



4.6KSMX27A-AU

4.6kW SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

Stand-Off Voltage

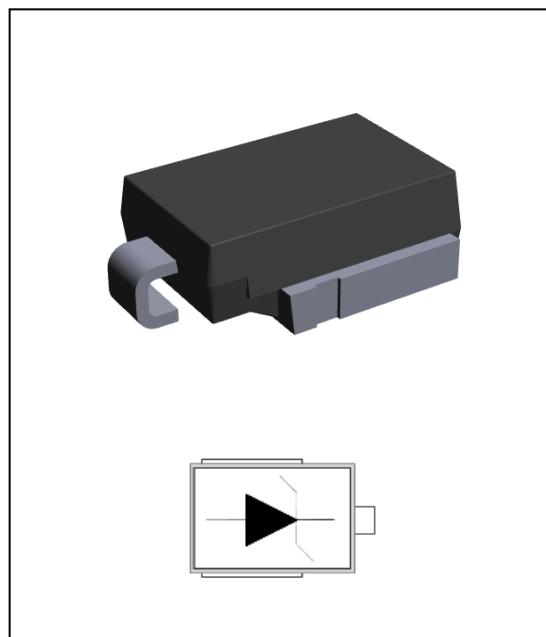
22V

Features

- Rated for load dump protection (ISO 16750-2) in automotive applications
- Reliable operation at maximum $T_J=175^\circ\text{C}$
- Low leakage current
- Unidirectional operation
- Acquire quality system certificate : TS16949
- AEC-Q101 qualified
- Meets ISO 7637-2 Requirements
- Meets MSL Level 1 per J-STD-020
- Lead free in compliance with EU RoHS2.0 (2011/65/EU & 2015/865/EU directive)
- Green molding compound as per IEC61249 Std. . (Halogen Free)

Mechanical Data

- Case: DO-218AC
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Headsink is the anode



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

RATING	SYMBOL	LIMIT	UNIT
10/1,000 μs Peak Pulse Power Dissipation on $T_A = 25^\circ\text{C}$ (Notes 1)	P_{PPM1}	4600	W
10/10,000 μs 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 $T_A = 25^\circ\text{C}$	P_D	6	W
IEC61000-4-2 Contact	V_{ESD}	8	kV
IEC61000-4-2 Air	V_{ESD}	15	kV
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to 175	$^\circ\text{C}$

Notes : 1. Non-repetitive pulse. Derate over $T_A = 25^\circ\text{C}$.



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

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Reverse Stand-off Voltage	V_{RWM}	-	22	-	-	V
Breakdown Voltage	V_{BR}	$I_T=10\text{mA}$	24	-	30	V
Max. Clamp Voltage ⁽²⁾	V_C	$I_{PP}=65\text{A}$	-	-	40	V
Reverse Leakage Current	I_R	$V_R=22\text{V}, T_J=25^{\circ}\text{C}$	-	-	0.5	μA
		$V_R=22\text{V}, T_J=175^{\circ}\text{C}$	-	-	20	μA

Notes : 2. 10/1,0000 μs surge pulse waveform.



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Typical Characteristic Curves

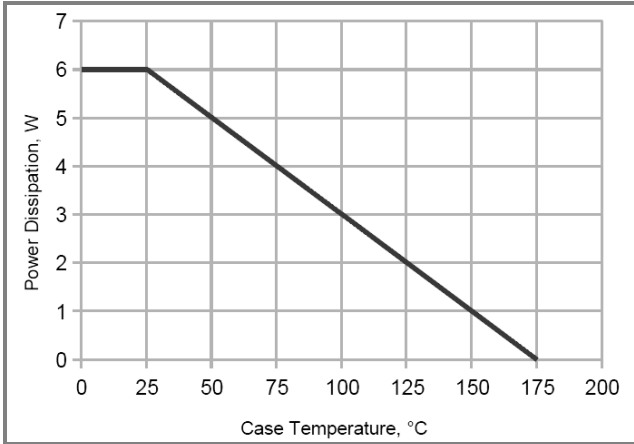


Fig.1 DC Power Derating Curve

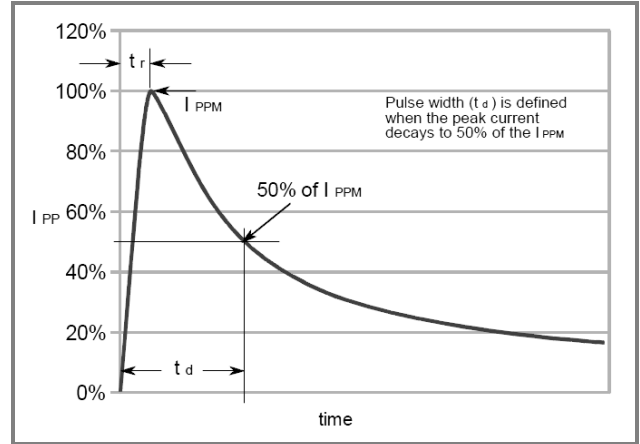


Fig.2 Pulse Waveform Definition
($t_r / t_d = 10/1,000\mu\text{s}$ or $10/10,000\mu\text{s}$)

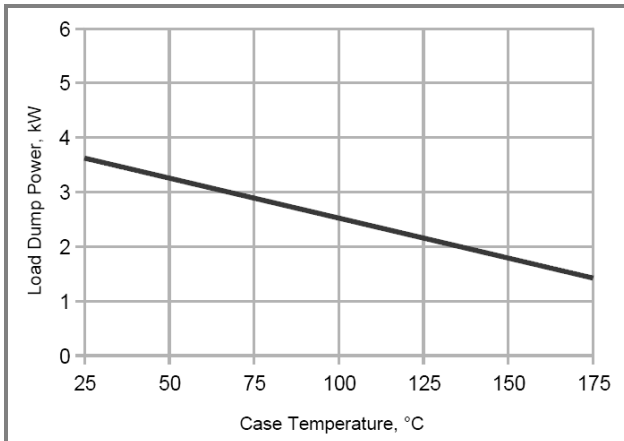


Fig.3 Load Dump Power vs Case Temperature
(10ms Exponential Waveform)

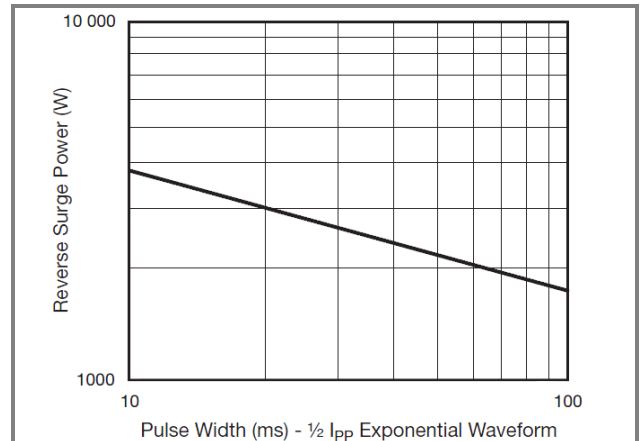


Fig.4 Reverse Power Capability
(Exponential Waveform)

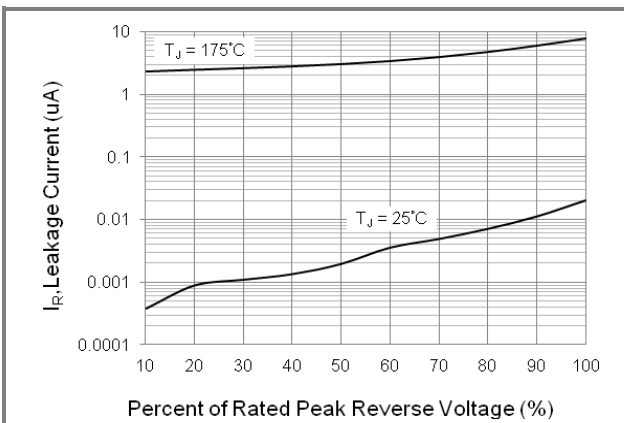


Fig.5 Typical Reverse Characteristics

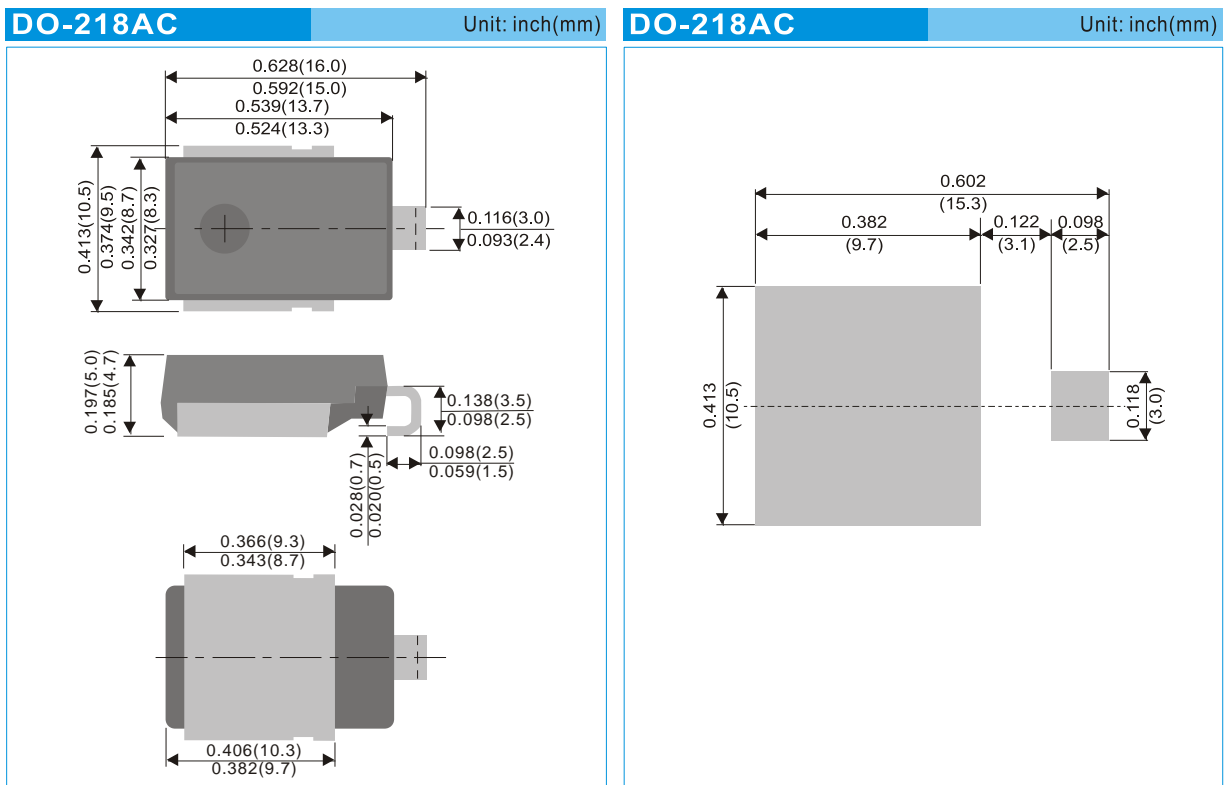


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Part No Packing Code Version

Part No Packing Code	Package Type	Packing Type	Marking	Version
4.6KSMX27A-AU_R2_000A1	DO-218AC	600 pcs / 13" reel	4EEP	Halogen free

Packaging Information & Mounting Pad Layout





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