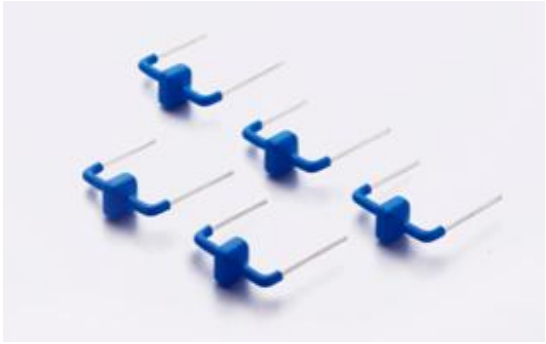
AK15 Series

TVS Diodes Axial Leaded

Description

The AK15 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..

AK15 Series



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

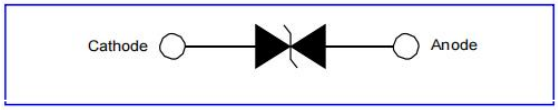
Maximum Ratings andThermal Characteristics (TA=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Operating Junction and StorageTemperature Range	TJ ,TSTG	(-)55 to125	°C
Current Rating1	I_{PP}	15	KA

Note:

1. Rated I_{PP} with 8/20μs pulse.

Functional Diagram



Electrical Characteristics (T_A=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 @VRWM	Package
	VRWM(V)	VBRMIN(V)	VBRMAX(V)	IT(mA)	VC(V)	8/20us (KA)	IR (μA)	
AK15-025C-BC	25	27	32	10	38	15	1	BPSS
AK15-030C-BC	30	32	37	10	58	15	1	BPSS
AK15-042C-BC	42	47	52	10	77	15	1	BPSS
AK15-058C-BC	58	64	70	10	110	15	1	BPSS
AK15-066C-BC	66	72	80	10	120	15	1	BPSS
AK15-076C-BC	78	85	95	10	150	15	1	BPSS
AK15-150C-BC	150	158	194	10	230	15	1	BPSS
AK15-170C-BC	170	180	220	10	260	15	1	BPSS
AK15-190C-BC	190	200	245	10	290	15	1	BPSS
AK15-200C-BC	200	220	250	10	305	15	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

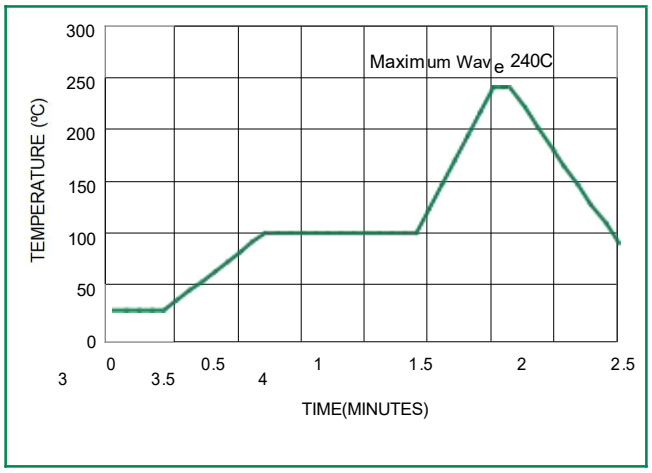
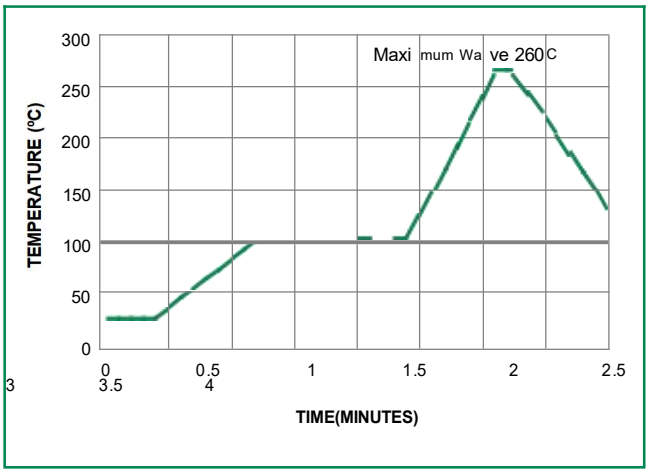
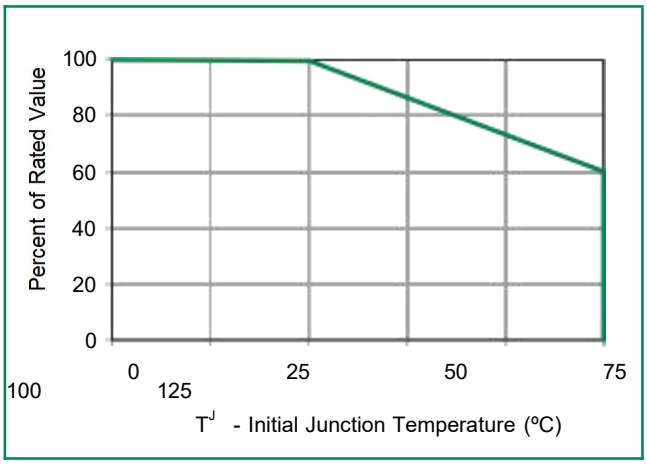


Figure 2 - Lead-free Profile



Ratings and Characteristic Curves (T_A=25°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

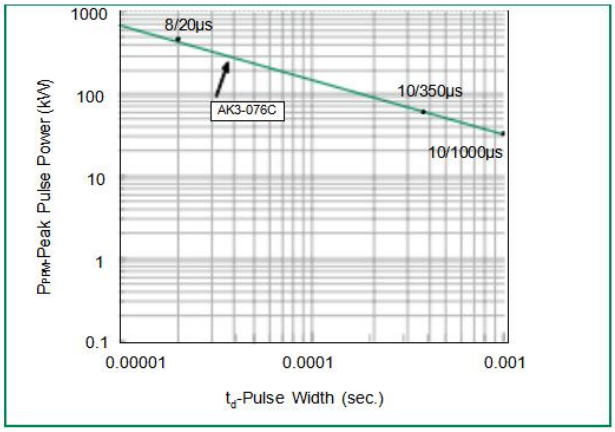


Figure 5 - Typical V_{BR} Vs Junction Temperature

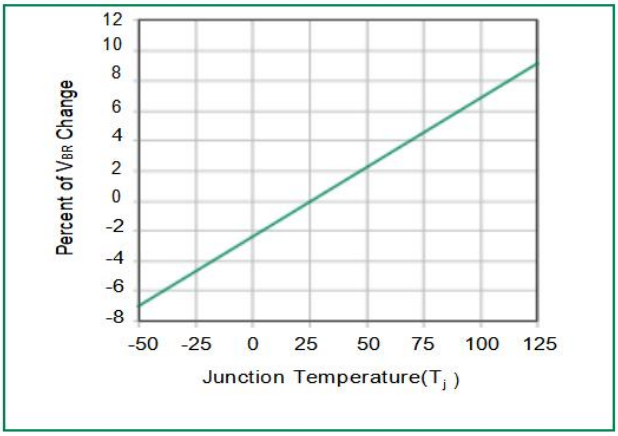
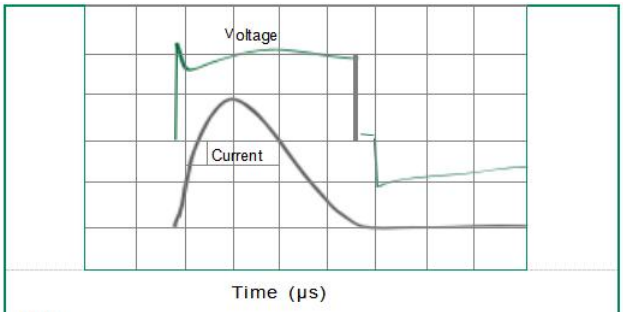


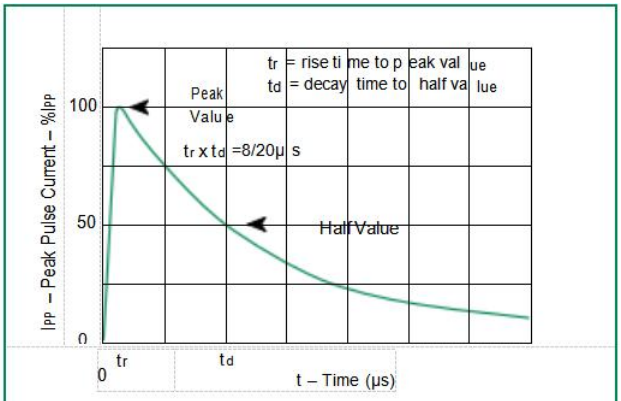
Figure 6 -Surge Response (8/20 Surge current waveform)



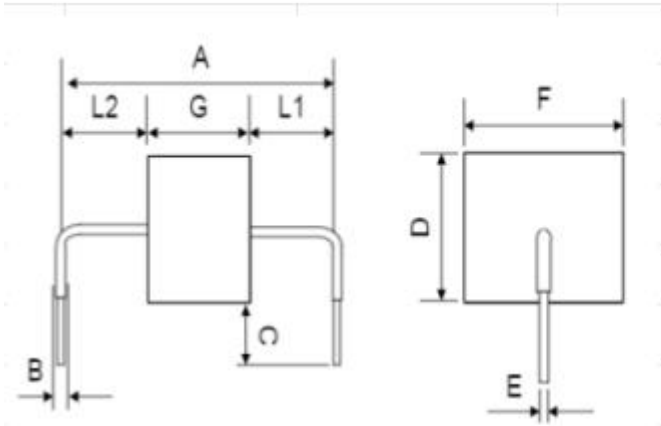
Note:

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.

Figure 7 - Pulse Waveform



Dimensions



AK15尺寸图	
Ref. (mm)	Millimeters
A	24.15±1.00
B	2.4±0.60
C	6.0MIN
D	18.0MAX
E	1.28+0.02
F	18.0MAX
G25C/30C/42C	6.0MAX
G58C/66C/76C	8.0MAX
G150C/170C/190C/200C	14MAX
L1=L2 tolerance±1.2mm	