



AK6 Series

TVS Diodes Axial Leaded

AK6 Series

Description

The AK6 series of high powerTVS diode is specially designed for meeting severe surge test environment of both AC and DC line protection applications. It features a very fast response and ultra low clamping characteristics over traditional metal oxide (MOV) solutions. They can be connected in series and / or parallel to create a very high surge current protection solution..

Description

- Very low clamping voltage
- Ultra compact: less than one-tenth the size of traditional discrete solutions
- Sharp breakdown voltage
- Low slope resistance
- Bi-directional
- Foldbak technology for superior clamping factor
- Symmetric in leads width for easier soldering during assembly.
- IEC-61000-4-2 ESD 15kV(Air), 8kV (Contact)
- ESD protection of data lines in accordance with IEC 61000-4-2
- EFT protection of data lines in accordance with IEC 61000-4-4
- Halogen-free
- RoHS compliant
- Glass passivated junction
- Pb-free E4 means 2nd level interconnect is Pb-free and the terminal finish material is Silver



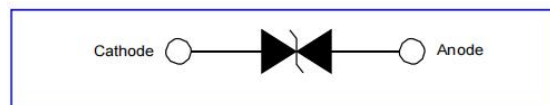
Maximum Ratings and Thermal Characteristics (TA=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Operating Junction and Storage Temperature Range	TJ ,TSTG	(-)55 to125	°C
Current Rating1	I _{PP}	6	KA

Note:

1. Rated I_{PP} with 8/20μs pulse.

Functional Diagram



Electrical Characteristics (TA=25°C unless otherwise noted)

Part Number	Reverse Stand-Off Voltage	Breakdown Voltage @IT		Test Current	Maximum Clamping Voltage @IPP(V)	Maximum Peak Pulse Current	Maximum Reverse Leakage	Package
	VRWM(V)	VBRMIN(V)	VBRMAX(V)	IT(mA)	VC(V)	8/20us(KA)	IR(μA)	
AK6-015C-BC	15	17	19	10	85	6	1	BPSS
AK6-030C-BC	30	32	37	10	58	6	1	BPSS
AK6-058C-BC	58	64	70	10	110	6	1	BPSS
AK6-066C-BC	66	72	80	10	120	6	1	BPSS
AK6-076C-BC	76	85	95	10	140	6	1	BPSS
AK6-170C-BC	170	180	220	10	260	6	1	BPSS
AK6-190C-BC	190	200	245	10	290	6	1	BPSS
AK6-240C-BC	240	250	285	10	340	6	1	BPSS
AK6-380C-BC	380	401	443	10	520	6	1	BPSS
AK6-430C-BC	430	440	490	10	625	6	1	BPSS

Physical Specifications

Weight	Contact manufacturer
Case	Epoxy encapsulated
Terminal	Silver plated leads, solderable per MIL-STD-750 Method 2026

Flow/Wave Soldering (Solder Dipping)

Peak Temperature :	265°C
Dipping Time :	10 seconds
Soldering :	1 time

Wave Solder Profile

Figure 1 - Non Lead-free Profile

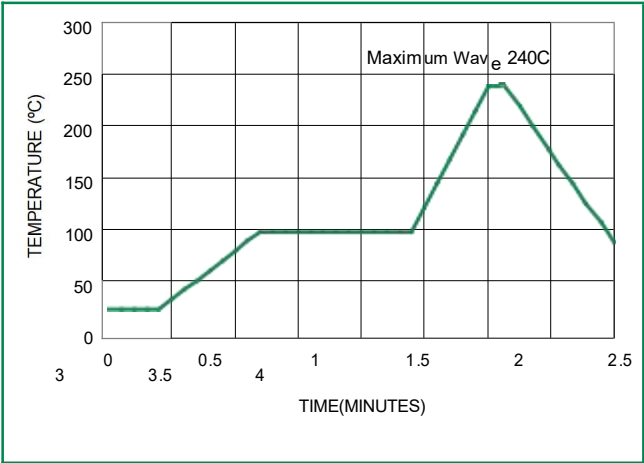
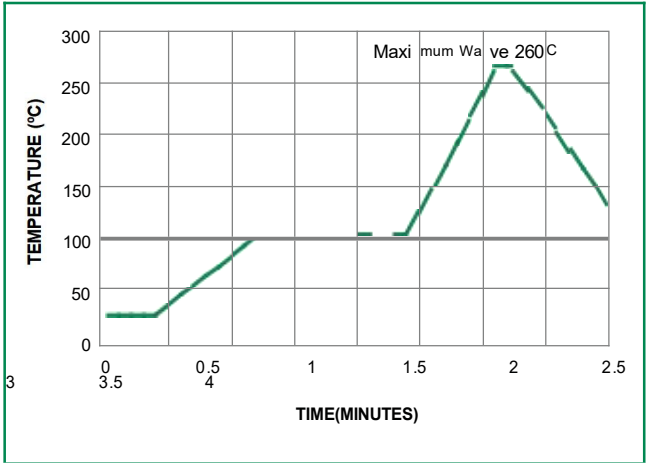
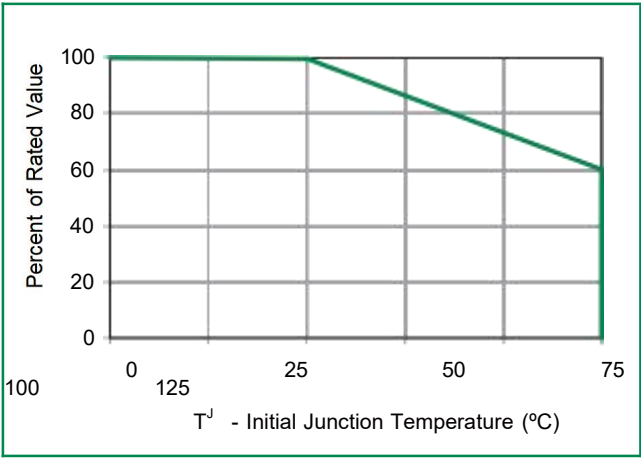


Figure 2 - Lead-free Profile



Ratings and Characteristic Curves ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Figure 3 - Peak Power Derating



Ratings and Characteristic Curves (T_A=25°C unless otherwise noted) (Continued)

Figure 4 -Typical Peak Pulse Power Rating Curve

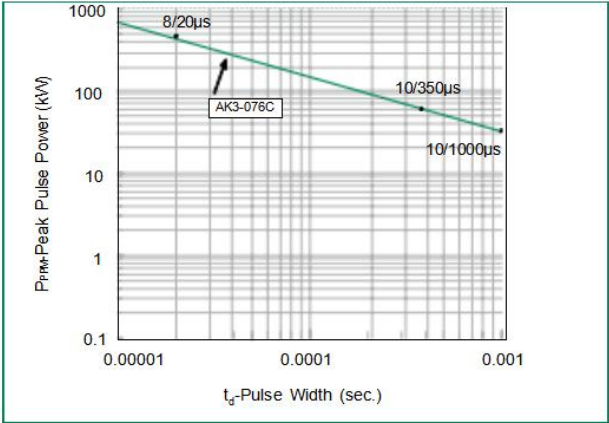


Figure 5 -Typical V_{BR} Vs Junction Temperature

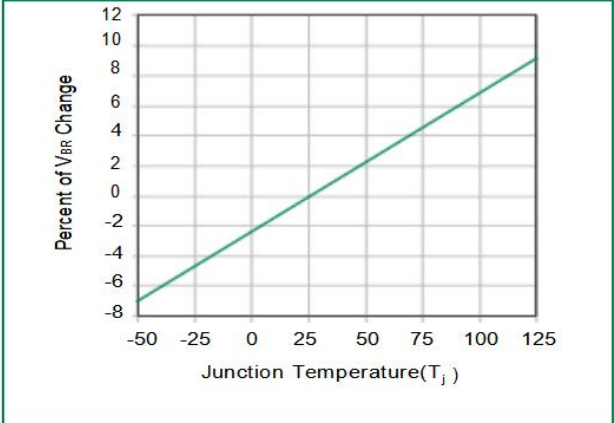


Figure 6 -Surge Response (8/20 Surge current waveform)

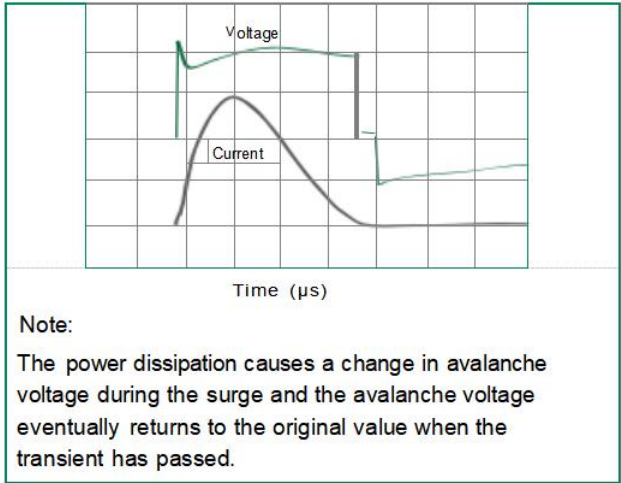
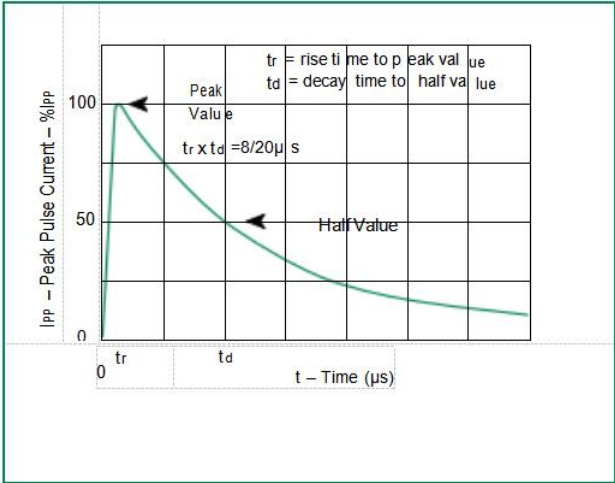


Figure 7 - Pulse Waveform



Dimensions

