



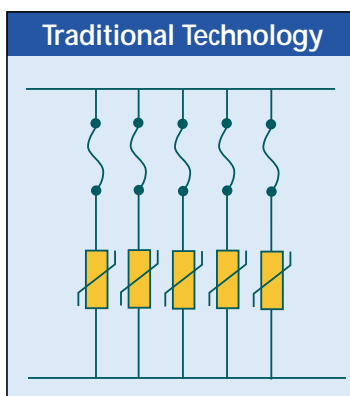
## The Benefits of TD Technology

To meet the fundamental requirements of performance, longer service life and greater safety under real world conditions, ERICO has developed Transient Discriminating (TD) technology.

This quantum leap in technology adds a level of “intelligence” to the Surge Protection Device enabling it to discriminate between sustained abnormal over-voltage conditions and true transient or surge events. Not only does this ensure safe operation under practical application, but it also prolongs the life of the protector since permanent disconnects are not required as a means of achieving internal over-voltage protection.

### Traditional Technologies

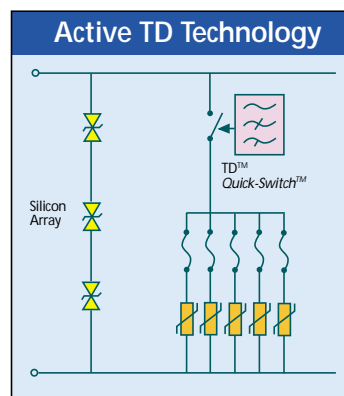
Conventional SPD technologies utilize metal oxide varistors and/or silicon avalanche diodes to clamp or limit transient events. However, these devices are susceptible to sustained 50/60Hz mains over-voltage conditions which often occur during faults to the utility system. Such occurrences present a significant safety hazard when the suppression device attempts to clamp the peak of each half cycle on the mains over-voltage. This condition can cause the device to rapidly accumulate heat and in turn fail with the possibility of inducing a fire hazard.



### The Core of TD technology

The secret to ERICO’s Transient Discriminating Technology is its *active frequency discrimination* circuit. This patented device can discriminate between a temporary over-voltage

(TOV) condition and a very fast transient, which is associated with lightning or switching-induced surges. When the transient frequencies are detected, the patented Quick-Switch™ within TD activates to allow the robust protection to limit the incoming transient. The frequency discriminating circuit that controls the Quick-Switch™ ensures that the SPD device is immune to the effects of a sustained 50 or 60Hz TOV. This allows the device to keep operating, providing safe and reliable transient protection, even after an abnormal over-voltage condition has occurred.



### Meeting & Exceeding UL Standards

The CRITEC® range of surge protection devices from ERICO employing TD technology has been specifically designed to meet and exceed the new safety requirements of UL 1449 Edition 2. To meet the abnormal over-voltage testing of UL 1449 Edition 2, many manufacturers of SPD devices have incorporated fuse or thermal disconnect devices which permanently disconnect all protection from the circuit during an over-voltage event. Transient Discriminating technology on the other hand will allow the SPD device to experience an abnormal over-voltage up to twice its nominal operating voltage and still remain operational even after this event! This allows the device to provide safe, reliable and continuous protection to your sensitive electronic equipment. TD technology is especially recommended for any site where sustained over-voltages are known to occur, and where failure of traditional SPD technologies cannot be tolerated.



The UL 1449 testing standard addresses the safety of a TVSS device under temporary and abnormal overvoltage conditions, but does not specifically mandate a design that will give a reliable, long length of service in the real world. Specifically, UL 1449 tests that the TVSS remains operational at 10% above nominal supply voltage, allowing SPD manufacturers to design products that permanently disconnect just above that. Most reputable manufacturer's designs allow for up to a 25% overvoltage, while ERICO's TD Technology gives even greater overhead.

**TD Technology - Features & Benefits:**

- Long life by eliminating SPD failure under TOV conditions.
- Fully compliant with UL 1449, Edition 2.
- Extended Maximum Continuous Operating Voltage makes this technology ideal where the integrity of the utility power can not be guaranteed.
- No reliance on permanent over-voltage disconnects means continued protection even after abnormal over-voltage events.
- High surge capacity with low suppressed voltage ratings.

