



## SM5S14A-AU ~ SM5S48A-AU Series

### 3.6kW Surface Mount Transient Voltage Suppressor

**Stand-Off Voltage**

**14~48V**

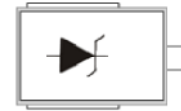
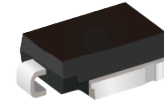
DO-218AB

#### 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



### 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>	3600	W
10/10,000us Peak Pulse Power Dissipation on T <sub>A</sub> = 25 °C	P <sub>PPM2</sub>	2800	W
Peak Surge Current (60Hz half wave)	I <sub>FSM</sub>	500	A
Typical Thermal Resistance Junction to Case	R <sub>θJC</sub>	1	°C/W
Power Dissipation on infinite heatsink T <sub>C</sub> = 25 °C	P <sub>D</sub>	5	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 ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

Part Number	$V_{RWM}$	$V_{BR}$			Reverse Leakage		$V_C @ I_{PP}$ (Note 1)		Marking Code
		Min.	Max.	$I_T$	$I_R @ V_{RWM}$	$I_R @ V_{RWM}$ $T_J = 175^\circ\text{C}$	V	A	
	V	V	V	mA	uA	uA			
3600W Transient Voltage Suppressor									
SM5S14A-AU	14	15.6	17.2	5	1	150	23.2	155	6ENM
SM5S15A-AU	15	16.7	18.5	5	1	150	24.4	148	6ENN
SM5S16A-AU	16	17.8	19.7	5	1	150	26	138	6ENP
SM5S17A-AU	17	18.9	20.9	5	1	150	27.6	130	6ENQ
SM5S18A-AU	18	20	22.1	5	0.5	150	29.2	123	6ENR
SM5S20A-AU	20	22.2	24.5	5	0.5	150	32.4	111	6ENS
SM5S22A-AU	22	24.4	26.9	5	0.5	150	35.5	101	6ENT
SM5S24A-AU	24	26.7	29.5	5	0.5	150	38.9	93	6ENU
SM5S26A-AU	26	28.9	31.9	5	0.5	150	42.1	86	6ENV
SM5S28A-AU	28	31.1	34.4	5	0.5	150	45.4	79	6ENW
SM5S30A-AU	30	33.3	36.8	5	0.5	150	48.4	74	6ENX
SM5S33A-AU	33	36.7	40.6	5	0.5	150	53.3	68	6ENY
SM5S36A-AU	36	40	44.2	5	0.5	150	58.1	62	6ENZ
SM5S40A-AU	40	44.4	49.1	5	0.5	150	64.5	56	6EPD
SM5S43A-AU	43	47.8	52.8	5	0.5	150	69.4	52	6EPE
SM5S48A-AU	48	53.3	58.7	5	0.5	150	80.6	45	6EPF

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.



# SM5S14A-AU ~ SM5S48A-AU Series

## TYPICAL CHARACTERISTIC CURVES

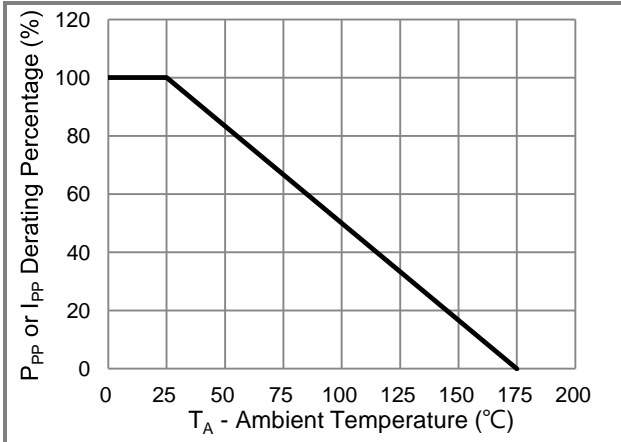


Fig.1 Pulse Power Rating Curve

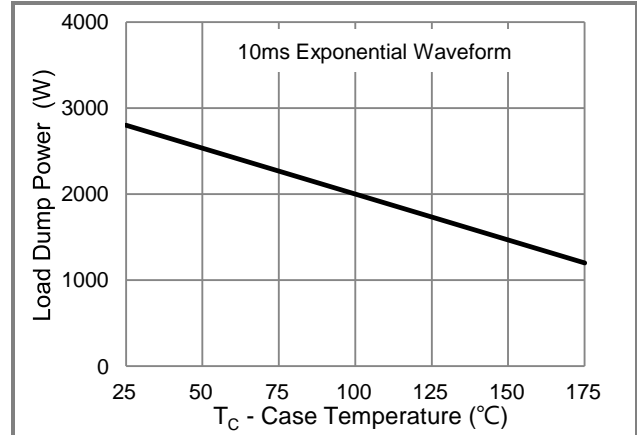


Fig.2 Load Dump Power Characteristics

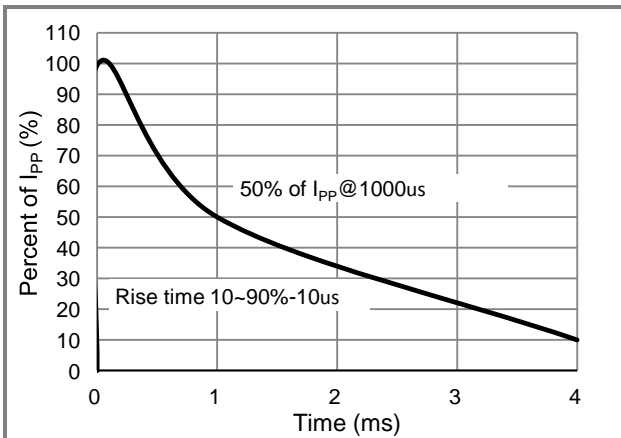


Fig.3 Pulse Waveform

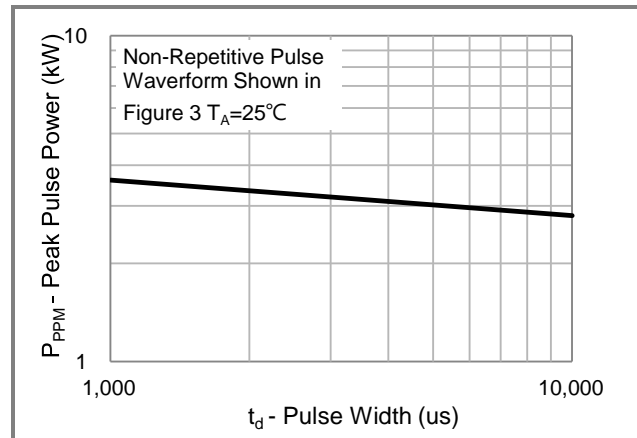


Fig.4 Peak Pulse Power Rating Curve

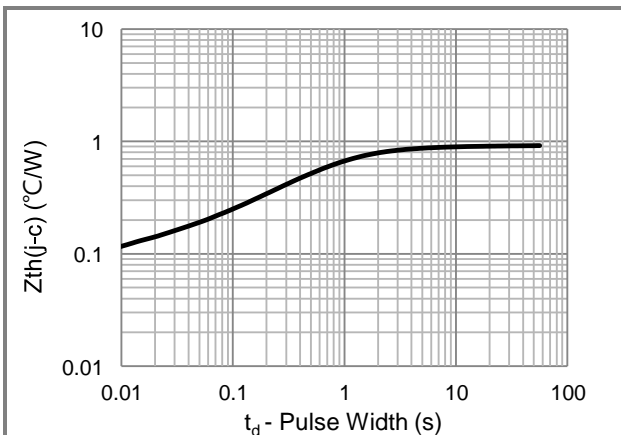


Fig.5 Typical Transient Thermal Impedance

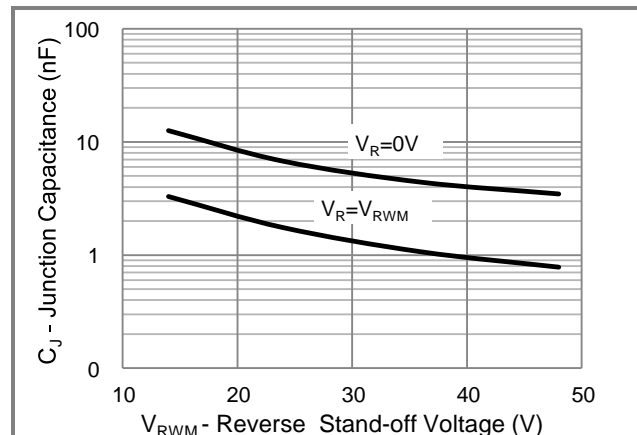


Fig.6 Typical Capacitance



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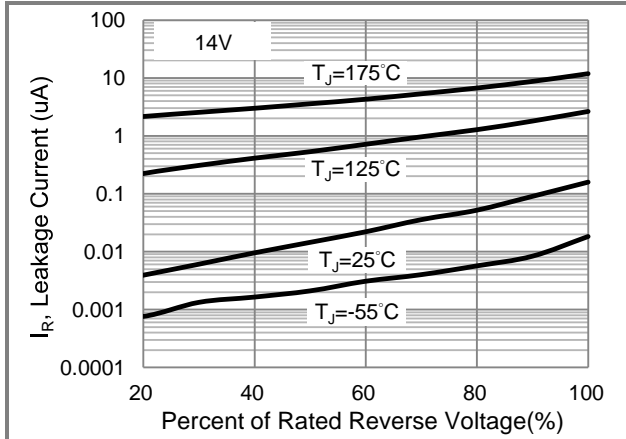


Fig.7 Typical Reverse Characteristics

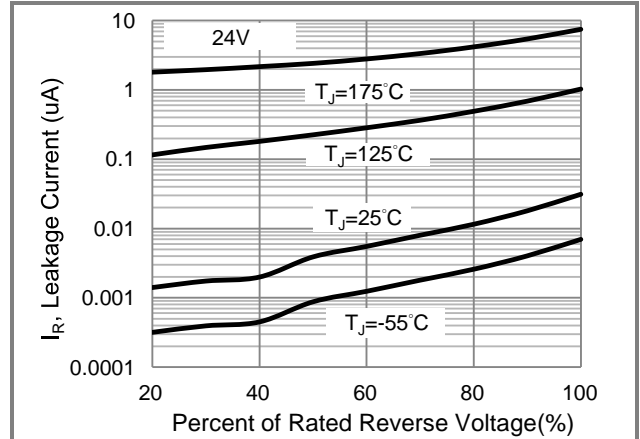


Fig.8 Typical Reverse Characteristics

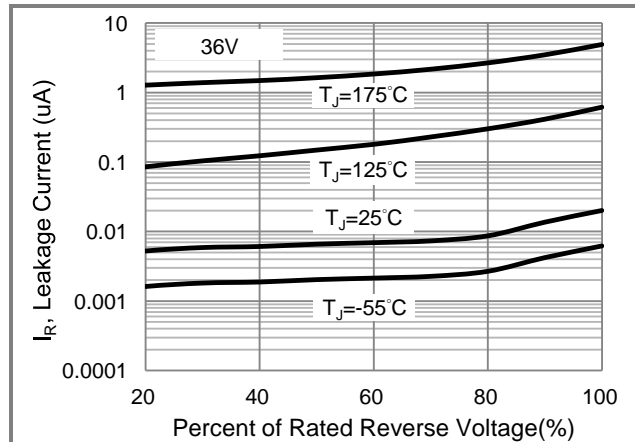


Fig.9 Typical Reverse Characteristics

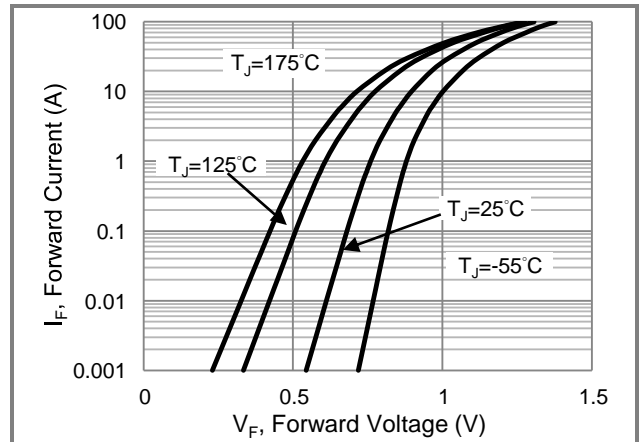


Fig.10 Typical Forward Characteristics

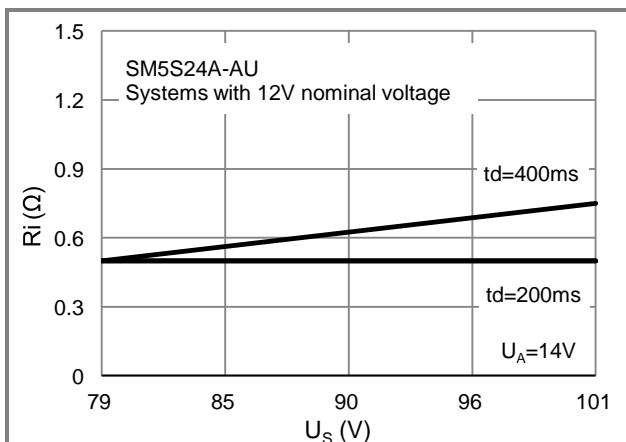


Fig.11 ISO-16750-2 TYPE A

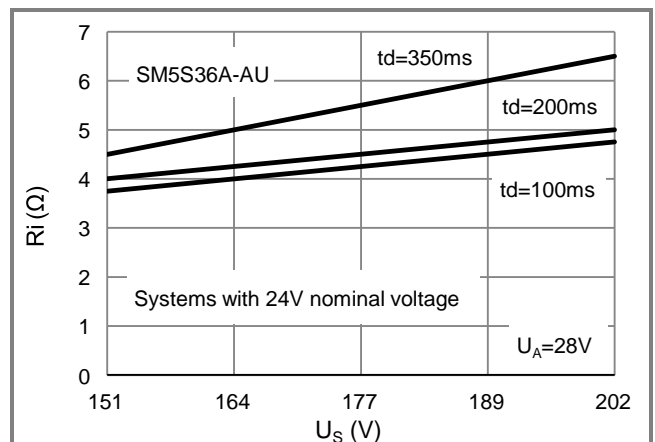


Fig.12 ISO-16750-2 TYPE A

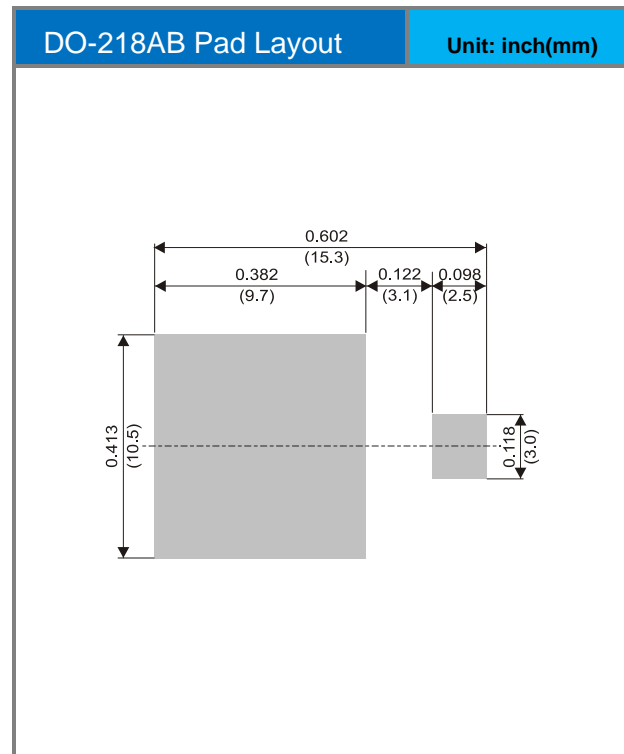
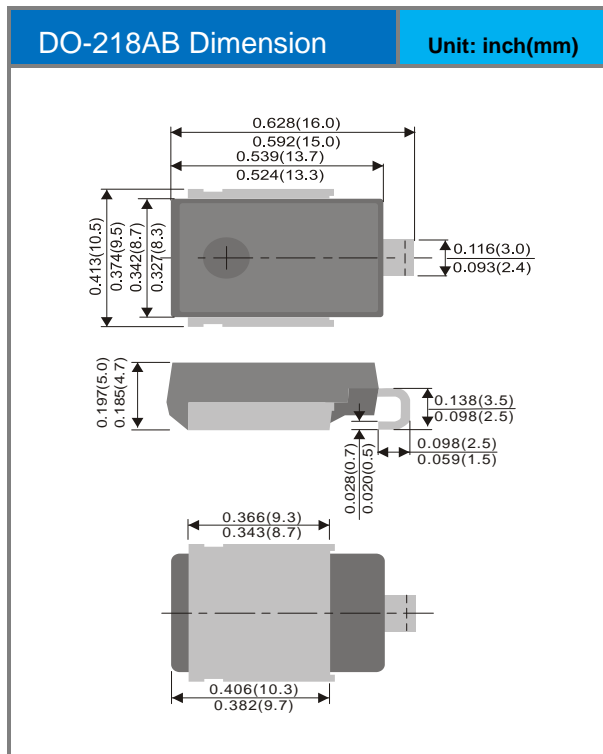


## SM5S14A-AU ~ SM5S48A-AU Series

Part No. Packing Code Version

Part No. Packing Code	Package Type	Packing Type	Marking	Version
SM5SxxA-AU_R2_000A1	DO-218AB	600 pcs / 13" reel	See Table	Halogen free

### Packaging Information & Mounting Pad Layout





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