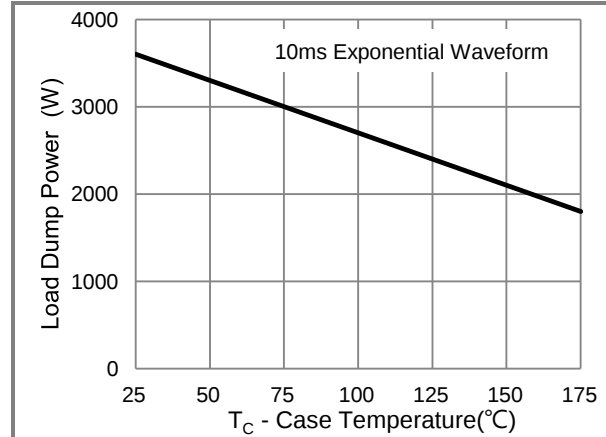


Fig.2 Load Dump Power Characteristics

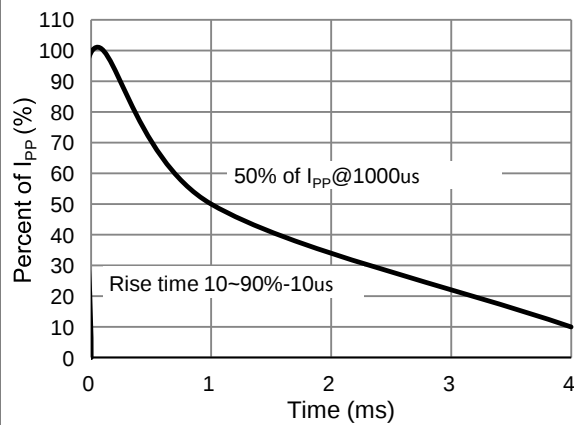


Fig.3 Pulse Waveform

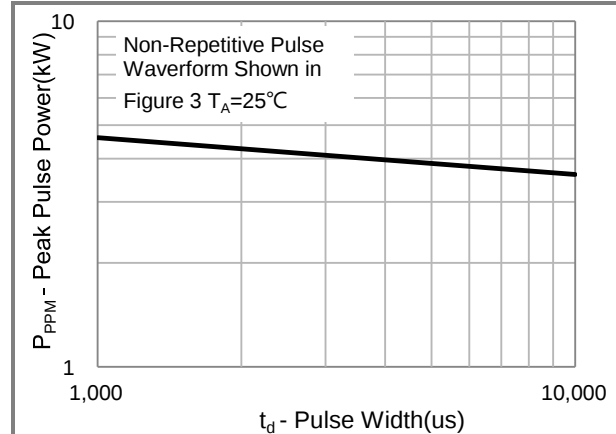


Fig.4 Peak Pulse Power Rating Curve

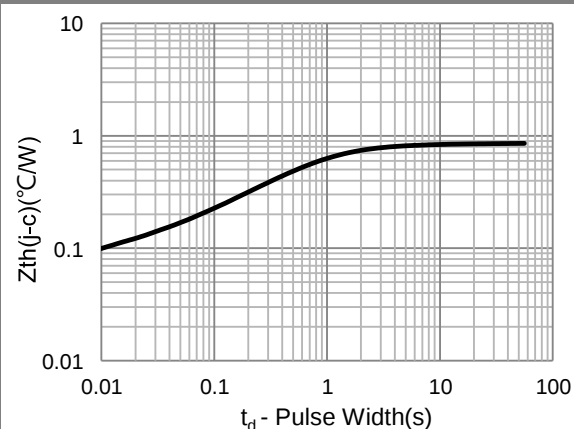


Fig.5 Typical Transient Thermal Impedance

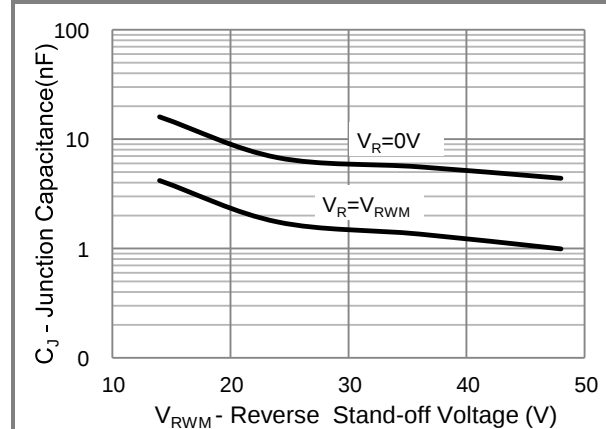


Fig.6 Typical Capacitance

SM6S14A-AU ~ SM6S48A-AU Series

TYPICAL CHARACTERISTIC CURVES

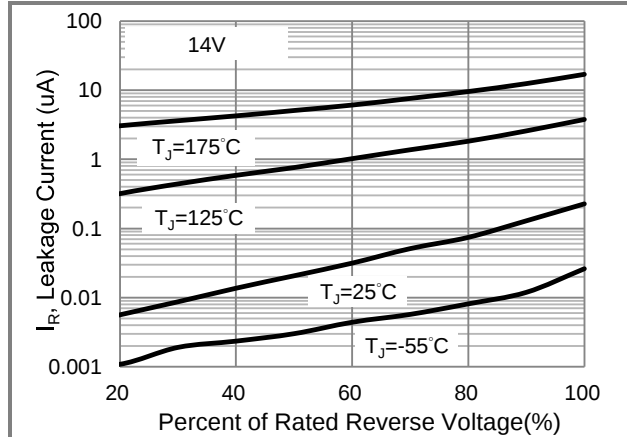


Fig.7 Typical Reverse Characteristics

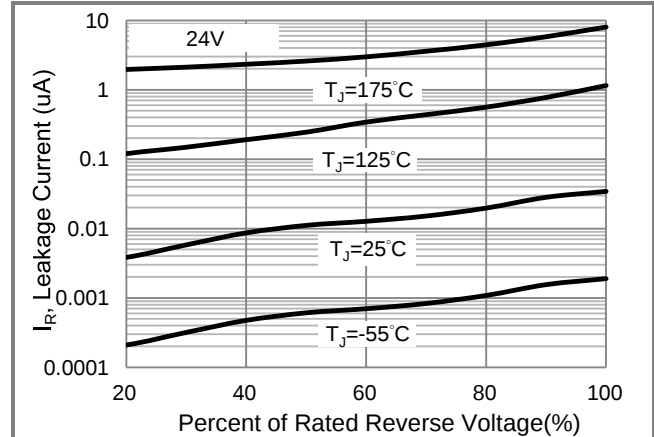


Fig.8 Typical Reverse Characteristics

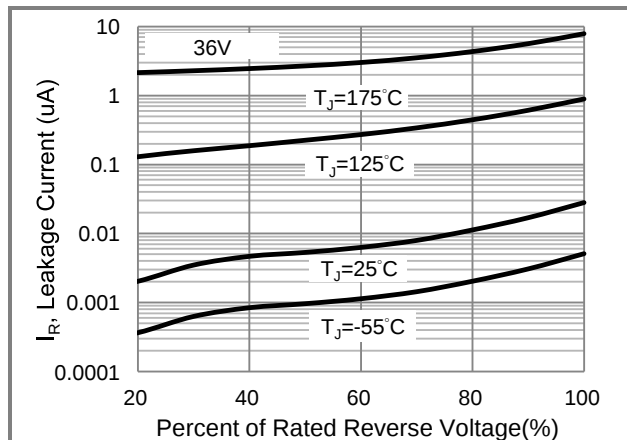


Fig.9 Typical Reverse Characteristics

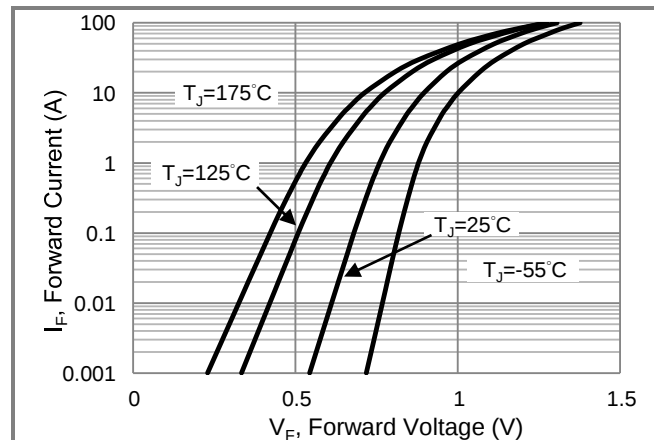


Fig.10 Typical Forward Characteristics

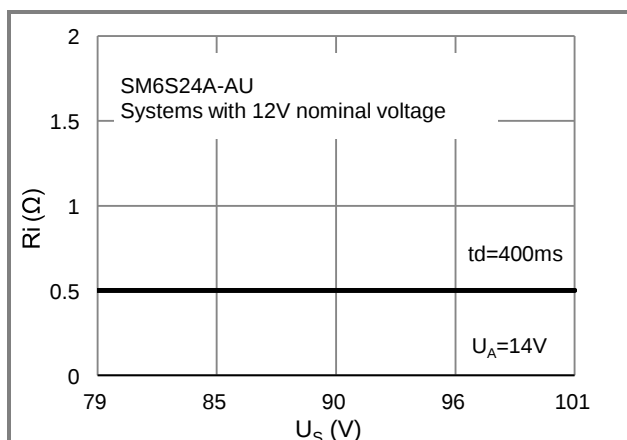


Fig.11 ISO-16750-2 TYPE A

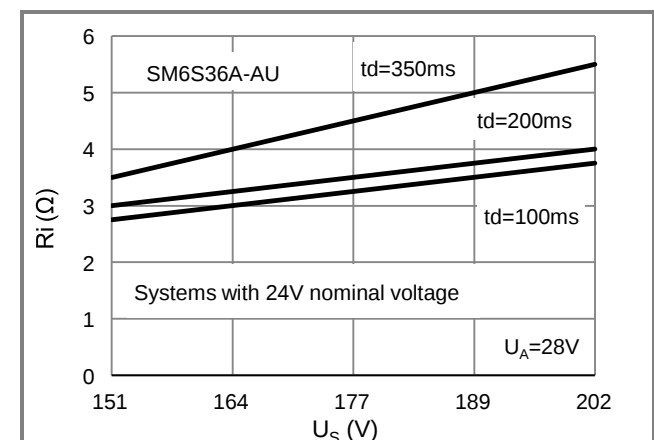


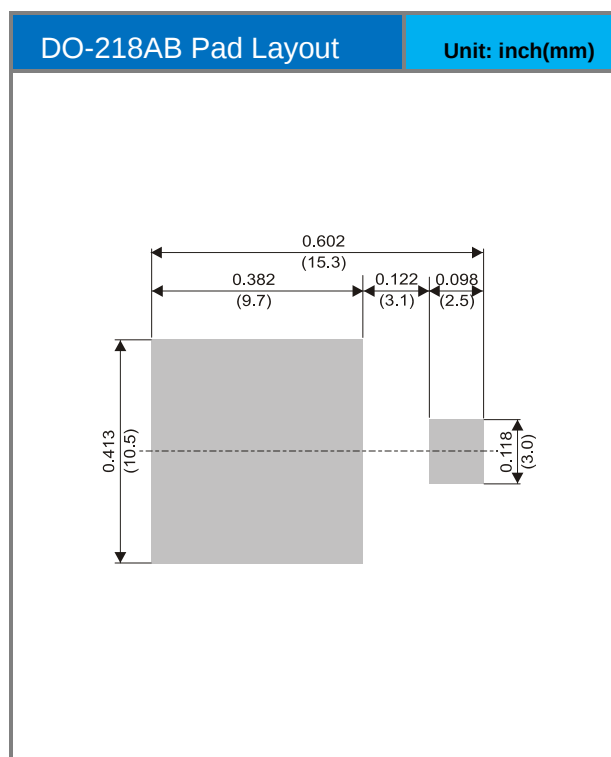
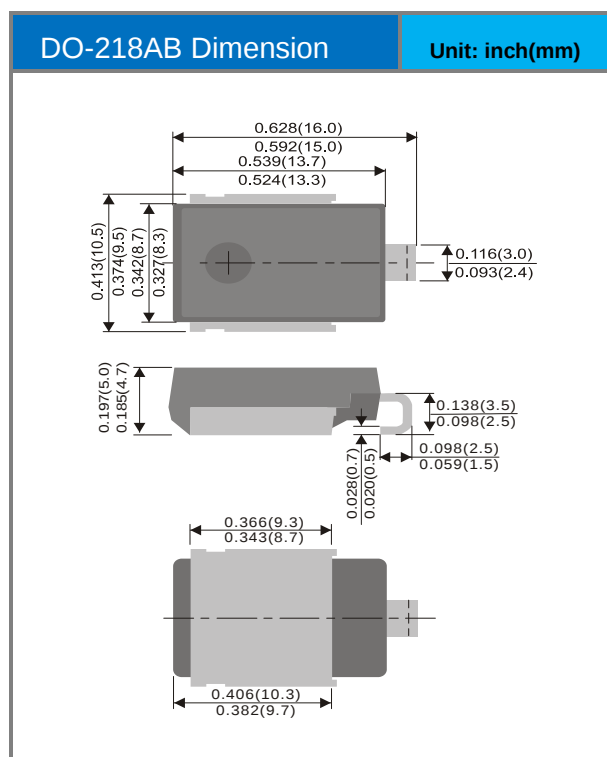
Fig.12 ISO-16750-2 TYPE A

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Part No. Packing Code Version

Part No. Packing Code	Package Type	Packing Type	Marking	Version
SM6SxxA-AU_R2_000A1	DO-218AB	600 pcs / 13" reel	See Table	Halogen free

Packaging Information & Mounting Pad Layout





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