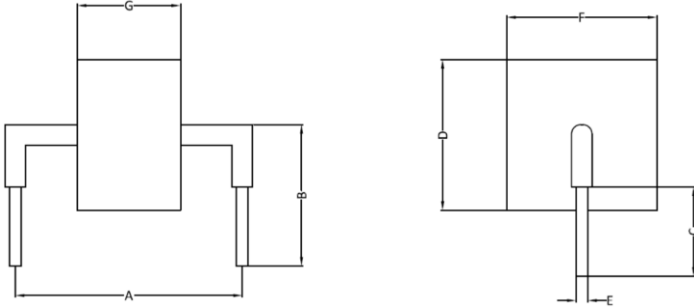


### AK Package Dimension



Symbol	Dimension in mm
A	24.15 ± 0.72
B	15.0 ± 1.0
C	6.6 ± 1.0
D	16.0 Max
E	1.25 ± 0.05
F	16.0 Max

### FEATURES

- Glass passivated junction
- Bi-directional
- RoHS compliant
- 10,000A 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

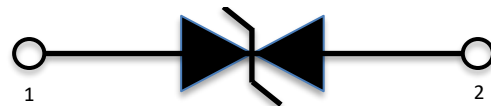
**Terminal:** Ag Plated leads, solderable per MIL-STD 750, Method 2026

**Mounting Position:** Any

### PRIMARY CHARACTERISTICS

V <sub>RWM</sub>	33V to 470V
V <sub>BR</sub>	36V to 530V
I <sub>PPM</sub>	10,000A
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>	10,000	Amps
Operating Storage Temperature Range	T <sub>STG</sub>	-55 to +150	°C
Operating Junction and Storage 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			$V_{CL}(V)$	$I_{PP}(KA)$
AK10-033C	10-033C	10	36	41	33	10	64	10
AK10-058C	10-058C	10	64	70	58	10	110	10
AK10-066C	10-066C	10	73	82	66	10	120	10
AK10-076C	10-076C	10	85	95	76	10	140	10
AK10-100C	10-100C	10	110	130	100	10	180	10
AK10-170C	10-170C	10	180	220	170	10	260	10
AK10-190C	10-190C	10	200	240	190	10	290	10
AK10-240C	10-240C	10	250	285	240	10	340	10
AK10-270C	10-270C	10	280	320	270	10	380	10
AK10-320C	10-320C	10	336	368	320	10	440	10
AK10-380C	10-380C	10	401	443	380	10	520	10
AK10-430C	10-430C	10	440	490	430	10	625	10
AK10-470C	10-470C	10	490	530	470	10	670	10

Note:

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

**Wave Solder Profile**

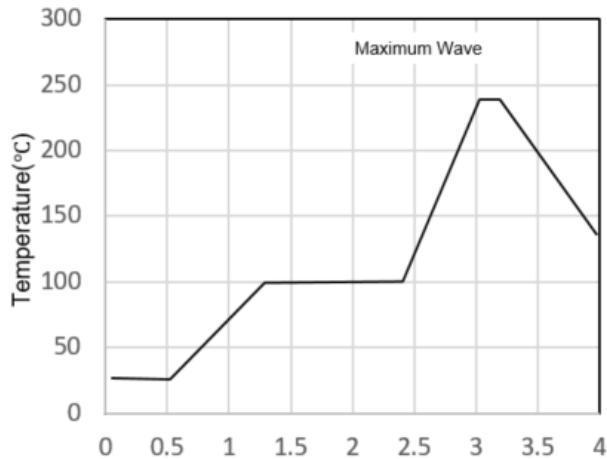


Fig 1. Non Lead-free profile

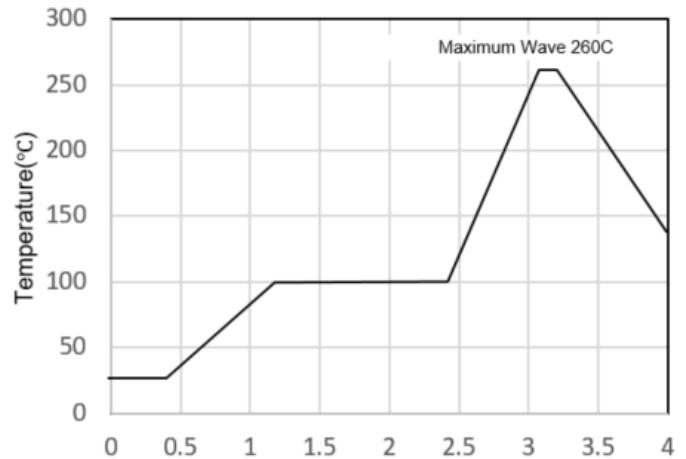


Fig 2. Lead-free profile

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

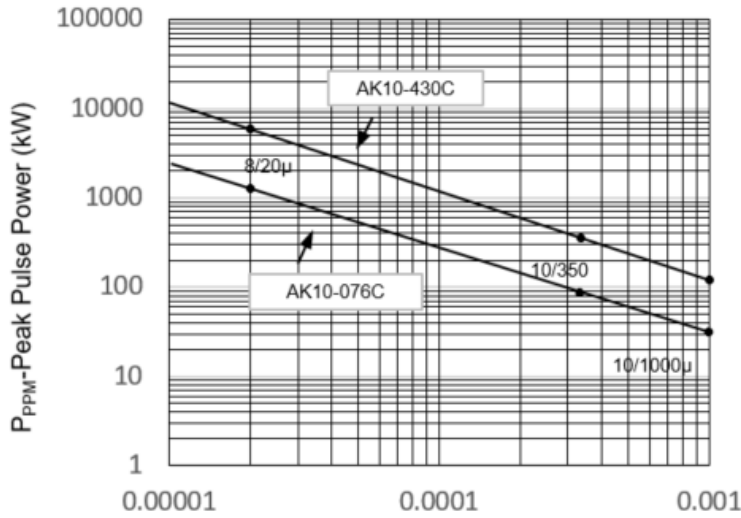


Fig 3. Peak Pulse Power Rating

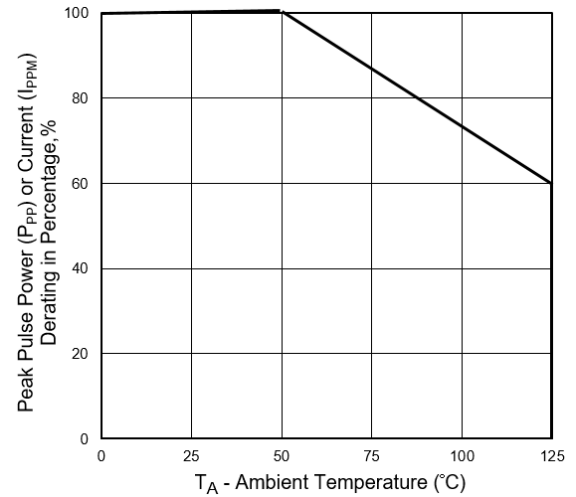


Fig 4. Pulse De-rating Curve

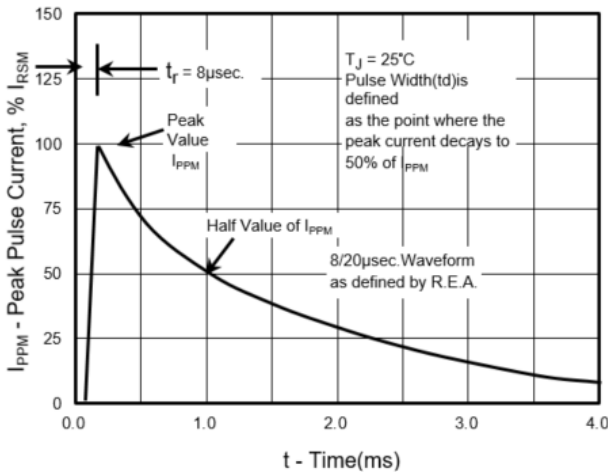


Fig 5. Pulse Waveform

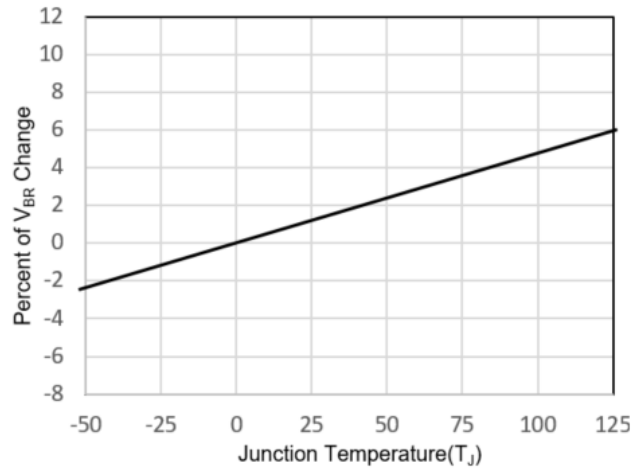


Fig 6. Typical  $V_{BR}$  Vs Junction Temperature

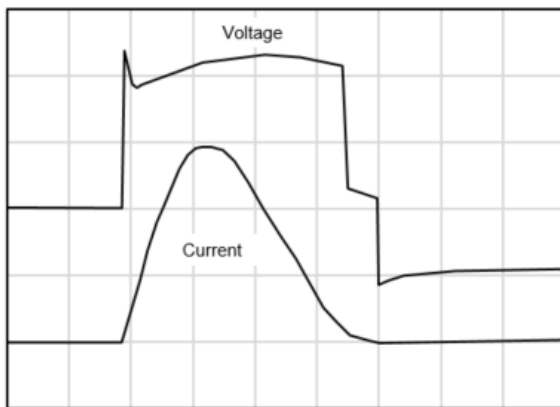


Fig 7. Surge Response (8/20 Surge Current Waveform) <sup>(3)</sup>

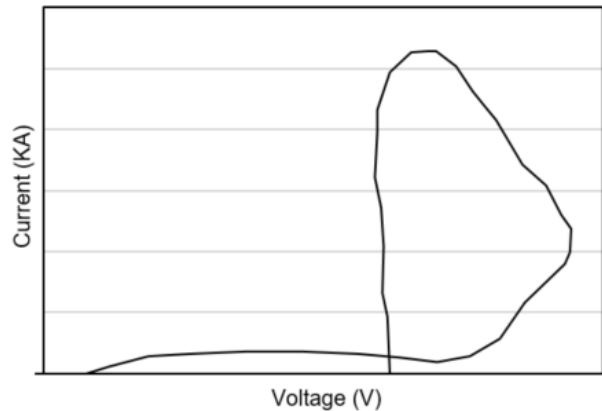


Fig 8. Surge Response

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
AK10-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>AK10- XXXX</b></p>	

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2. A critical component in any component of a life support, device, or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.