

# Silicon Avalanche Diodes

## AK10 Series



The new 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). They offer superior clamping characteristics over standard S.A.D. technologies by virtue of the Littelfuse Foldbak™ technology, which provides a clamping voltage which is lower than the avalanche voltage (but above the rated working voltage) therefore 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.

### Maximum Ratings

- Current Rating ( $I_{PP}$ ) 10KA (see note 1)
- Maximum Junction Temp. is 150°C
- Storage Temp. -55°C to 175°C
- Rated  $I_{PP}$  measured with 8 x 20  $\mu$ sec pulse

### Mechanical Characteristics

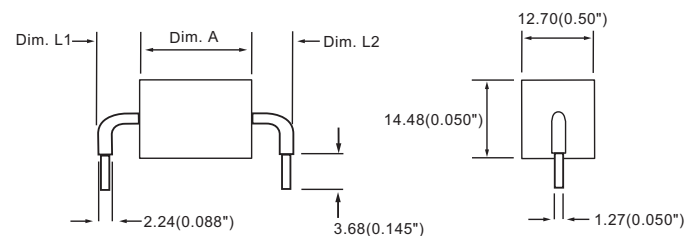
- Epoxy Encapsulated
- Axial lead terminals (solderable per MIL-STD-202 Method 208)
- Device code and logo marked on every device

### Features

- Foldbak™ technology for superior clamping factor.
- Glass Passivated Junction
- Bi-directional
- Multijunction
- Very Low Clamping Voltage
- Sharp Breakdown Voltage
- Low Slope Resistance

**Agency Approvals:** Recognized under the Components Program of Underwriters Laboratories - UL497B.

**Agency File Numbers:** E128662



Part Number	Dim. L1		Dim. L2		Dim. A	
	mm	in.	mm	in.	mm	in.
AK10-58	7.87	0.310	7.87	0.310	8.13	0.320
AK10-170	7.87	0.310	7.87	0.310	8.13	0.320
AK10-190	7.87	0.310	7.87	0.310	8.13	0.320
AK10-250	N/A	N/A	3.81	0.150	16.5	0.650
AK10-380	N/A	N/A	3.81	0.150	16.5	0.650

### ELECTRICAL SPECIFICATION @ Tamb 25°C

Part Numbers	Standoff Voltage ( $V_{SO}$ ) Volts	Max. Reverse Leakage ( $I_R$ ) @ $V_{SO}$ $\mu$ A	Reverse Breakdown Voltage ( $V_{BR}$ ) @ $I_T$		Test Current ( $I_T$ ) mA	Max. Clamping Voltage $V_{CL}$ ) @ Peak Pulse Current ( $I_{PP}$ ) (note 1)		Max. Temp Coefficient OF $V_{BR}$ (%/°C)	Max. Capacitance 0 Bias 10k Hz (nF)
			Min. Volts	Max. Volts		$V_{CL}$ Volts	$I_{PP}$ Amps		
AK10-58	58	20	64	70	10	95	10,000	0.1	8.0
AK10-170	170	20	180	220	10	260	10,000	0.1	2.8
AK10-190	190	20	200	245	10	290	10,000	0.1	2.5
AK10-250	250	20	245	270	10	420	10,000	0.1	2.0
AK10-380	380	20	401	443	10	520	10,000	0.1	1.4

**Note 1.** Using 8/20 $\mu$ S wave shape pulse as defined in IEC 61000.4.5