Battery Mini-Breakers

Metal Hybrid PPTC > MHP Series

MHP-TAT18 Series Breaker

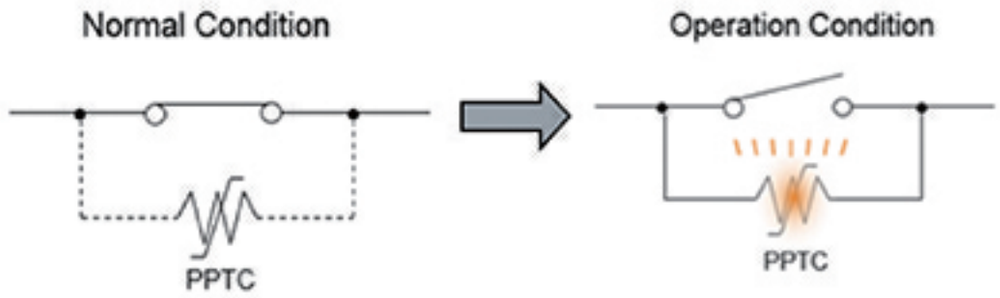
Description

The new Metal Hybrid PPTC device, MHP-TAT18, offers a 9VDC rating and a higher current rating than typical MHP-TAM device. This helps to meet the battery safety requirements of higher-capacity LiP and prismatic batteries found in the latest gaming PC and ultra-book products. Hybrid MHP technology connects a bimetal protector in parallel with a Polymeric Positive Temperature Coefficient (PPTC) device. The resulting MHP-TAT18 (Thermal Activation) series helps to provide resettable overtemperature protection, while utilizing the PPTC device to act as a heater and to help keep the bimetal latched until the fault is removed.

Agency Approvals

Agency	Agency File Number
c UL us	Pending
IECEE	Pending

Circuit Diagram



Features

- Miniature Thermal Cutoff (TCO) device
- High current capacity, low resistance
- Overtemperature and overcurrent protection for lithium polymer and prismatic cells
- Multiple activation temperature ratings (72°C, 77°C, 82°C, 85°C, 90°C)
- Compact size (L: 5.8mm x W: 3.80mm x H: 1.05mm) allows for ultra-thin battery pack designs

Applications

Battery cell protection for high-capacity Lithium Polymer and Prismatic cells used in:

- Gaming PCs
- Notebook PCs
- Ultra-book
- Tablets
- Battery-powered portable devices

Typical Electrical Ratings

Specification	MHP-TAT18-9-72	MHP-TAT18-9-77	MHP-TAT18-9-82	MHP-TAT18-9-85	MHP-TAT18-9-90
Operation Temperature	72°C+/-5°C	77°C+/-5°C	82°C+/-5°C	85°C+/-5°C	90°C+/-5°C
Reset Temperature	≥40°C	≥40°C	≥40°C	≥40°C	≥40°C
Contact Rating	DC 9V/30A, 6000 Cycles				
Maximum Breaking Current	DC 5V/80A, 100 Cycles				
Maximum Open Voltage	DC 28V/30A, 100 Cycles				
Minimum Hold Voltage	3V				
Maximum Leakage Current	200mA@25°C				
Hold Current	18A@25°C				
Resistance	3.5 milliohms Max.				

Precautions for Electrical Characteristics:

a. Device electrical characteristics may change depending on installation conditions. Users should independently evaluate the suitability of and test each product in their own application.

b. If any terminal or lead extensions are added to the device, especially in the case of high current discharging, the device performance may be negatively impacted due to variations in welding methods or materials. Please avoid designs that might cause heat to be generated around the joints of the lead extensions or on the extended terminals.

c. SMT solder reflow, wave-soldering and manual soldering irons are not permitted.