



## RESETTABLE FUSES

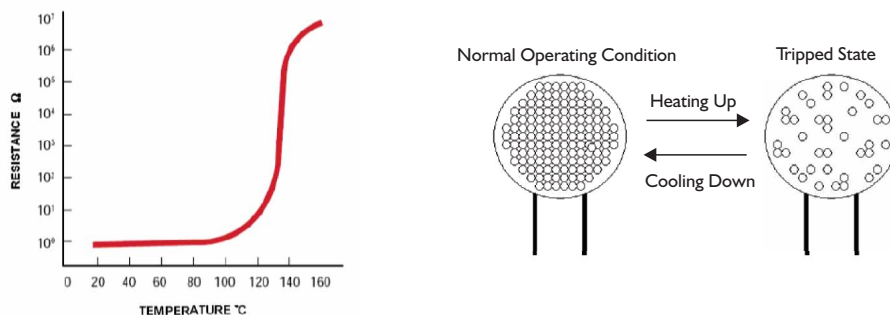
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Resettable fuses, also known as Positive Temperature Coefficient (PTC) devices, are designed to protect a circuit from fault currents by generating a high level of electrical resistance. When experiencing “over current and/or over voltage”, the device generates thermal energy ( $\text{Energy} = I^2R$ ) and heats up itself. This makes the polymer matrix’s change from crystalline to amorphous phase and results in a resistance increase that “trips” the electricity. The device will remain hot and stay “tripped” until the fault is cleared and power is removed.

Selecting fuses can require technical product knowledge. If you are not sure or unable to find a suitable product, please contact our friendly sales staff. Contact details are featured at the bottom of this page.

## HOW DOES THE RESETTABLE FUSE WORK?

Resettable fuses are designed and made of patented novel polymeric PTC material in thin chip form. With electrodes and leads attached on both sides, it is placed in series to protect a circuit. At “normal operating condition” the device remains at an extremely low resistance (milli-ohms) and allows the electrical current to flow through it without any restriction. When over current conditions occur, the polymeric PTC material heats up and its resistance increases sharply. Such a sharp resistance increase (to an insulated status) cuts off the current in the circuit, and consequently protects the element and device in the circuit. Upon fault current being removed, the resettable fuse cools and its resistance drops to the original extremely low value. The resettable fuse is “reset” and allows the current through the circuit again.



## TRIP CURRENT, HOLD CURRENT & THERMAL DE-RATING

Trip Current (IT) and Hold Current (IH) of resettable fuse are rated at 23°C. Typically its Trip Current is twice as much as its Hold Current. The device does not trip at or below its rated Hold Current, and will trip at or above its Trip Current value. However, due to PTC effect both IT and IH reduce with ambient temperature increase and vice versa.