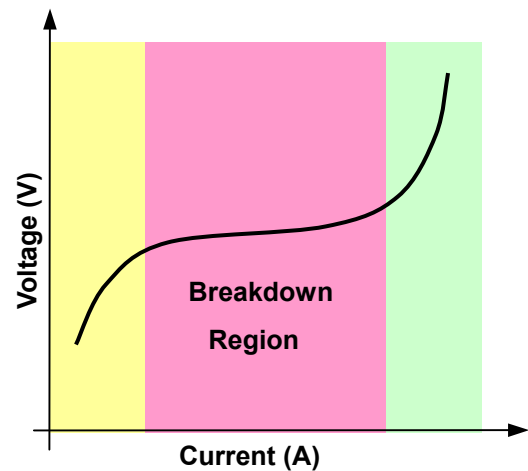


Varen SMD Transient Voltage Suppressors

Information for Designer

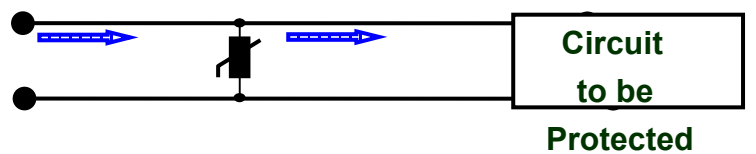
Voltage Dependent Characteristic

Transient Voltage Suppressors varistors are voltage-dependent electrical resistors with symmetrical V/I characteristic. Their resistance value decreases with increasing voltage, thus “short-circuiting” further rises in overvoltage.

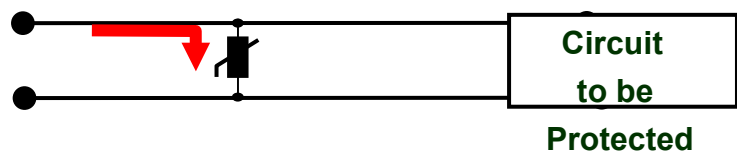


The Prevention of Overvoltage

In other words, as long as the voltage increases above the threshold of the TVS, the suppressor will draw a rapidly increasing current, and then the overvoltage is considerably attenuated away from the protected circuit, that is why the inherent protection of the equipments should be supplemented by including specific components that will raise the withstand capabilities to the required level. Varistors provide protection against all kinds of overvoltage and prevent electronic equipment from being damaged by transient events.



Normal State



Overvoltage State

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When selecting the TVS for designing within the circuit, some characteristic parameter should be considered carefully to meet the circuit condition. The following guidelines are recommended.

1. The surge handling ability of the selected TVS should meet the need of dissipating the expected transient surge current of the protected circuit.
2. The clamping voltage of the selected TVS should be less than the maximum allowed operating voltage of the protected circuit.
3. In high speed data transmission situation. The capacitance of the selected TVS should be considered.
4. The special requests of the TVS's capacitance such as ESD prevention are available, please contact with us.
5. While choosing the TVS, the working voltage of the TVS should be greater than or equal to the normal operating voltage of the circuit.

