



Descriptions

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..

Descriptions

- 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



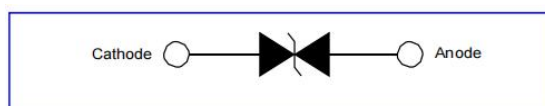
Maximum Ratings and Thermal Characteristics (TA=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Operating Junction and Storage Temperature Range	TJ ,TSTG	(-)55 to125	°C
Current Rating1	I _{PP}	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	Test Current	Current Rating	Maximum Clamping Voltage	Reverse Leakage
	V _{AC} (V)	V _{DC} (V)	Min. V _{BR} @ I _T (V)	I _T (mA)	I _{PP} @ 8/20μs (kA)	V _C @ I _{PP} (V)	I _R @ V _{DC} (μA)
AK15-025C-BC	17	25	28	10	15	95	2
AK15-030C-BC	21	30	33	10	15	100	2
AK15-042C-BC	30	42	47	10	15	105	2
AK15-058C-BC	40	58	64	10	15	110	2
AK15-066C-BC	45	66	70	10	15	120	2
AK15-076C-BC	54	76	85	10	15	140	2
AK15- 150C-BC	105	150	165	10	15	240	2
AK15- 170C-BC	130	170	180	10	15	260	2
AK15- 190C-BC	145	190	200	10	15	290	2
AK15-200C-BC	150	200	222	10	15	330	2

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

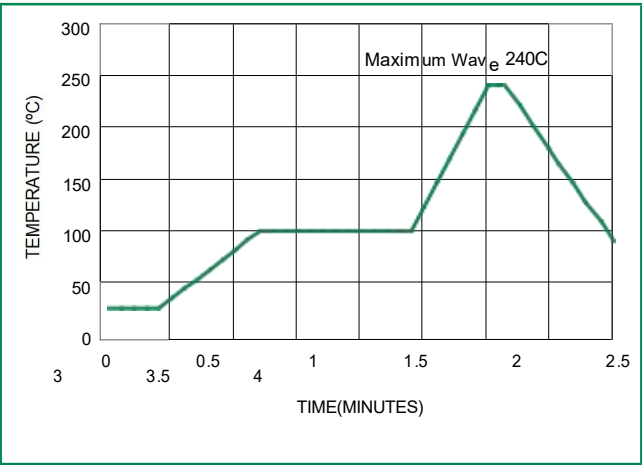
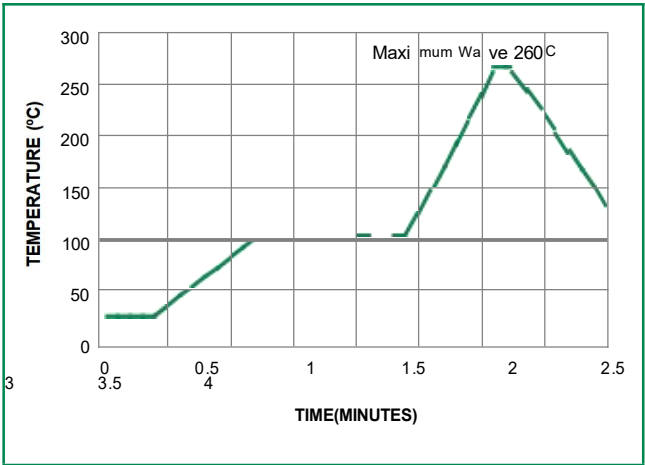


Figure 2 - Lead-free Profile



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

Figure 3 - Peak Power Derating

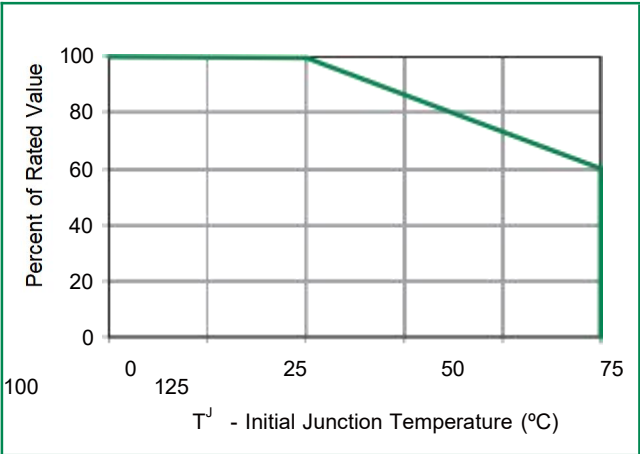
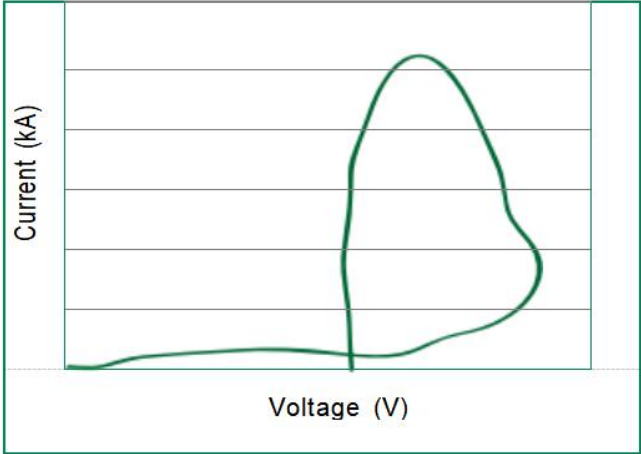


Figure 4 - Surge Response



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

Figure 5 - Typical Peak Pulse Power Rating Curve

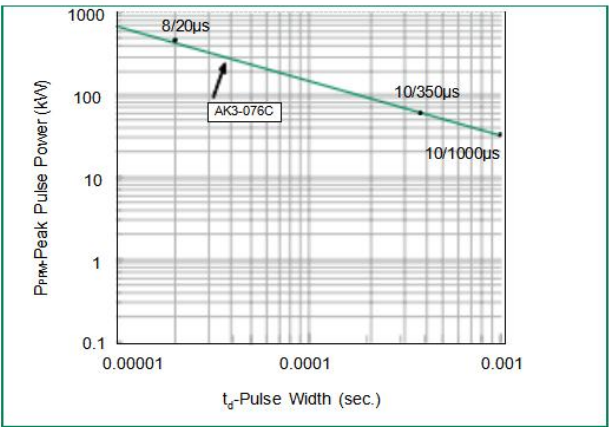


Figure 6 - Typical V_{BR} Vs Junction Temperature

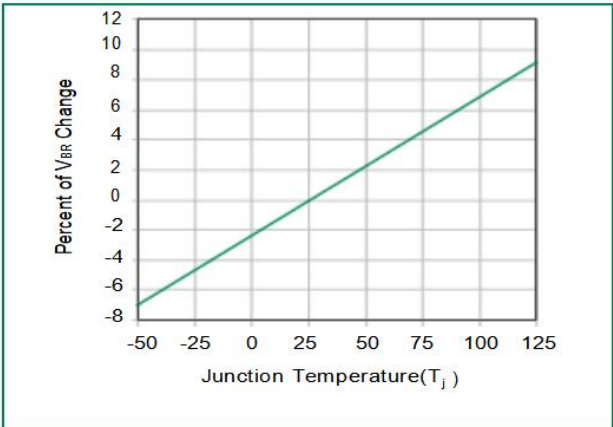


Figure 7 -Surge Response (8/20 Surge current waveform)

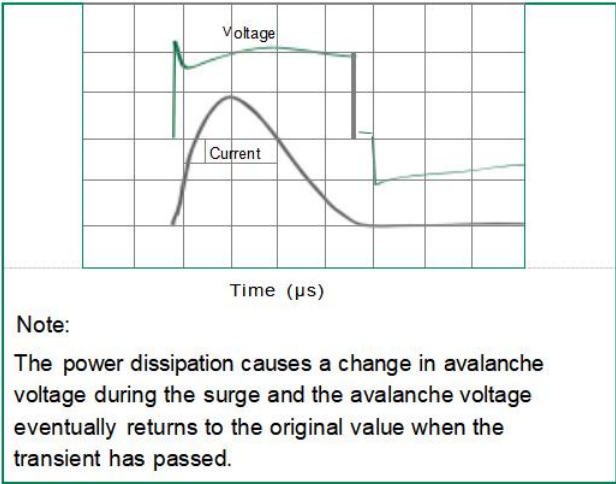
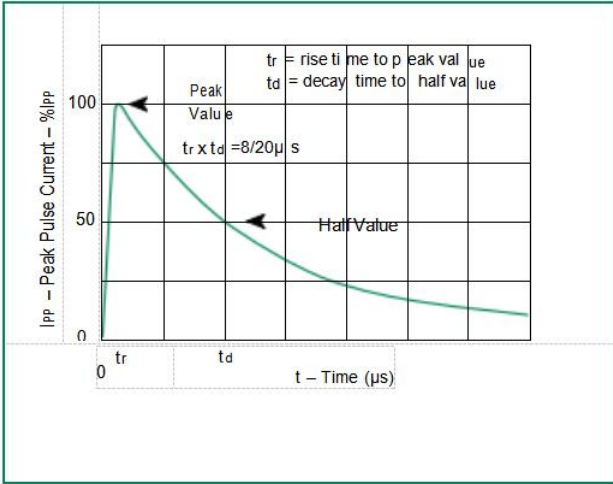
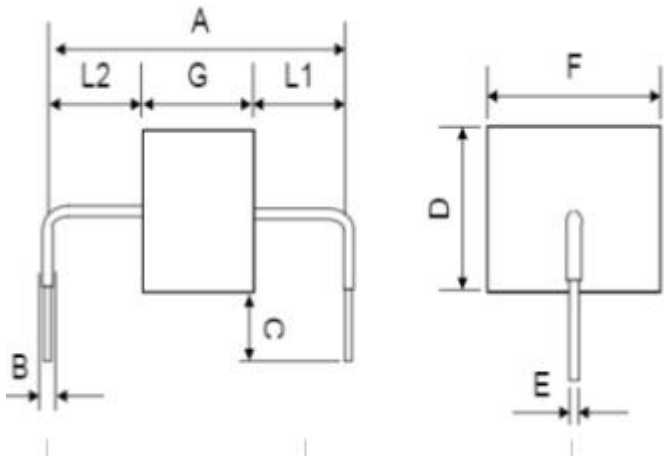


Figure 8 - Pulse Waveform



Dimensions



AK15尺寸图	
Ref. (mm)	Millimeters
A	24.15±1.00
B	2.4±0.60
C	6.0MIN
D	16.0MAX
E	1.28+0.02
F	16.0MAX
G-030	6.0MAX
G-058/66/076	8.0MAX
G150/170/190/200	15MAX
L1=L2 tolerance±1.2mm	