



# SM6S14A-AU ~ SM6S48A-AU Series

## 4.6kW SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

**Stand-Off Voltage**

**14~48V**

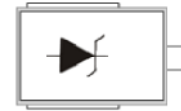
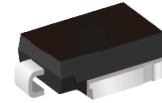
### Features

- ISO10605(C=330 pF,R=330Ω): ± 30kV Air, ± 30kV Contact
- HBM  $\geq \pm 8$  kV & CDM  $\geq \pm 2$  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

DO-218AB



### Maximum Ratings and Thermal Characteristics (T<sub>A</sub> = 25 °C unless otherwise noted)

PARAMETER	SYMBOL	LIMIT	UNITS
10/1,000us Peak Pulse Power Dissipation on T <sub>A</sub> = 25 °C (Note 1)	P <sub>PPM1</sub>	4600	W
10/10,000us Peak Pulse Power Dissipation on T <sub>A</sub> = 25 °C	P <sub>PPM2</sub>	3600	W
Peak Surge Current (60Hz half wave)	I <sub>FSM</sub>	600	A
Typical Thermal Resistance Junction to Case	R <sub>θJC</sub>	0.95	°C/W
Power Dissipation on infinite heatsink T <sub>C</sub> = 25 °C	P <sub>D</sub>	6	W
ISO10605(C=330 pF,R=330Ω) Contact	V <sub>ESD</sub>	30	kV
ISO10605(C=330 pF,R=330Ω) Air	V <sub>ESD</sub>	30	kV
Operating and Storage Temperature Range	T <sub>J</sub> ,T <sub>STG</sub>	-55~175	°C



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### Electrical Characteristics (T<sub>A</sub> = 25 °C unless otherwise noted)

Part Number	V <sub>RWM</sub>	V <sub>BR</sub>			Reverse Leakage		V <sub>C</sub> @I <sub>PP</sub> (Note 1)		Marking Code
		Min.	Max.	I <sub>T</sub>	I <sub>R</sub> @V <sub>RWM</sub>	I <sub>R</sub> @V <sub>RWM</sub> T <sub>J</sub> =175 °C	V	A	
	V	V	V	mA	uA	uA			
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<sub>A</sub>=25°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

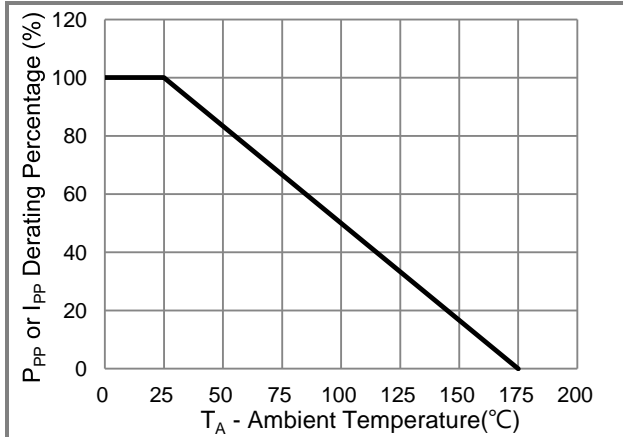


Fig.1 Pulse Power Rating Curve

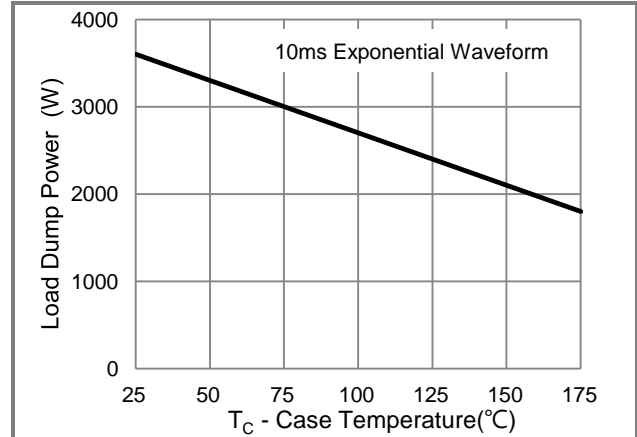


Fig.2 Load Dump Power Characteristics

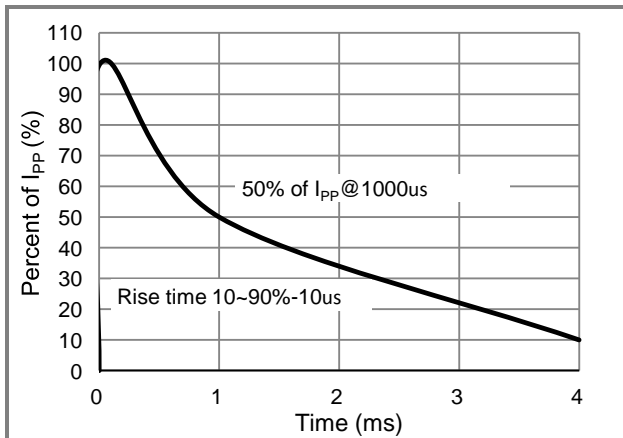


Fig.3 Pulse Waveform

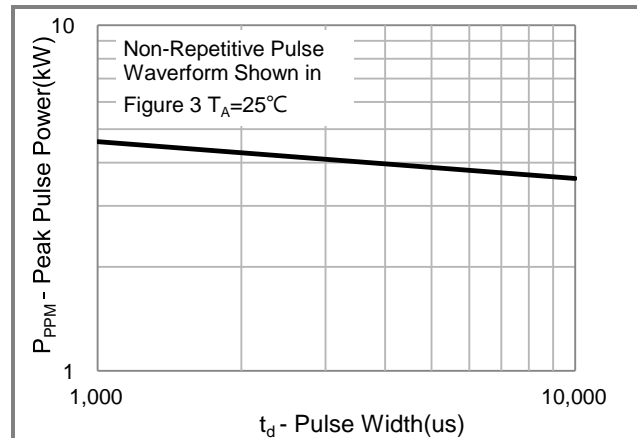


Fig.4 Peak Pulse Power Rating Curve

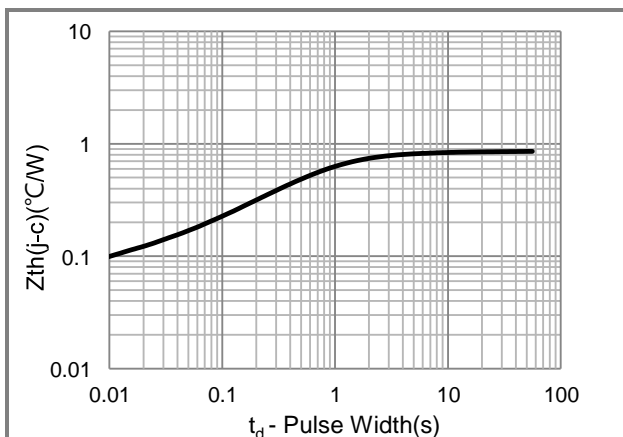


Fig.5 Typical Transient Thermal Impedance

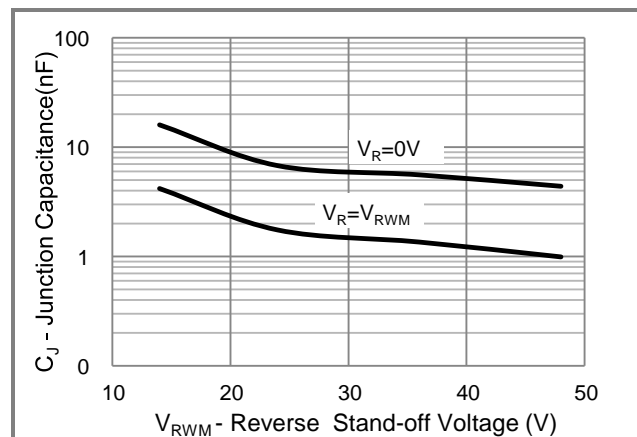


Fig.6 Typical Capacitance



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## TYPICAL CHARACTERISTIC CURVES

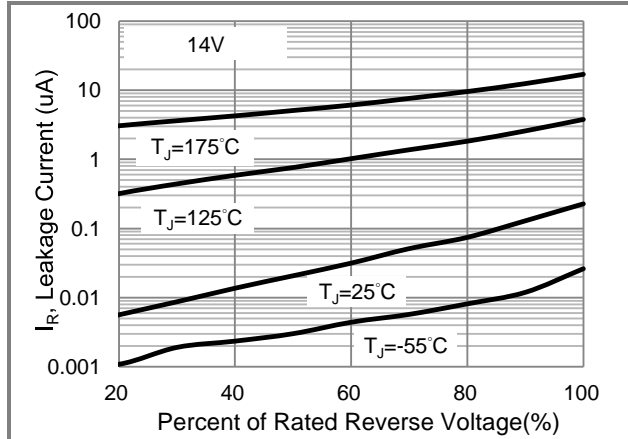


Fig.7 Typical Reverse Characteristics

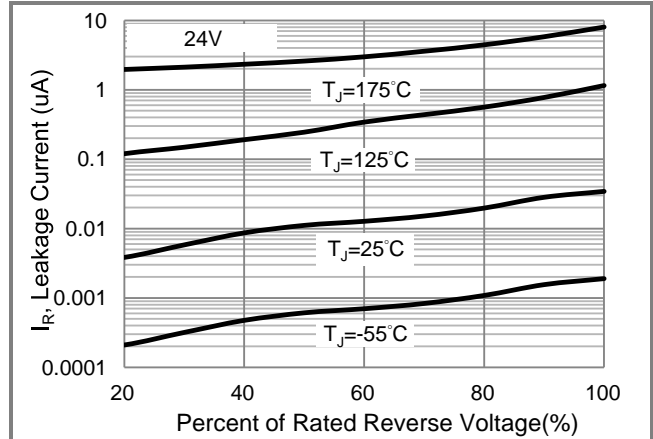


Fig.8 Typical Reverse Characteristics

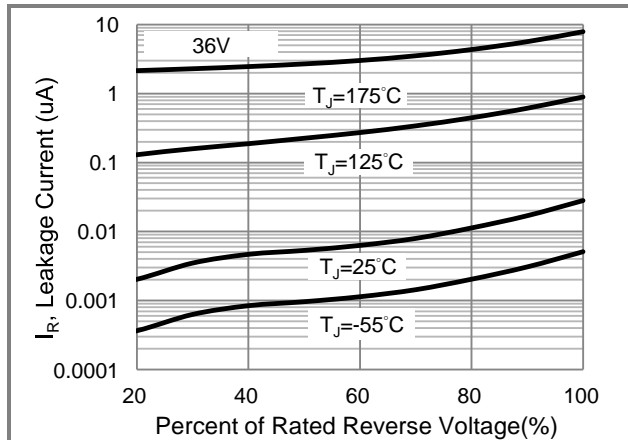


Fig.9 Typical Reverse Characteristics

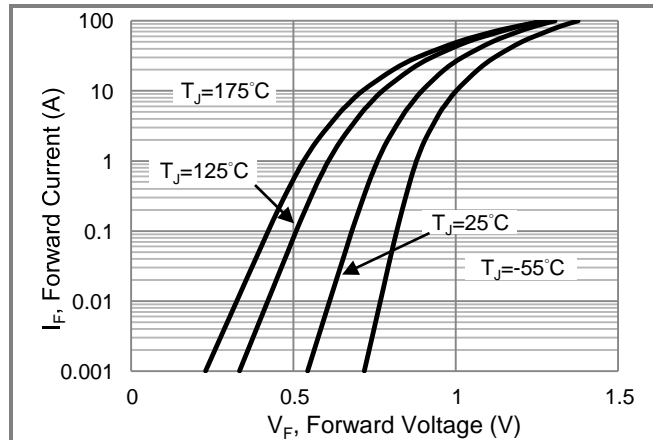


Fig.10 Typical Forward Characteristics

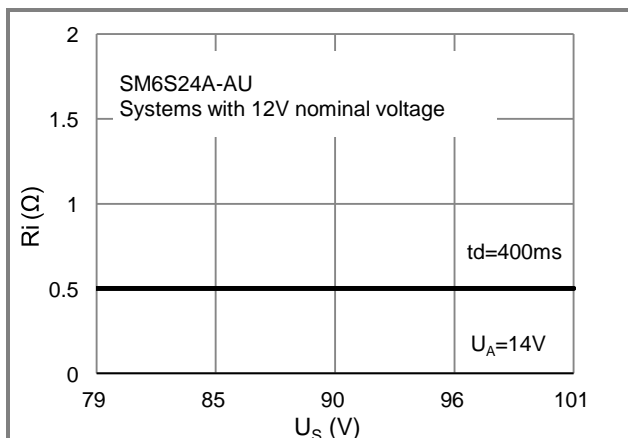


Fig.11 ISO-16750-2 TYPE A

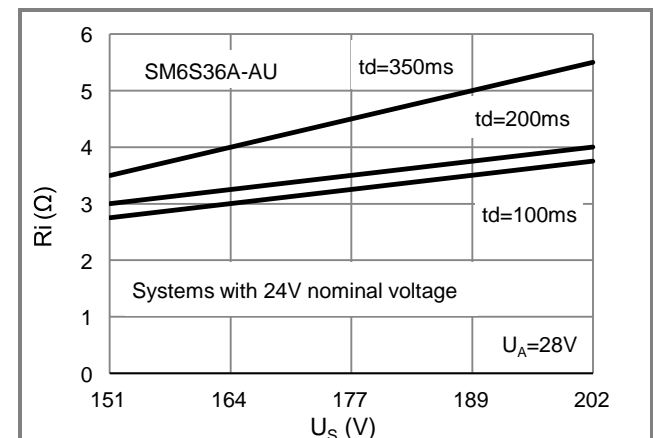


Fig.12 ISO-16750-2 TYPE A

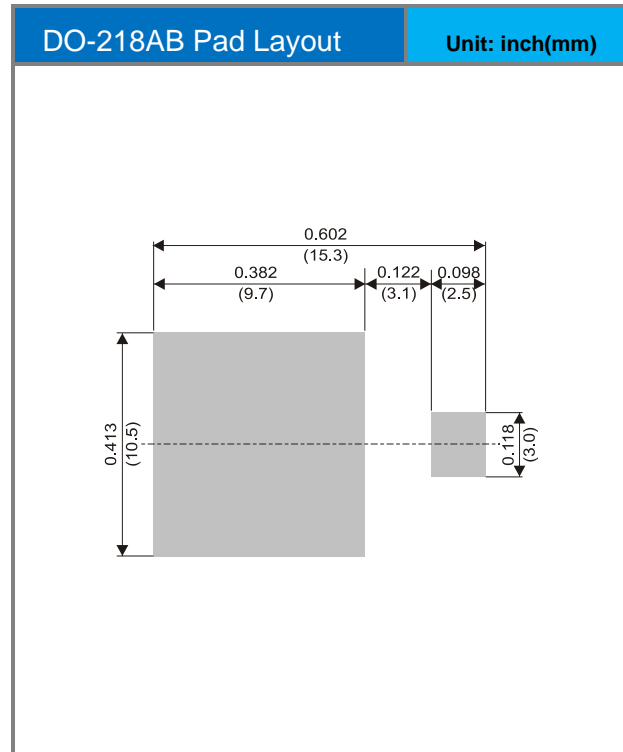
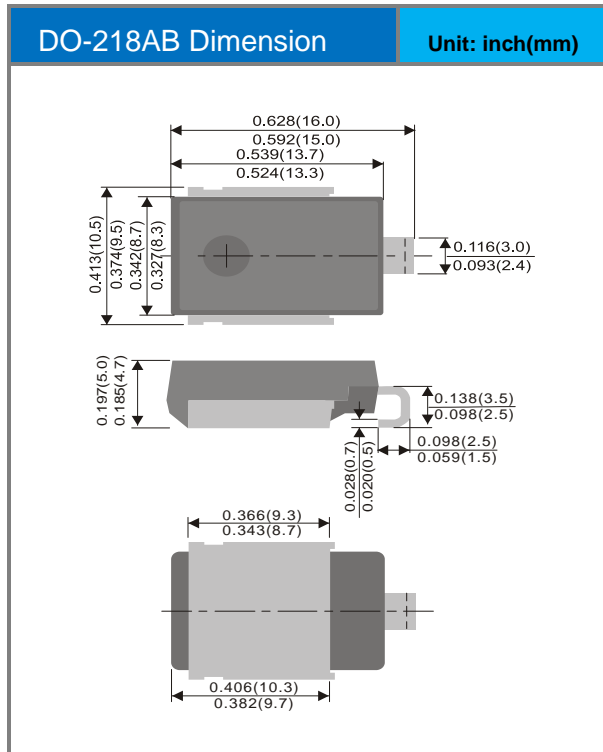


## SM6S14A-AU ~ SM6S48A-AU Series

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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