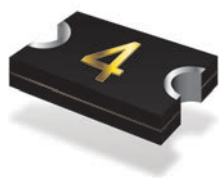


New
2010 (EIA 0805)
MF-PSMF Series

APPLICATION NOTE

Industrial Solutions

Resettable PTC Thermistors for Industrial Protection



Applications

Data ports (e.g. USB 2.0)

Motors

Alarm and security
systems

Power over Ethernet CCTV

Test and measurement
devices

Resettable PTC thermistors or polymer PTC resettable fuses are common overcurrent protection devices in consumer applications such as personal computers, game consoles, mobile phones and set top boxes. They also protect a wide variety of circuits in automobiles and telecommunication networks. In addition to these high profile market segments, resettable PTC thermistors have been a popular circuit protection solution in the industrial and medical markets for many years.

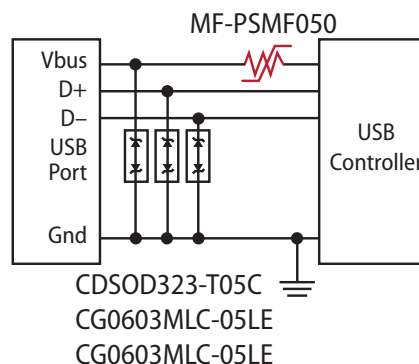
Industrial Demands

As companies strive to increase production, shorten cycle times and reduce overhead, the need for factory automation becomes more apparent. Automation can bring greater control, repeatability and allow remote monitoring. A finely controlled industrial facility can help meet the relentless just-in-time demands of the 21st century marketplace. Unscheduled downtime of such facilities can cause havoc and destroy quality. For that reason, industrial controllers, systems and equipment must be of the highest reliability to prevent such downtime.

Reliability of Industrial Controls

Industrial controllers that remotely monitor pressure, temperature, speed and levels of substances through data acquisition systems are fundamental to the smooth operation of industrial plants. The communication between controllers and data acquisition units can run via Ethernet, USB, IEEE1394, RS-485 or RS-232 links.

As industrial controllers require various voltage levels of 5 V, 12 V, 24 V, etc, the risk of miswiring or short circuiting is a reality. For that reason a circuit protection scheme is required to protect these units and maintain their durability. A typical circuit protection scheme using a resettable PTC thermistor (MF-PSMF050) for overcurrent protection and for overvoltage protection is either a low capacitance TVS diode (CDSOD323-T05) or an ESD suppressor (CG0603MLC-05LE or CG0402MLC-05LG) as illustrated below.



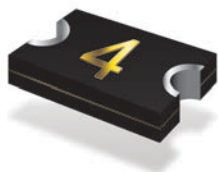


MF-PSMF Series

Industrial Solutions

Resettable PTC Thermistors for Industrial Protection

The new MF-PSMF050 model is the latest of the Bourns® line of Multifuse® resettable PTC thermistors to help manufacturers design reliable and durable products.



USB Designed PTC Devices

The standard 4532 (EIA 1812) sized series of PTCs, the MF-MSMF series, has long been the standard PTC of choice among USB port designers for industrial I/O devices. This series has now been complemented with the smallest PTC on the market, the new MF-PSMF series.

Tools for Designers

[Design kits](#)

[Samples](#)

[Data sheets](#)

Small Size, High Speed

The developers of the latest control equipment have taken the opportunity to use the smallest Bourns® PTC family; the 2010 (EIA 0805) sized MF-PSMF Series. Despite the small package size, this product family contains models with significant current carrying abilities from 0.10 A to 1.1 A. Along with the size advantage, the new MF-PSMF series is the fastest operating of all Bourns® Multifuse® resettable PTC thermistors.

For further technical support and for complete circuit protection solutions, please visit **www.bourns.com**

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