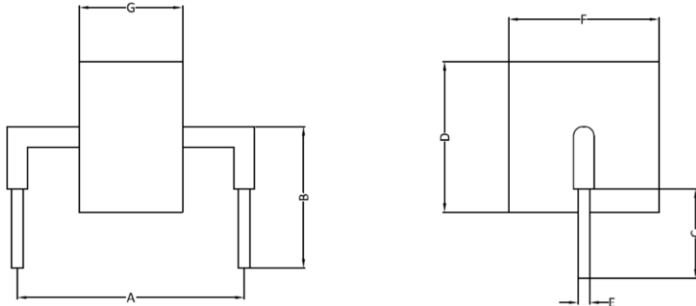


### AK Package Dimension



Symbol	Dimension in mm
A	24.15 ± 0.72
B	15.0 ± 1.0
C	6.6 ± 1.0
D	13.5 Max
E	1.25 ± 0.05
F	13.5 Max

### FEATURES

- Glass passivated junction
- Bi-directional
- RoHS compliant
- 6,000A surge current capability at 8/20µS waveform per IEC61000-4-5
- Excellent clamping capability
- Coating powder has Underwriters Laboratory Flammability 94V-0
- ESD protection of data lines in accordance with IEC61000-4-2
- EFT protection of data lines in accordance with IEC61000-4-4



### MECHANICAL DATA

**Terminal:** Ag Plated leads, solderable per MIL-STD 750, Method 2026

**Mounting Position:** Any

### PRIMARY CHARACTERISTICS

V <sub>RWM</sub>	58V to 430V
V <sub>BR</sub>	64V to 490V
I <sub>PPM</sub>	6,000A
Polarity	Bi-directional
Package	Axial Lead

### Functional Diagram



Bi-directional

### MAXIMUM RATINGS (25°C ambient temperature unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Current of on 8/20µs waveform <sup>(1)</sup>	I <sub>PPM</sub>	6,000	Amps
Operating Storage Temperature Range	T <sub>STG</sub>	-55 to +150	°C
Operating Junction Temperature Range	T <sub>J</sub>	-55 to +125	°C

Note

(1) Non-repetitive current pulse above T<sub>A</sub> = 25 °C

**ELECTRICAL CHARACTERISTICS**

PART NUMBER	MARKING CODE	TEST CURRENT $I_T$ (mA)	BREAKDOWN VOLTAGE $V_{BR}(V)$ @ $I_T$		REVERSE STAND- OFF VOLTAGE $V_{RWM}(V)$	MAXIMUM REVERSE LEAKAGE CURRENT $I_R(\mu A)$ @ $V_{RWM}$	MAXIMUM CLAMPING VOLTAGE @PEAK PULSE CURRENT <sup>(2)</sup>	
			MIN	MAX			$V_{CL}$	$I_{PP}(KA)$
AK6-058C	6-058C	10	64	70	58	10	110	6
AK6-076C	6-076C	10	85	95	76	10	140	6
AK6-100C	6-100C	10	110	130	100	10	180	6
AK6-170C	6-170C	10	180	220	170	10	260	6
AK6-190C	6-190C	10	200	240	190	10	290	6
AK6-240C	6-240C	10	250	285	240	10	340	6
AK6-270C	6-270C	10	280	320	270	10	380	6
AK6-380C	6-380C	10	401	443	380	10	520	6
AK6-430C	6-430C	10	440	490	430	10	625	6

Note:

(2) Using 8/20 $\mu$ S surge shaped waveform defined in IEC61000-4-5.

**Wave Solder Profile**

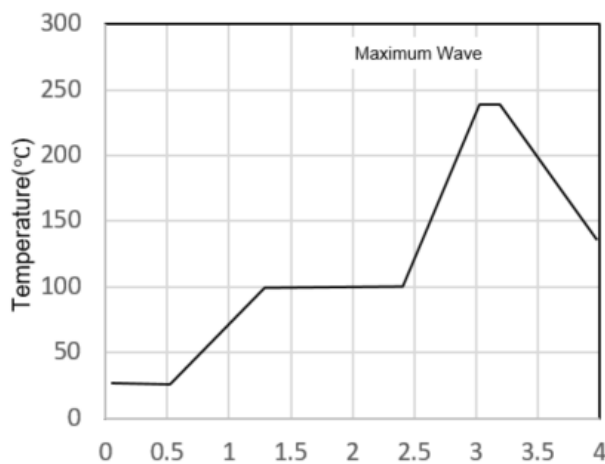


Fig 1. Non Lead-free profile

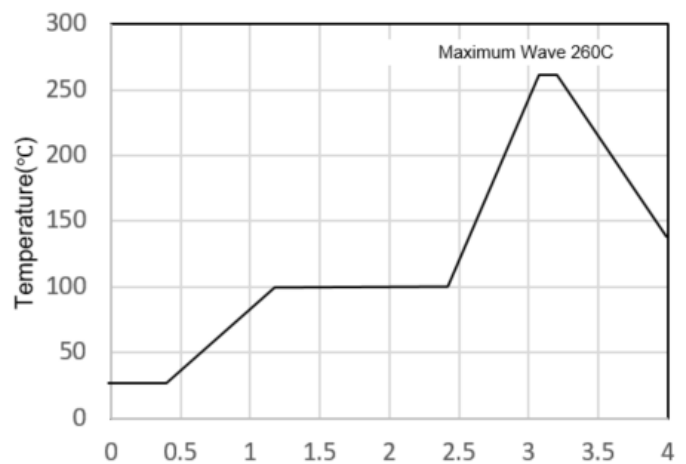


Fig 2. Lead-free profile

RATINGS AND CHARACTERISTICS CURVES ( $T_A = 25^\circ\text{C}$  unless otherwise noted)

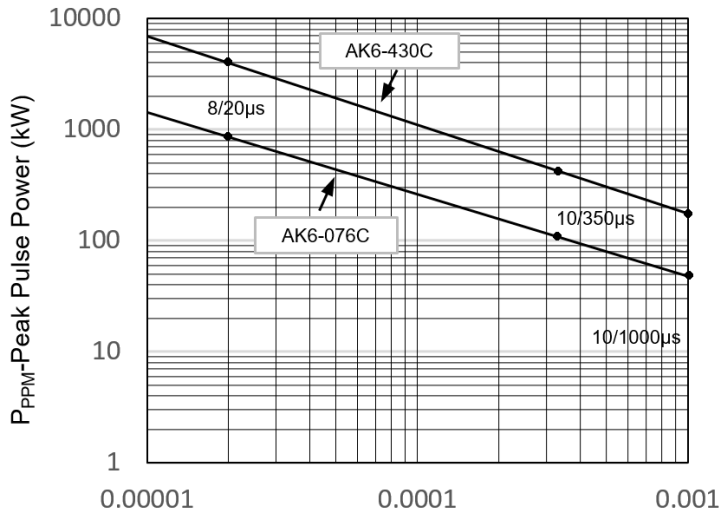


Fig 3. Peak Pulse Power Rating

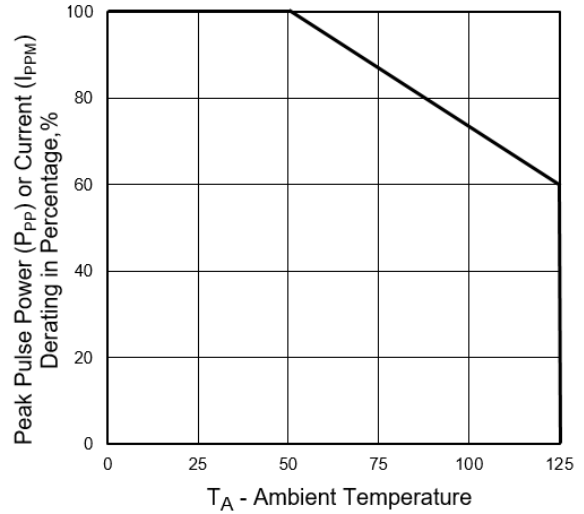


Fig 4. Pulse De-rating Curve

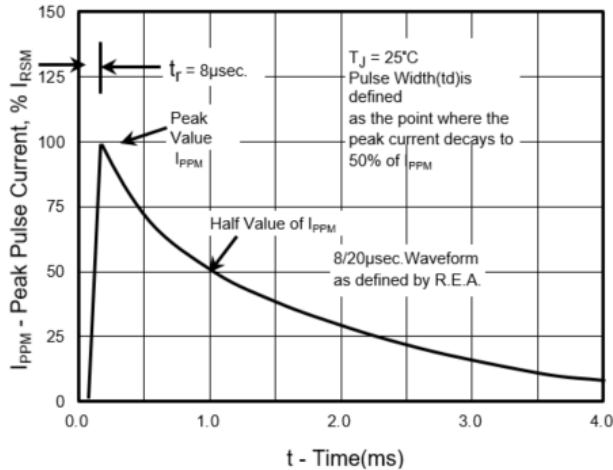


Fig 5. Pulse Waveform

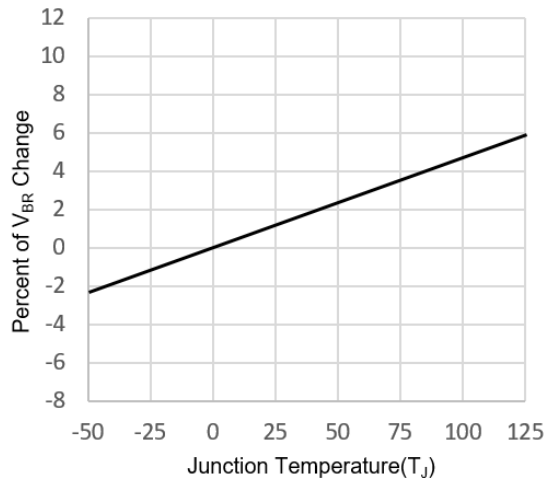


Fig 6. Typical  $V_{BR}$  Vs Junction Temperature

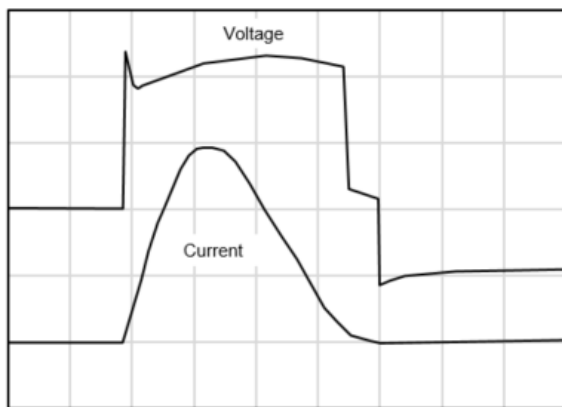


Fig 7. Surge Response (8/20 current waveform) <sup>(3)</sup>

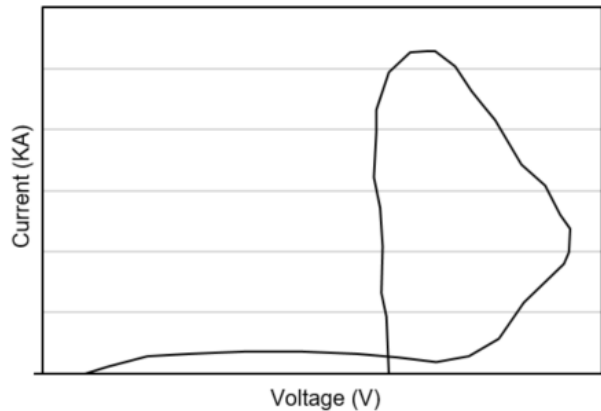


Fig 8. Surge Response

Note:

(3) The power dissipation causes a change in avalanche voltage during the surge and the avalanche voltage eventually returns to the original value when the transient has passed.

## Ordering Information

Part Number	Quantity	Packing Option	Component Package
AK6-xxxC	30	Bulk	AK Package



AOS Green Products use reduced levels of Halogens, and are also RoHS compliant. Please visit [www.aosmd.com/media/AOSGreenPolicy.pdf](http://www.aosmd.com/media/AOSGreenPolicy.pdf) for additional information.

Note: Green Product means Pb-free, RoHS and Halogens free compliant.

Part Number	Part Marking
<p><b>AK6- XXXX</b></p> <p>Reverse working voltage</p> <p>Series</p>	<p>6-XXXX — Marking Code</p> <p>Logo</p> <p>Date Code</p>

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