

# Wireless Network Base Station AC and DC Power Line Circuit Protection

## Base Station power line protection devices help prevent service disruptions to customers, improve system reliability and lower maintenance costs

Wireless network base stations need protection from over voltage and over currents which can be caused by lightning and power line accidents and other disturbances. Base stations are often located in remote and lightning-prone areas, where access to quick and efficient repair is difficult and expensive. Using appropriate protective circuits and devices will lower damage risks.

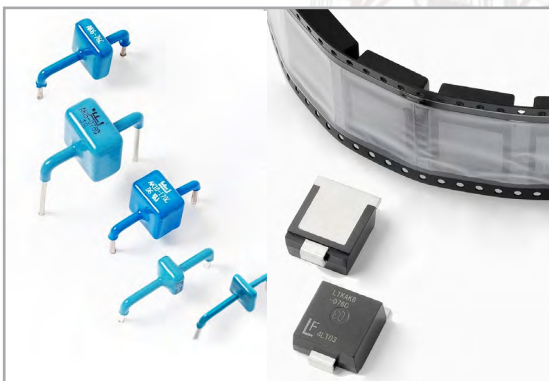
### Power Input Line Risks and Protection

The main sources of danger to wireless network base stations are lightning and power faults. A strike directly to or nearby the tower can produce high voltages and cause huge currents to flow through the power input lines. Similar surges can be produced by short circuits to higher-voltage transmission lines and switching transients. The resulting damage will incur repair time, service downtime and and disruptions to customers.








The most appropriate protection for these power input lines are a combination of fuses and high power TVS Diodes installed in the AC power distribution box.



Using appropriate protective devices improves reliability and minimizes field service calls.



Littelfuse high power AK / LTKAK Series TVS Diodes were specifically designed for high energy transient voltage protection applications.

Series	AK1	AK3	AK6	AK10	AK15	LTKAK6	LTKAK10
							
Reverse Standoff Voltage ( $V_R$ )	76	15 30 58 66 76 150 170 208 380 430	30 58 66 76 170 190 240 380 430	15 30 58 66 76 170 190 240 380 430 530	58 66 76	58 66 76	58 66 76
Package Type	Axial Lead				Surface Mount		
Peak Pulse Current ( $I_{PP}$ 8/20 $\mu$ s)	1000A	3000A	6000A	10000A	15000A	6000A	10000A
TVS Polarity	Bidirectional						
Maximum Clamping Voltage ( $V_C$ )	Please refer to electrical characteristics table within each product series data sheet						
HF Halogen-Free	Yes						
RoHS Compliant	Yes						
Pb Free	Yes						

## Littelfuse AK / LTKAK Series TVS Diodes

Littelfuse AK/ LTKAK Series high energy TVS Diodes offer superior clamping performance over standard Silicon Avalanche Diode (SAD) Technologies.

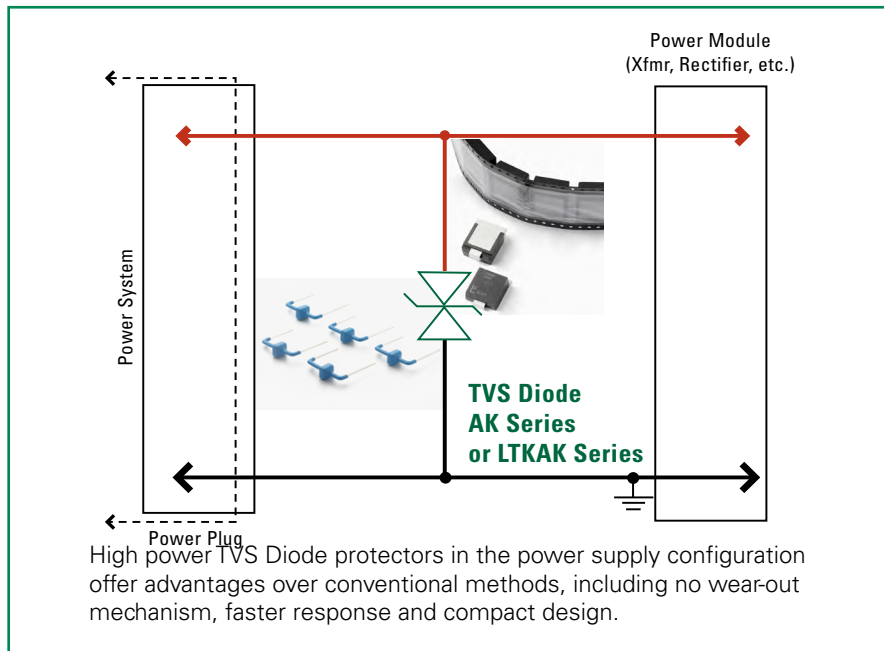
The AK / LTKAK Series offers unique characteristics which provides a clamping voltage lower than the avalanche voltage and above the rated working voltage. Any voltage rise due to increased current conduction is contained to a minimum, providing the best possible protection level.

Littelfuse AK / LTKAK Series TVS Diodes can also be connected in series and / or parallel to create very high capacity protection solutions.

High Power AK Series TVS Diodes offers a better and solution than more conventional overvoltage protection methods, while the latest surface mounted version LTKAK series offer a low profile, reflow solderable option for compact space requirement.

### Compare to Conventional Technology, AK/ LTKAK Series Offer Benefits:

- Precise clamping voltage
- No wear-out mechanism
- Lower leakage
- Faster response
- Compact design
- Truly surface mountable package option for LTKAK series
- Improved lead inductance for LTKAK series
- Improved heat sink capability for LTKAK series
- Total power consumption saving and easy design by using AK/LTKAK series that eliminate inductor design



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for technical application articles and reference designs serving a wide range of applications.