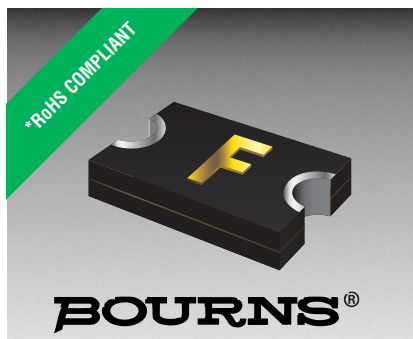




## Features

- Operating temperature range up to 125 °C
- Low thermal derating factor
- Higher hold currents at elevated temperature
- RoHS compliant\*

## Applications

- Protection of automotive circuitry including engine control modules
- Overcurrent surge protection of electronic equipment required to operate at high operating temperature ranges
- Resettable fault protection of general electronic equipment

## MF-PSHT Series - PTC Resettable Fuses

### Electrical Characteristics

| Model       | V max.<br>Volts | I max.<br>Amps | I <sub>hold</sub> | I <sub>trip</sub> | Resistance        |                       | Max. Time To Trip |                  | Tripped Power Dissipation |
|-------------|-----------------|----------------|-------------------|-------------------|-------------------|-----------------------|-------------------|------------------|---------------------------|
|             |                 |                | Amperes at 23 °C  |                   | Ohms at 23 °C     |                       | Amperes at 23 °C  | Seconds at 23 °C | Watts at 23 °C            |
|             |                 |                | Hold              | Trip              | R <sub>Min.</sub> | R <sub>1Max.</sub> ** |                   |                  | Typ.                      |
| MF-PSHT010X | 16              | 40             | 0.10              | 0.60              | 1.0               | 7.5                   | 2.5               | 1.5              | 1.0                       |

\*\*R<sub>1Max.</sub> measured 24 hours post reflow.

### Environmental Characteristics

|                                                           |                                                                            |
|-----------------------------------------------------------|----------------------------------------------------------------------------|
| Operating Temperature.....                                | -40 °C to +125 °C                                                          |
| Maximum Device Surface Temperature in Tripped State ..... | +125 °C                                                                    |
| Passive Aging .....                                       | +125 °C, 1000 hours..... R <sub>final</sub> < R <sub>1max.</sub>           |
| Humidity Aging.....                                       | +85 °C, 85 % R.H. 1000 hours ..... R <sub>final</sub> < R <sub>1max.</sub> |
| Thermal Shock .....                                       | +125 °C to -40 °C, 20 times..... R <sub>final</sub> < R <sub>1max.</sub>   |
| Solvent Resistance.....                                   | MIL-STD-202, Method 215 ..... No change                                    |
| Vibration .....                                           | MIL-STD-883C, Method 2007.1, Condition A ..... No change                   |

### Test Procedures And Requirements For Model MF-PSHT Series

| Test                 | Test Conditions                                       | Accept/Reject Criteria                   |
|----------------------|-------------------------------------------------------|------------------------------------------|
| Visual/Mech. ....    | Verify dimensions and materials .....                 | Per MF physical description              |
| Resistance.....      | In still air @ 23 °C .....                            | R <sub>min</sub> ≤ R ≤ R <sub>1max</sub> |
| Time to Trip.....    | At specified current, V <sub>max</sub> , 23 °C.....   | T ≤ max. time to trip (seconds)          |
| Hold Current .....   | 30 min. at I <sub>hold</sub> .....                    | No trip                                  |
| Trip Cycle Life..... | V <sub>max</sub> , I <sub>max</sub> , 100 cycles..... | No arcing or burning                     |
| Trip Endurance ..... | V <sub>max</sub> , 48 hours.....                      | No arcing or burning                     |
| Solderability .....  | ANSI/J-STD-002 .....                                  | 95 % min. coverage                       |

### Thermal Derating Chart - I<sub>hold</sub> (Amps)

| Model       | Ambient Operating Temperature |        |       |        |        |        |        |        |        |         |
|-------------|-------------------------------|--------|-------|--------|--------|--------|--------|--------|--------|---------|
|             | -40 °C                        | -20 °C | 0 °C  | +23 °C | +40 °C | +50 °C | +60 °C | +70 °C | +85 °C | +125 °C |
| MF-PSHT010X | 0.15                          | 0.13   | 0.115 | 0.10   | 0.09   | 0.084  | 0.078  | 0.072  | 0.063  | 0.04    |

**BOURNS®**

**Asia-Pacific:** Tel: +886-2 2562-4117 • Fax: +886-2 2562-4116

**Europe:** Tel: +41-41 768 5555 • Fax: +41-41 768 5510

**The Americas:** Tel: +1-951 781-5500 • Fax: +1-951 781-5700

**www.bourns.com**

\*RoHS Directive 2002/95/EC Jan. 27, 2003 including annex and RoHS Recast 2011/65/EU June 8, 2011.

Specifications are subject to change without notice.

Users should verify actual device performance in their specific applications.

The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.

# MF-PSHT Series - PTC Resettable Fuses

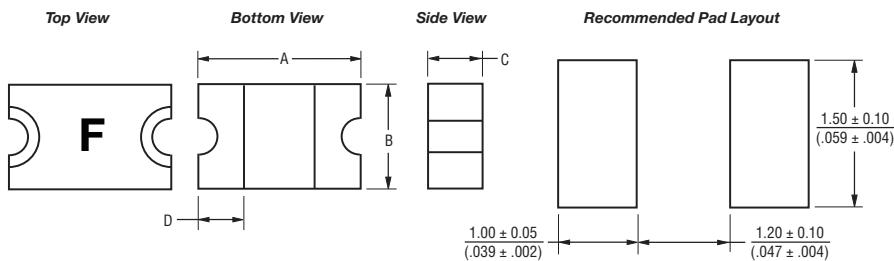
**BOURNS®**

## Product Dimensions

| Model       | A                      |                        | B                      |                        | C                      |                        | D                      |
|-------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
|             | Min.                   | Max.                   | Min.                   | Max.                   | Min.                   | Max.                   | Min.                   |
| MF-PSHT010X | $\frac{2.00}{(0.079)}$ | $\frac{2.30}{(0.091)}$ | $\frac{1.20}{(0.047)}$ | $\frac{1.50}{(0.059)}$ | $\frac{0.40}{(0.016)}$ | $\frac{0.80}{(0.031)}$ | $\frac{0.25}{(0.010)}$ |

Packaging: 3000 pcs. per reel.

DIMENSIONS:  $\frac{\text{MM}}{(\text{INCHES})}$



### Terminal material:

Nickel/gold plated.

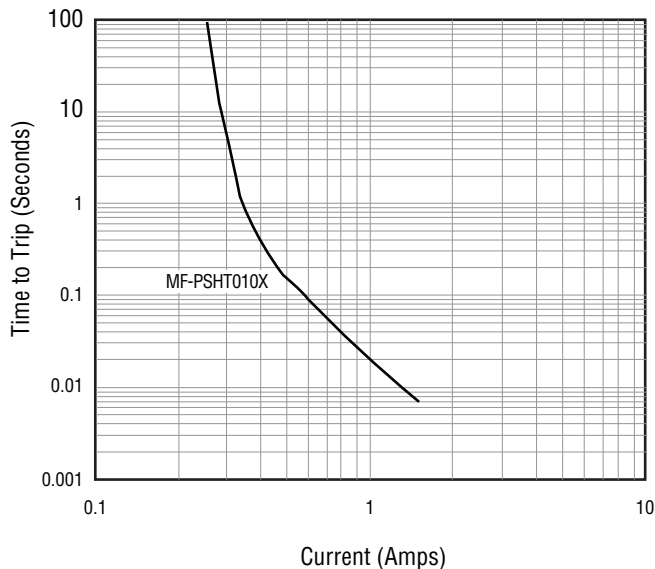
### Termination pad solderability:

Standard Au finish:  
Meets ANSI/J-STD-002 Category 2.

### Recommended Storage:

40 °C max./70 % RH max.

## Typical Time to Trip at 23 °C



The Time to Trip curves represent typical performance of a device in a simulated application environment. Actual performance in specific customer applications may differ from these values due to the influence of other variables.

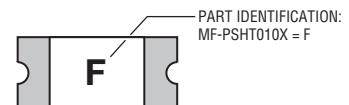
## How to Order

### MF - PSHT 010 X - 2

Multifuse® Product Designator \_\_\_\_\_  
Series \_\_\_\_\_  
PSHT = 0805 High Temperature Surface Mount Component  
Hold Current,  $I_{hold}$  \_\_\_\_\_  
010 (0.10 Amps)  
Multifuse® freeXpansion™ Design \_\_\_\_\_  
Packaging \_\_\_\_\_  
Packaged per EIA 481-1  
-2 = Tape and Reel

## Typical Part Marking

Represents total content. Layout may vary.



BIWEEKLY DATE CODE WILL APPEAR ON THE PACKAGING LABEL:  
WEEK 1 AND 2 = A  
WEEK 51 AND 52 = Z

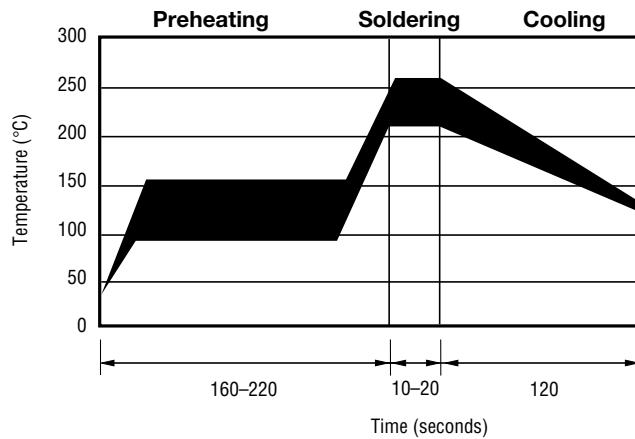
Specifications are subject to change without notice.  
Users should verify actual device performance in their specific applications.

The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.

## MF-PSHT Series - PTC Resettable Fuses

**BOURNS®**

### Solder Reflow Recommendations



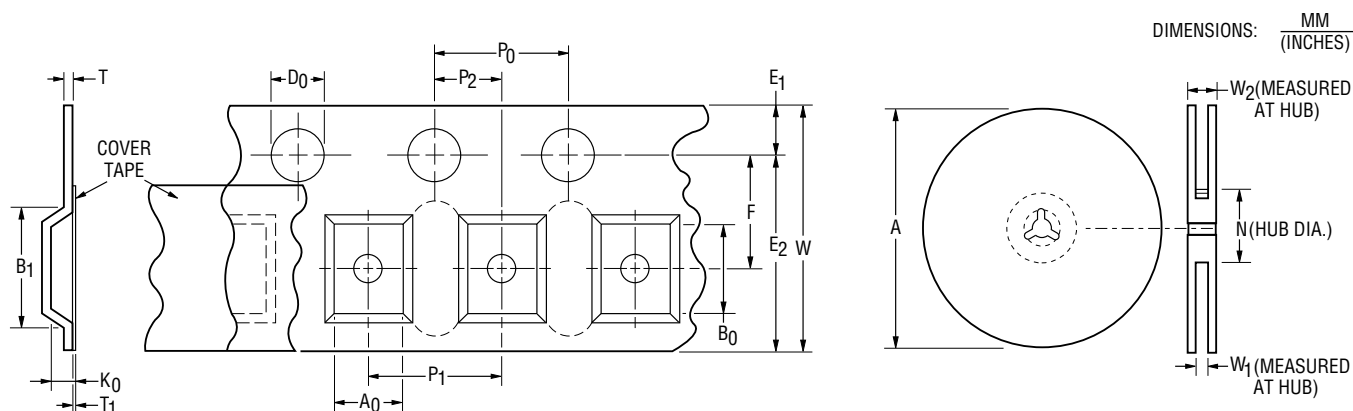
#### Notes:

- MF-PSHT models cannot be wave soldered. Please contact Bourns for hand soldering recommendations.
- If reflow temperatures exceed the recommended profile, devices may not meet the performance requirements.
- Compatible with Pb and Pb-free solder reflow profiles.
- Excess solder may cause a short circuit, especially during hand soldering. Please refer to the Multifuse® Polymer PTC Soldering Recommendation guidelines.

# MF-PSHT Series Tape and Reel Specifications

**BOURNS®**

| Tape Dimensions     |  | MF-PSHT010X<br>per EIA 481-1             |
|---------------------|--|------------------------------------------|
| W                   |  | $8.0 \pm 0.30$<br>(0.315 $\pm$ 0.012)    |
| P <sub>0</sub>      |  | $4.0 \pm 0.10$<br>(0.157 $\pm$ 0.004)    |
| P <sub>1</sub>      |  | $4.0 \pm 0.10$<br>(0.157 $\pm$ 0.004)    |
| P <sub>2</sub>      |  | $2.0 \pm 0.05$<br>(0.079 $\pm$ 0.002)    |
| A <sub>0</sub>      |  | $1.65 \pm 0.10$<br>(0.065 $\pm$ 0.004)   |
| B <sub>0</sub>      |  | $2.40 \pm 0.10$<br>(0.094 $\pm$ 0.004)   |
| B <sub>1</sub> max. |  | $4.35$<br>(0.171)                        |
| D <sub>0</sub>      |  | $1.5 + 0.10/-0.0$<br>(0.059 + 0.004/-0)  |
| F                   |  | $3.5 \pm 0.05$<br>(0.138 $\pm$ 0.002)    |
| E <sub>1</sub>      |  | $1.75 \pm 0.10$<br>(0.069 $\pm$ 0.004)   |
| E <sub>2</sub> min. |  | $6.25$<br>(0.246)                        |
| T max.              |  | $0.6$<br>(0.024)                         |
| T <sub>1</sub> max. |  | $0.1$<br>(0.004)                         |
| K <sub>0</sub>      |  | $0.95 \pm 0.10$<br>(0.037 $\pm$ 0.004)   |
| Leader min.         |  | $390$<br>(15.35)                         |
| Trailer min.        |  | $160$<br>(6.30)                          |
| Reel Dimensions     |  |                                          |
| A max.              |  | $185$<br>(7.28)                          |
| N min.              |  | $50$<br>(1.97)                           |
| W <sub>1</sub>      |  | $8.4 + 1.5/-0.0$<br>(0.331 + 0.059/-0.0) |
| W <sub>2</sub> max. |  | $14.4$<br>(0.567)                        |



Specifications are subject to change without notice.  
 Customers should verify actual device performance in their specific applications.  
 The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.

## Данный компонент на территории Российской Федерации

**Вы можете приобрести в компании MosChip.**

Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

<http://moschip.ru/get-element>

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

### Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: [info@moschip.ru](mailto:info@moschip.ru)

Skype отдела продаж:

moschip.ru

moschip.ru\_4

moschip.ru\_6

moschip.ru\_9