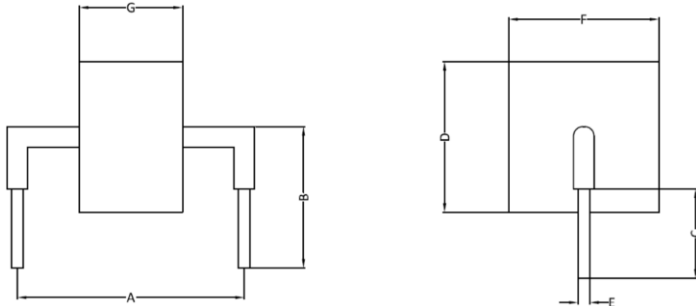


AK Package Dimension



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 _{RWM}	58V to 430V
V _{BR}	64V to 490V
I _{PPM}	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 ⁽¹⁾	I _{PPM}	6,000	Amps
Operating Storage Temperature Range	T _{STG}	-55 to +150	°C
Operating Junction Temperature Range	T _J	-55 to +125	°C

Note

(1) Non-repetitive current pulse above T_A = 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 ⁽²⁾	
			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 μ S surge shaped waveform defined in IEC61000-4-5.

Wave Solder Profile

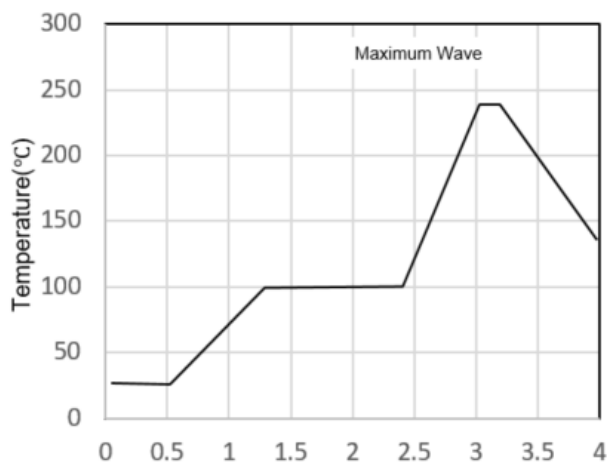


Fig 1. Non Lead-free profile

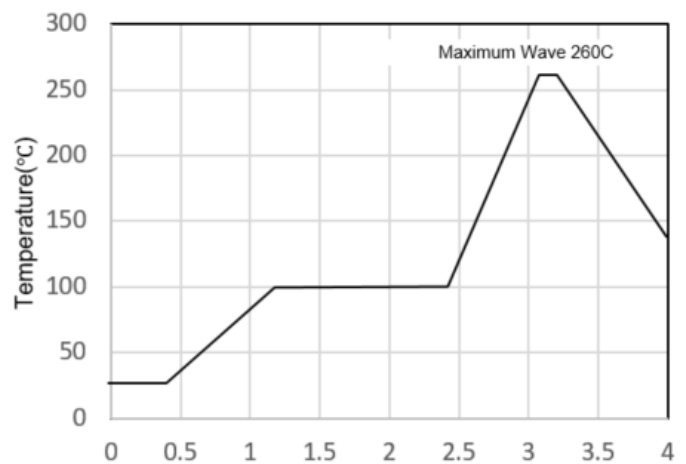


Fig 2. Lead-free profile

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

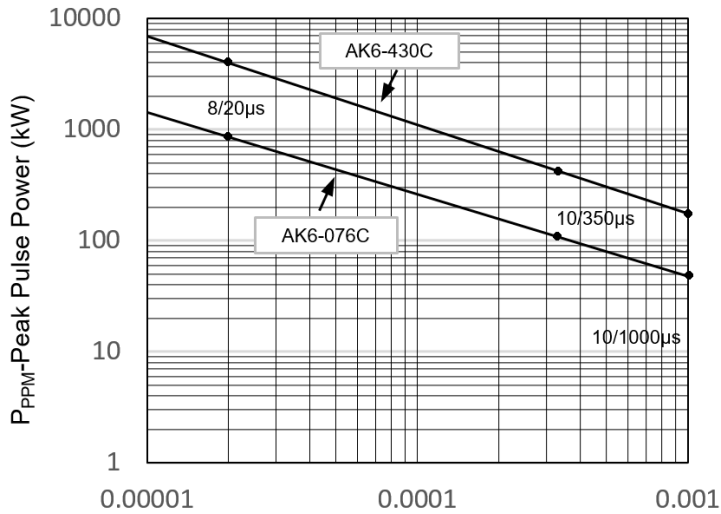


Fig 3. Peak Pulse Power Rating

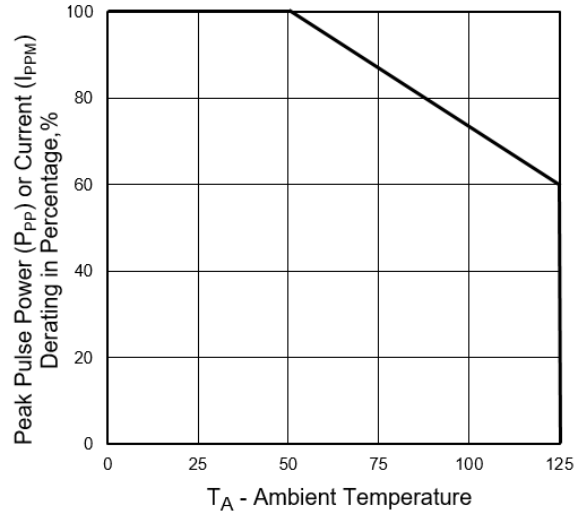


Fig 4. Pulse De-rating Curve

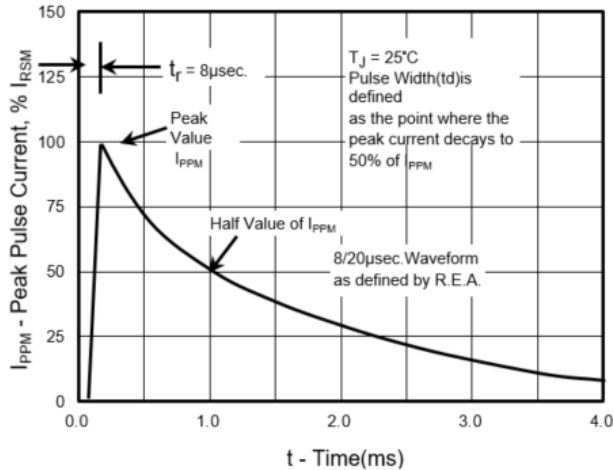


Fig 5. Pulse Waveform

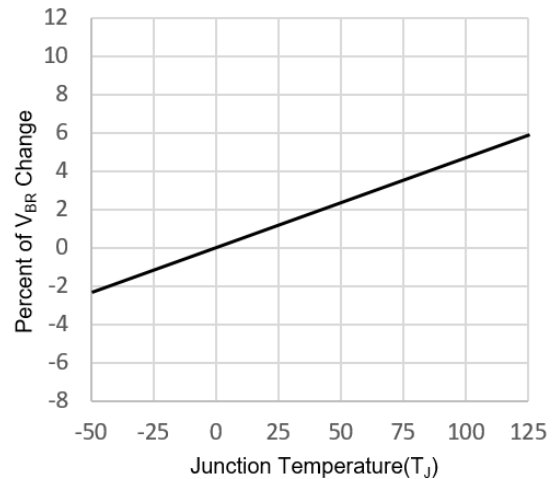


Fig 6. Typical V_{BR} Vs Junction Temperature

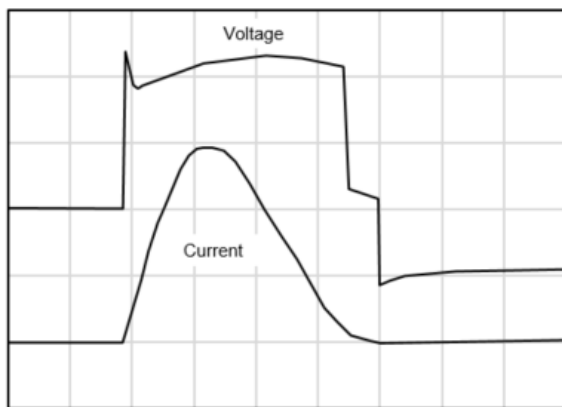


Fig 7. Surge Response (8/20 current waveform) ⁽³⁾

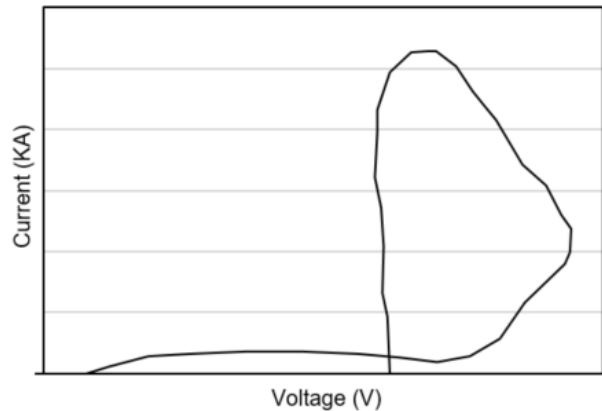


Fig 8. Surge Response

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 for additional information.

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

Part Number	Part Marking
<p>AK6- XXXX</p>	<p>6-XXXX — Marking Code — Logo YM — Date Code</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.