



## 4.6KSMX27A-AU

### 4.6kW SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

**Stand-Off Voltage**

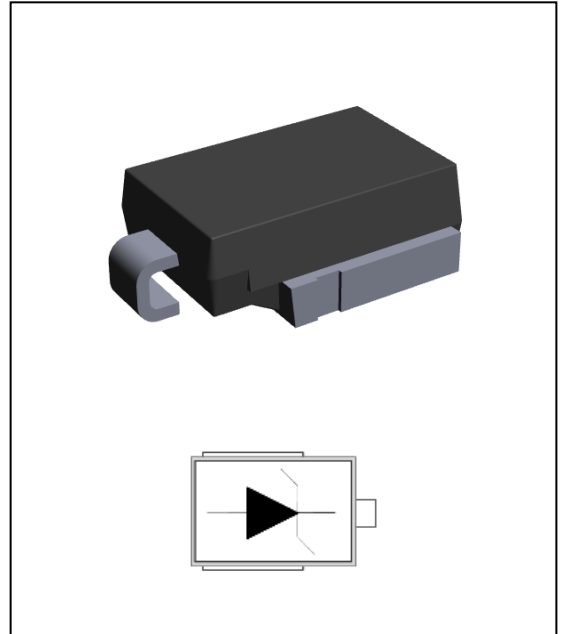
**22V**

#### 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 $\mu\text{s}$ Peak Pulse Power Dissipation on $T_A = 25^\circ\text{C}$ (Notes 1)	$P_{PPM1}$	4600	W
10/10,000 $\mu\text{s}$ 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)

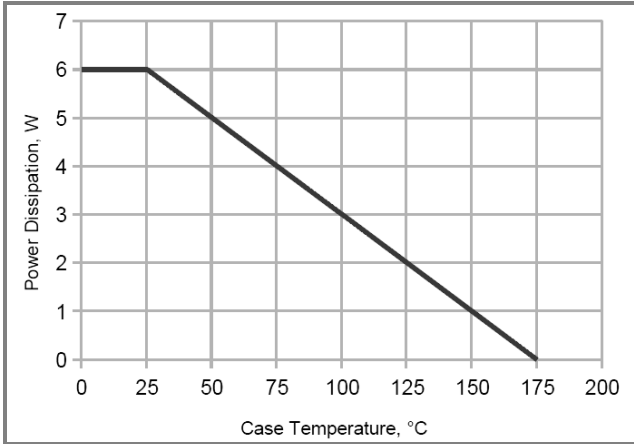
PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Reverse Stand-off Voltage	$V_{RWM}$	-	22	-	-	V
Breakdown Voltage	$V_{BR}$	$I_T=10\text{mA}$	24	-	30	V
Max. Clamp Voltage <sup>(2)</sup>	$V_C$	$I_{PP}=65\text{A}$	-	-	40	V
Reverse Leakage Current	$I_R$	$V_R=22\text{V}, T_J=25^{\circ}\text{C}$	-	-	0.5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

Notes : 2. 10/1,0000 $\mu\text{s}$  surge pulse waveform.

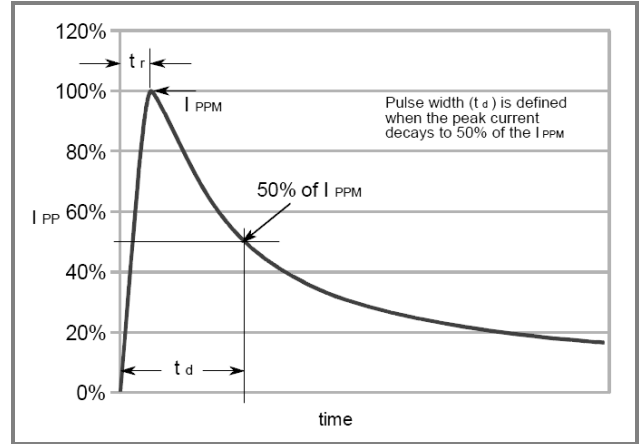


# 4.6KSMX27A-AU

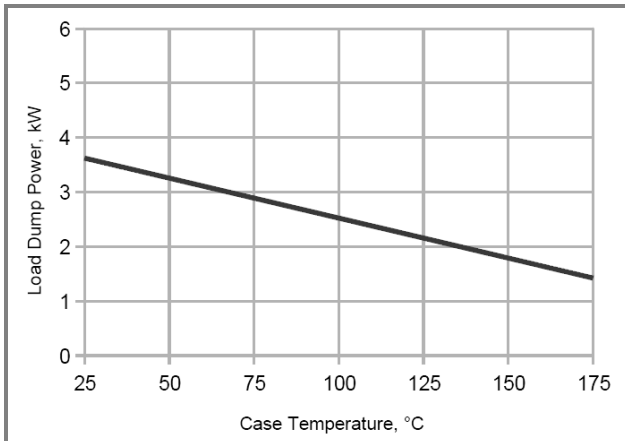
## Typical Characteristic Curves



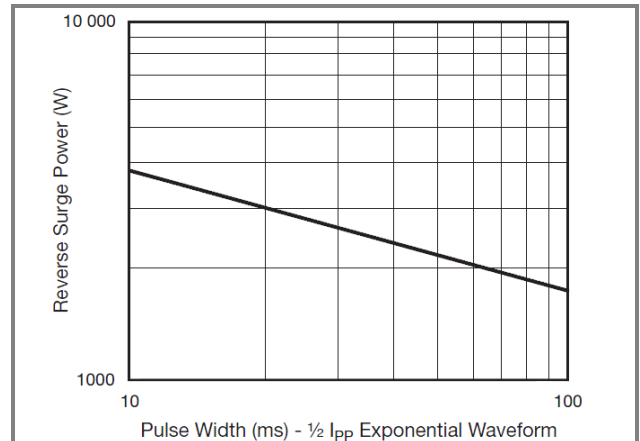
**Fig.1 DC Power Derating Curve**



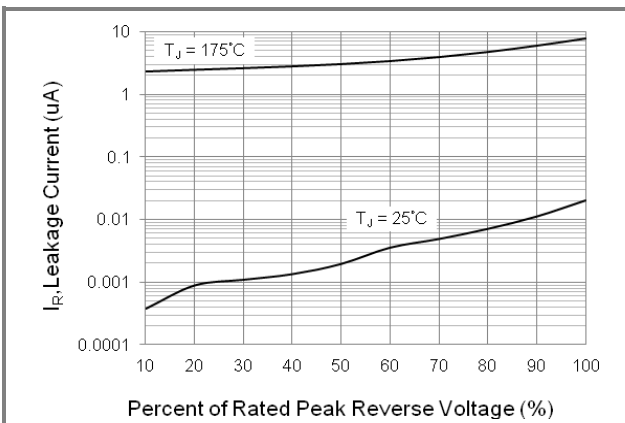
**Fig.2 Pulse Waveform Definition**  
( $t_r / t_d = 10/1,000\mu\text{s}$  or  $10/10,000\mu\text{s}$ )



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



**Fig.4 Reverse Power Capability**  
(Exponential Waveform)



**Fig.5 Typical Reverse Characteristics**



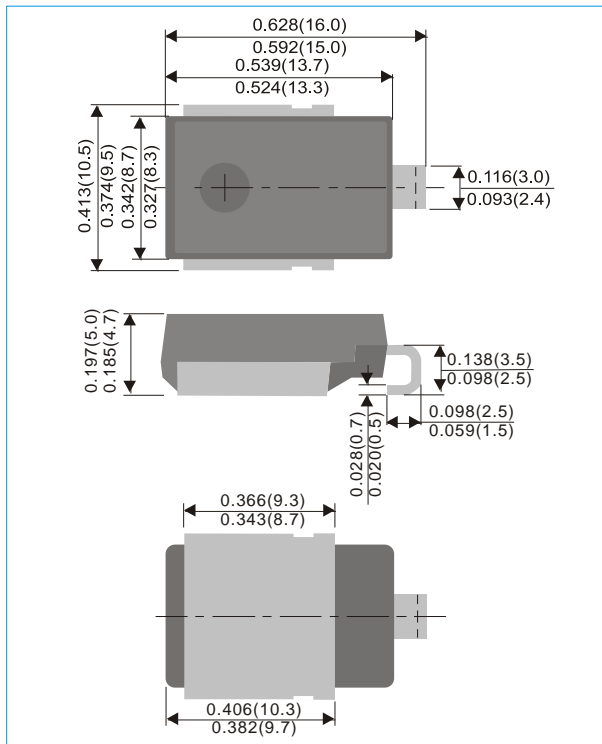
# 4.6KSMX27A-AU

## Part No Packing Code Version

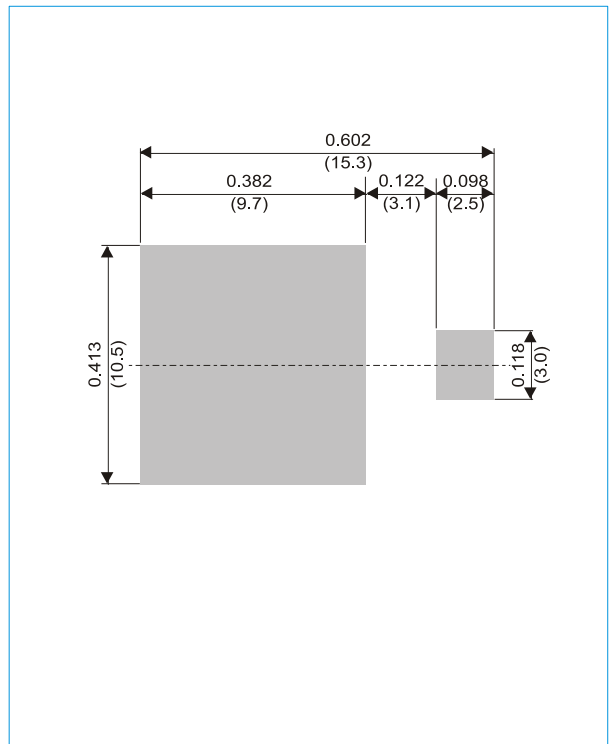
Part No Packing Code	Package Type	Packing Type	Marking	Version
4.6KSMX27A-AU_R2_000A1	DO-218AC	600 pcs / 13" reel	4EEP	Halogen free

## Packaging Information & Mounting Pad Layout

**DO-218AC** Unit: inch(mm)



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