

**Radial Lead Transient Voltage Suppressors (TVS)**

**Current Rating - 10KA**

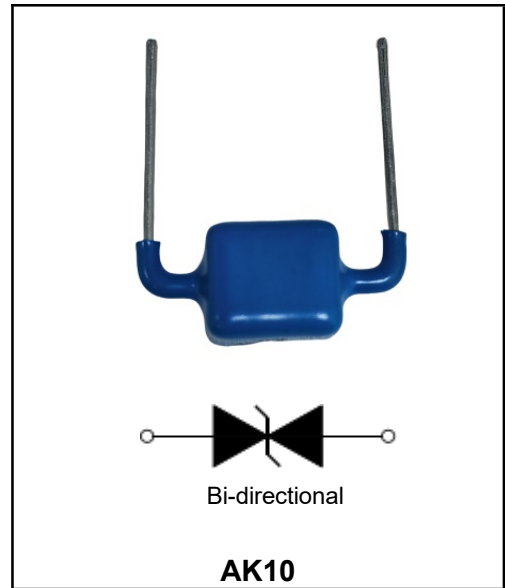
**Reverse Voltage - 12V to 430V**

**Description**

The AK10 Series of high current transient suppressors have been specially designed for use in A.C. line protection and any demanding applications (AC or DC). Any voltage rise due to increased current conduction is contained to a minimum, providing the best possible protection level. They can also be connected in series and/or parallel to create very high capacity protection solutions.

**Features**

- ◆ Axial lead terminals
- ◆ High current transient suppressor
- ◆ Excellent Clamping Capability
- ◆ Glass Passivated Junction
- ◆ Bi-directional
- ◆ Low Slope Resistance
- ◆ Repetition Rate (duty cycle):0.01%
- ◆ Hazardous Substances Free
- ◆ RoHS Compliant
- ◆ High Temperature soldering: 260°C/10 seconds at terminals
- ◆ Epoxy Encapsulated
- ◆ Silver plated leads
- ◆ Solderable per MIL-STD-202 Method 208



**Maximum Ratings (T<sub>A</sub>=25°C unless otherwise noted)**

Parameter	Symbols	Value	Unit
Current Rating <sup>1</sup>	I <sub>PP</sub>	10	KA
Operating junction	T <sub>J</sub>	-55 to+150	°C
Storage Temperature Range	T <sub>STG</sub>	-55 to+150	°C

**Notes:**

1. Rated IPP measured with 8 × 20µs pulse.

**Electrical Characteristics (T<sub>A</sub>=25°C unless otherwise noted)**

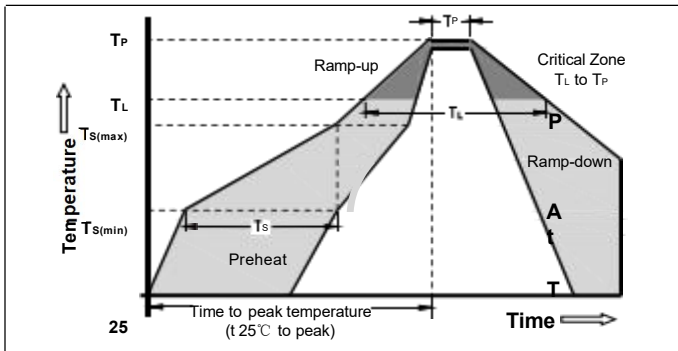
Part Number	Reverse Stand-Off Voltage		Breakdown Voltage	Test Current	Current Rating	Maximum Clamping Voltage	Reverse Leakage
	VAC(V)	VDC(V)	V <sub>BR</sub> (V) MIN.@I <sub>T</sub>	I <sub>T</sub> (mA)	I <sub>PP</sub> 8/20μs (KA)	V <sub>c</sub> (V) @I <sub>PP</sub>	I <sub>R</sub> (μA) @VDC
AK10-012C	8.5	12.8	14	10	10	28	5
AK10-015C	11	15	17	10	10	30	5
AK10-020C	14	20	22	10	10	40	5
AK10-025C	17	25	28	10	10	50	5
AK10-030C	21	30	33	10	10	60	5
AK10-042C	30	42	47	10	10	77	5
AK10-058C	40	58	64	10	10	110	5
AK10-066C	45	66	70	10	10	125	5
AK10-076C	54	76	85	10	10	140	5
AK10-100C	72	100	110	10	10	165	5
AK10-133C	100	133	147	10	10	220	5
AK10-170C	130	170	180	10	10	260	5
AK10-190C	145	190	200	10	10	290	5
AK10-200C	150	200	222	10	10	330	5
AK10-240C	180	240	250	10	10	340	5
AK10-380C	275	380	401	10	10	520	5
AK10-430C	310	430	440	10	10	625	5

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

Physical Specifications

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

Soldering Parameters



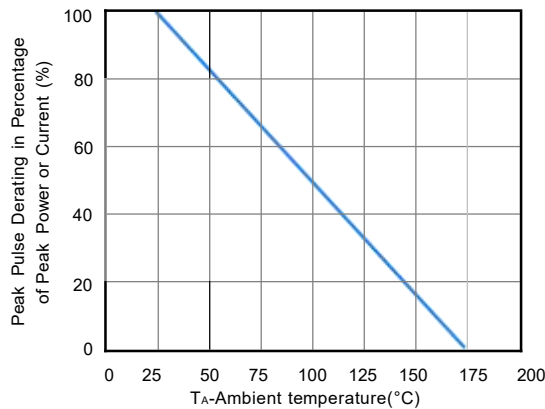
<b>Reflow Condition</b>		Lead-free assembly
<b>Pre Heat</b>	- Temperature Min ( $T_{s(min)}$ )	150°C
	- Temperature Max ( $T_{s(max)}$ )	200°C
	- Time (min to max) ( $T_s$ )	60 - 180 Seconds
<b>Average ramp up rate ( Liquidus Temp <math>T_L</math> to peak)</b>		3°C/second max
<b><math>T_{s(max)}</math> to <math>T_L</math> - Ramp-up Rate</b>		3°C/second max
<b>Reflow</b>	- Temperature ( $T_L$ ) (Liquidus)	217°C
	- Time (min to max) ( $T_L$ )	60 - 150 Seconds
<b>Peak Temperature (<math>T_P</math>)</b>		260 +0/-5°C
<b>Time within 5°C of actual peak Temperature (<math>t_p</math>)</b>		20 - 40 Seconds
<b>Ramp-down Rate</b>		6°C/second max
<b>Time 25°C to peak Temperature (<math>T_P</math>)</b>		8 minutes Max
<b>Do not exceed</b>		280°C

Flow/Wave Soldering (Solder Dipping)

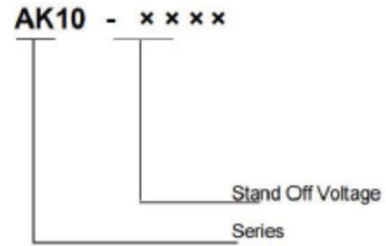
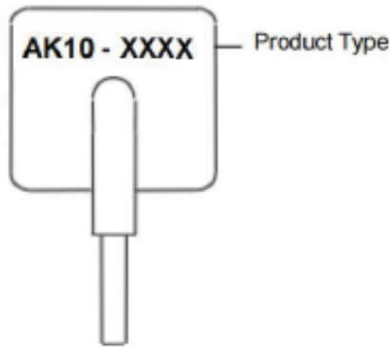
<b>Peak Temperature :</b>	265°C
<b>Dipping Time :</b>	10 seconds
<b>Soldering :</b>	1 time

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

Pulse Derating Curve



Marking Diagram



Ordering information

Package	Packing Description	Base Quantity
AK10	Bulk	56pcs/Box

Package Dimensions

AK10

		Symbol	Millimeter	Inches	
		A	13.5±1.0	0.531±0.039	
		B	13.5±1.0	0.531±0.039	
		C	1.30±0.1	0.051±0.004	
		D	6.00±1.0	0.236±0.039	
		E	24.15±0.7	0.95±0.028	
		F	3.5±0.7	0.138±0.028	
		G	012~025	4.5±1.2	0.177±0.047
			030~042	5.3±1.2	0.209±0.047
			058~076	6.2±1.2	0.244±0.047
100	7.8±1.2		0.307±0.047		
		133	8.6±1.2	0.339±0.047	
		170~200	9.4±1.2	0.370±0.047	
		240	11.0±1.2	0.433±0.047	
		380	14.4±1.2	0.567±0.047	
		430	15.2±1.2	0.598±0.047	

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