

HF **RoHS**

AK1 Series



Description

The AK1 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

- Halogen-Free
- RoHS compliant
- Glass passivated junction for reliability
- Bi-directional
- Very Low Clamping Voltage
- Sharp Breakdown Voltage
- Low Slope Resistance

Agency Approvals

AGENCY	AGENCY FILE NUMBER
	E128662

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

Parameter	Symbol	Value	Unit
Operating Storage Temperature Range	T _{STG}	(-55 to 150)	°C
Operating Junction Temperature Range	T _J	(-55 to 125)	°C
Current Rating ¹	I _{PP}	1	kA

Note:

1. Rated I_{pp} measured with 8 x 20µs pulse.

Electrical Characteristics

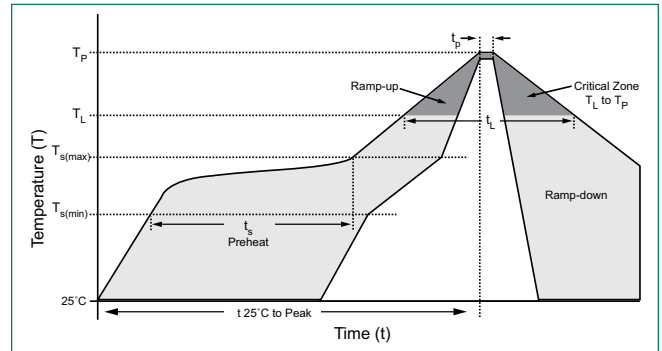
Part Numbers	Standoff Voltage (V _{SO}) Volts	Max. Reverse Leakage (I _R) @ V _{SO} µA	Reverse Breakdown Voltage (V _{BR}) @ I _T		Test Current I _T (mA)	Max. Clamping Voltage V _{CL} @ I _{PP} Peak Pulse Current (I _{PP}) (Note 1)		Max. Temp Coefficient OF V _{BR} (%/°C)	Max. Capacitance 0 Bias 10kHz (nF)	Agency Approval
			Min Volts	Max Volts		V _{CL} Volts	I _{PP} Amps			
AK1 - 076C	76	20	85	95	10	140	1,000	0.1	8.5	X

Note: Using 8 x 20µs wave shape as defined in IEC 61000-4-5.

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Soldering Parameters

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



Flow/Wave Soldering (Solder Dipping)

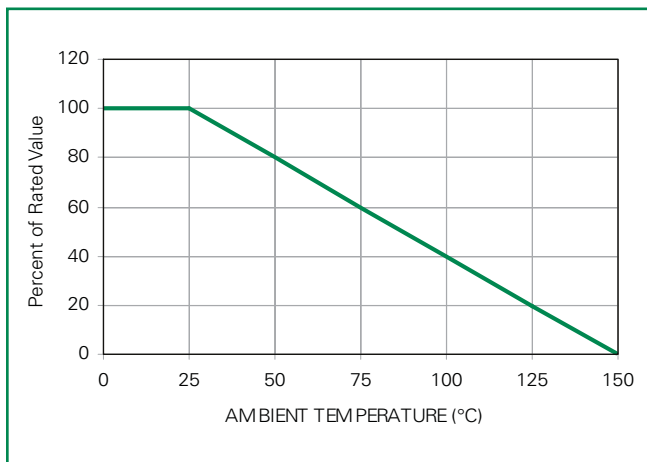
Peak Temperature :	265°C
Dipping Time :	10 seconds
Soldering :	1 time

Physical Specifications

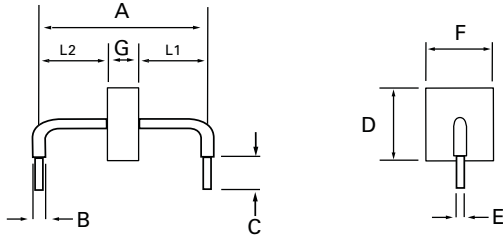
Weight	Contact manufacturer
Case	Epoxy encapsulated
Terminal	Silver plated leads, solderable per MIL-STD-202 Method 208

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

Peak Power Derating

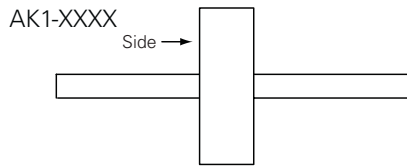


Dimensions



Dimensions	Inches	Millimeters
A	0.950	24.15
B	0.095	2.4
C	0.145	3.68
D	0.570 max.	14.48 max.
E	0.050	1.270
F	0.500 max.	12.70 max.
G	0.096	2.44
L1	0.427	10.85
L2	= A - (G+L1) tolerance +/- 0.04 inch (1.0 mm)	

Part Marking System



Part Numbering System

