

## 4.6KSMJX14A-AU~4.6KSMJX36A-AU

### 4.6kW SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

**Stand-Off Voltage**

**14~36V**

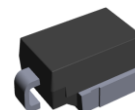
#### Features

- 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
- AEC-Q101 qualified
- Meets ISO 7637-2 Requirements
- Meets MSL Level 1 per J-STD-020
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 Std.

#### Mechanical Data

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

**DO-218AC**



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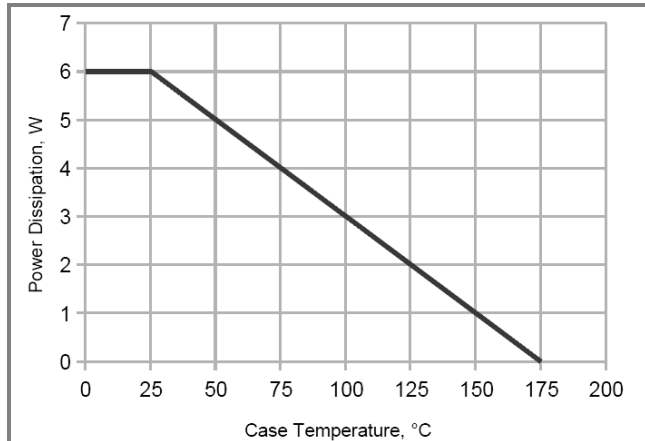
Electrical Characteristics ( $T_A=25^{\circ}\text{C}$  unless otherwise noted)

Part Number	Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Reverse Leakage	Reverse Leakage	Max. Clamp Voltage <sup>(2)</sup>	Peak Pulse Current <sup>(2)</sup>	Marking Code
	V <sub>RWM</sub>	V <sub>BR</sub> @ I <sub>T</sub>		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 <sub>C</sub> @ I <sub>PP</sub>	I <sub>PP</sub>	
		Min.	Max.		Max.	Max			
	V	V	V	mA	μA	μA	V	A	
4.6KSMJX14A-AU	14	15.6	17.2	5	0.5	150	23.2	198	4XEK
4.6KSMJX20A-AU	20	22.2	24.5	5	0.5	150	32.4	142	4XEV
4.6KSMJX22A-AU	22	24.4	26.9	5	0.5	150	35.5	130	4XEX
4.6KSMJX24A-AU	24	26.7	29.5	5	0.5	150	38.9	118	4XEZ
4.6KSMJX33A-AU	33	36.7	40.6	5	0.5	150	53.3	86	4XFM
4.6KSMJX36A-AU	36	40	44.2	5	0.5	150	58.1	79	4XFP

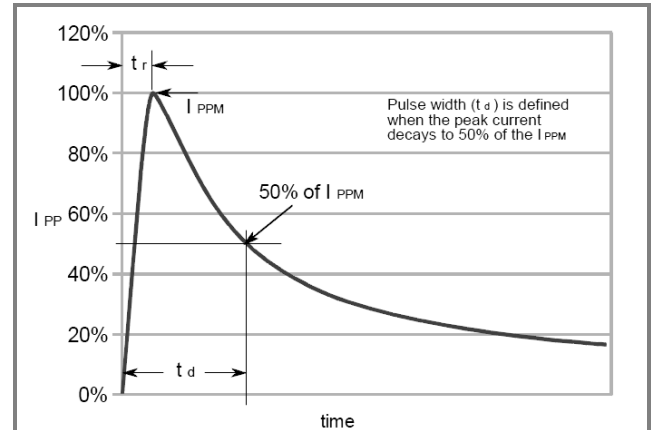
Notes : 2. 10/1,000 $\mu\text{s}$  surge pulse waveform.

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### Typical Characteristic Curves

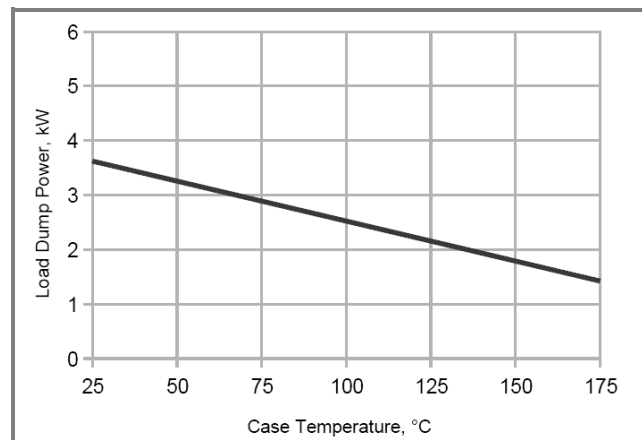


**Fig.1 DC Power Derating Curve**



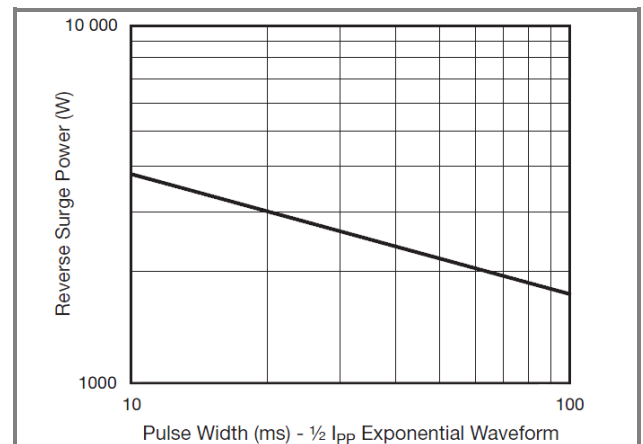
**Fig.2 Pulse Waveform Definition**

( $t_r / t_d = 10/1,000\mu s$  or  $10/10,000\mu s$ )



**Fig.3 Load Dump Power vs Case Temperature**

(10ms Exponential Waveform)



**Fig.4 Reverse Power Capability**

(Exponential Waveform)

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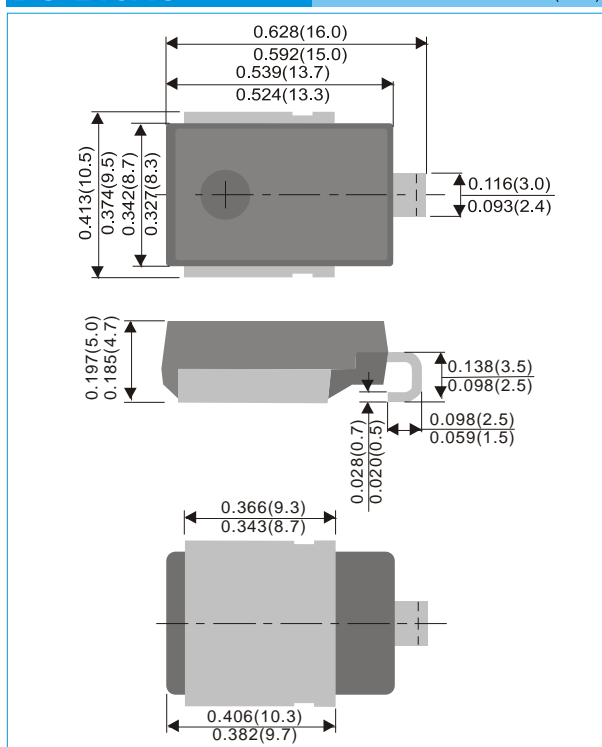
### Part No Packing Code Version

Part No Packing Code	Package Type	Packing Type	Marking	Version
4.6KSMJX14A-AU_R2_000A1	DO-218AC	600 pcs / 13" reel	4XEK	Halogen free
4.6KSMJX14A-AU_S2_000A1	DO-218AC	600 pcs / 13" reel	4XEK	Halogen free

### Packaging Information & Mounting Pad Layout

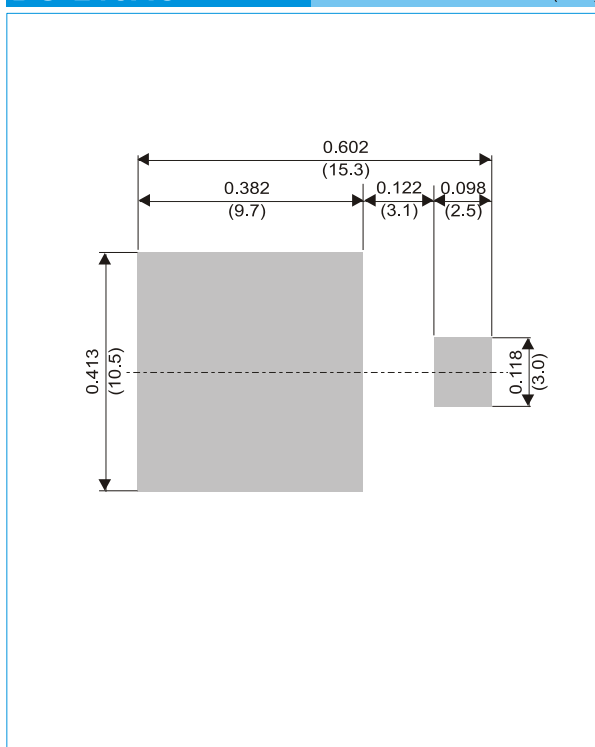
#### DO-218AC

Unit: inch(mm)



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Unit: inch(mm)





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