

## Additional Features

- Patents pending

## Applications

- PC motherboards
- PC modems
- USB
- Analog and digital line cards
- IEEE 1394
- General electronics: Phones, fax machines, televisions, printers, video equipment

# MF-USMD Series - PTC Resettable Fuses

# BOURNS®

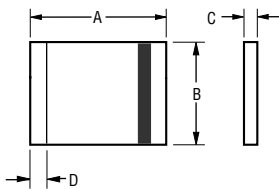
## Product Dimensions

Model	A		B		C		D
	Min.	Max.	Min.	Max.	Min.	Max.	Min.
MF-USMD005	$\frac{3.00}{(0.118)}$	$\frac{3.43}{(0.135)}$	$\frac{2.35}{(0.093)}$	$\frac{2.80}{(0.110)}$	$\frac{0.50}{(0.020)}$	$\frac{0.85}{(0.033)}$	$\frac{0.30}{(0.012)}$
MF-USMD010	$\frac{3.00}{(0.118)}$	$\frac{3.43}{(0.135)}$	$\frac{2.35}{(0.093)}$	$\frac{2.80}{(0.110)}$	$\frac{0.50}{(0.020)}$	$\frac{0.85}{(0.033)}$	$\frac{0.30}{(0.012)}$
MF-USMD020	$\frac{3.00}{(0.118)}$	$\frac{3.43}{(0.135)}$	$\frac{2.35}{(0.093)}$	$\frac{2.80}{(0.110)}$	$\frac{0.50}{(0.020)}$	$\frac{0.85}{(0.033)}$	$\frac{0.30}{(0.012)}$
MF-USMD035	$\frac{3.00}{(0.118)}$	$\frac{3.43}{(0.135)}$	$\frac{2.35}{(0.093)}$	$\frac{2.80}{(0.110)}$	$\frac{0.38}{(0.015)}$	$\frac{0.62}{(0.025)}$	$\frac{0.30}{(0.012)}$
MF-USMD050	$\frac{3.00}{(0.118)}$	$\frac{3.43}{(0.135)}$	$\frac{2.35}{(0.093)}$	$\frac{2.80}{(0.110)}$	$\frac{0.38}{(0.015)}$	$\frac{0.62}{(0.024)}$	$\frac{0.30}{(0.012)}$
MF-USMD075	$\frac{3.00}{(0.118)}$	$\frac{3.43}{(0.135)}$	$\frac{2.35}{(0.093)}$	$\frac{2.80}{(0.110)}$	$\frac{0.38}{(0.015)}$	$\frac{0.62}{(0.025)}$	$\frac{0.30}{(0.012)}$
MF-USMD110	$\frac{3.00}{(0.118)}$	$\frac{3.43}{(0.135)}$	$\frac{2.35}{(0.093)}$	$\frac{2.80}{(0.110)}$	$\frac{0.30}{(0.012)}$	$\frac{0.48}{(0.019)}$	$\frac{0.30}{(0.012)}$

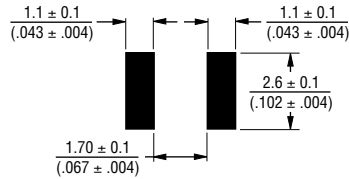
Packaging: 3000 pcs. per reel.

UNIT =  $\frac{\text{MM}}{\text{(INCHES)}}$

Top and Bottom View Side View



Recommended Pad Layout

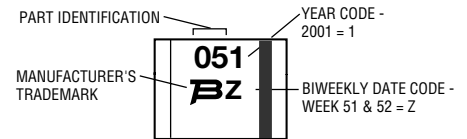


Terminal material: solder-plated copper

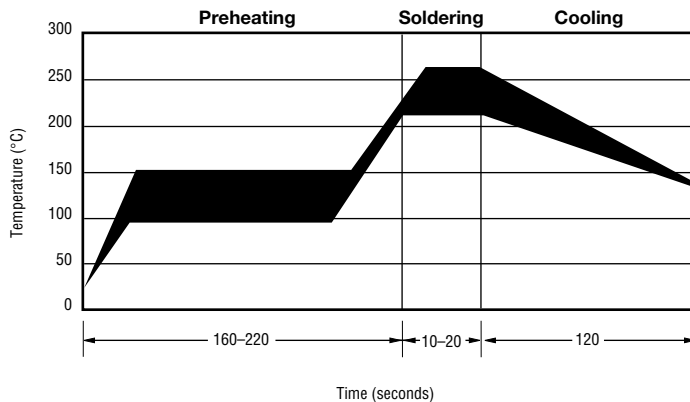
Termination pad solderability: Meets EIA Specification RS-186-9E, ANSI/J-STD-002 Category 3.

## Typical Part Marking

Represents total content. Layout may vary.



## Solder Reflow Recommendations



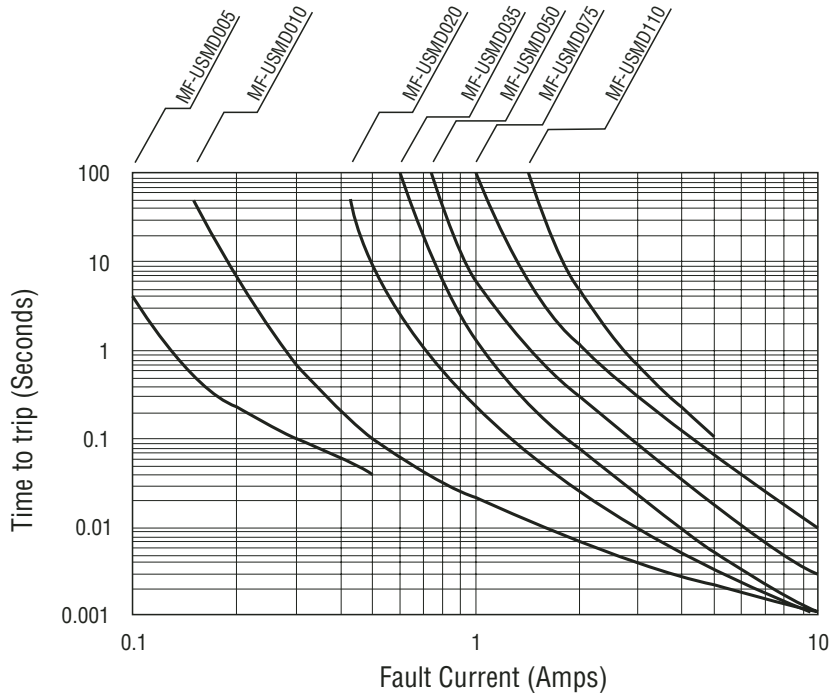
**Note:**

- MF-USMD models can be wave soldered and reworked.
- If reflow temperatures exceed the recommended profile, devices may not meet the performance requirements.

# MF-USMD Series - PTC Resettable Fuses

**BOURNS®**

## Typical Time to Trip at 23 °C



## How to Order

**MF - USMD 005 - 2**

Multifuse® Product  
 Designator \_\_\_\_\_

Series \_\_\_\_\_  
 USMD = 1210 Surface Mount Component

Hold Current,  $I_{hold}$  \_\_\_\_\_  
 005-110 (0.05 Amps - 1.10 Amps)

Packaging \_\_\_\_\_  
 Packaged per EIA 481-1  
 -2 = Tape and Reel

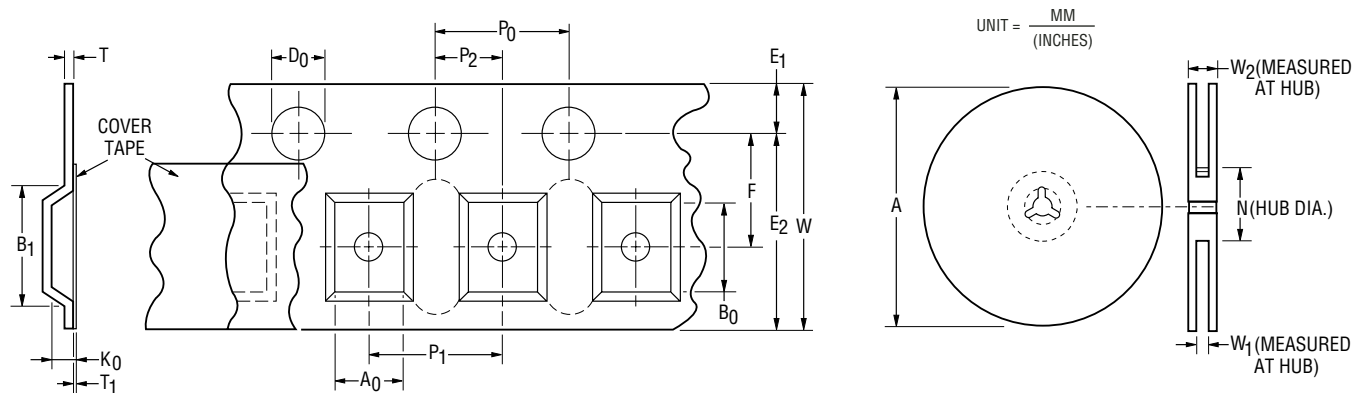
**MF-MSMD, MF-USMD & MF-ESMD Series Tape and Reel Specs**



Tape Dimensions	MF-MSMD Series per EIA-481-1	MF-USMD Series per EIA 481-1	MF-ESMD Series per EIA 481-2
W	$\frac{12.0 \pm 0.30}{(0.472 \pm 0.012)}$	$\frac{8.0 \pm 0.30}{(0.315 \pm 0.012)}$	$\frac{24.0 \pm 0.3}{(0.945 \pm 0.012)}$
P <sub>0</sub>	$\frac{4.0 \pm 0.10}{(0.157 \pm 0.004)}$	$\frac{4.0 \pm 0.10}{(0.157 \pm 0.004)}$	$\frac{4.0 \pm 0.1}{(0.157 \pm 0.004)}$
P <sub>1</sub>	$\frac{8.0 \pm 0.10}{(0.315 \pm 0.004)}$	$\frac{4.0 \pm 0.10}{(0.157 \pm 0.004)}$	$\frac{8.0 \pm 0.1}{(0.315 \pm 0.004)}$
P <sub>2</sub>	$\frac{2.0 \pm 0.05}{(0.079 \pm 0.002)}$	$\frac{2.0 \pm 0.05}{(0.079 \pm 0.002)}$	$\frac{2.0 \pm 0.1}{(0.079 \pm 0.004)}$
A <sub>0</sub>	$\frac{3.66 \pm 0.15}{(0.144 \pm 0.006)}$	$\frac{2.92 \pm 0.10}{(0.115 \pm 0.004)}$	$\frac{5.65 \pm 0.1}{(0.222 \pm 0.004)}$
B <sub>0</sub>	$\frac{4.98 \pm 0.10}{(0.196 \pm 0.004)}$	$\frac{3.57 \pm 0.1}{(0.141 \pm 0.004)}$	$\frac{11.86 \pm 0.1}{(0.467 \pm 0.004)}$
B <sub>1</sub> max.	$\frac{5.9}{(0.232)}$	$\frac{4.35}{(0.171)}$	$\frac{20.1}{(0.791)}$
D <sub>0</sub>	$\frac{1.5 + 0.10/-0.00}{(0.059 + 0.004/-0)}$	$\frac{1.50 + 0.1/-0.0}{(0.059 + 0.004/-0)}$	$\frac{1.5 + 0.1/-0.0}{(0.059 + 0.004/-0)}$
F	$\frac{5.5 \pm 0.05}{(0.217 \pm 0.002)}$	$\frac{3.5 \pm 0.05}{(0.138 \pm 0.002)}$	$\frac{11.5 \pm 0.10}{(0.453 \pm 0.004)}$
E <sub>1</sub>	$\frac{1.75 \pm 0.10}{(0.069 \pm 0.004)}$	$\frac{1.75 \pm 0.10}{(0.069 \pm 0.004)}$	$\frac{1.75 \pm 0.10}{(0.069 \pm 0.004)}$
E <sub>2</sub> min.	$\frac{10.25}{(0.404)}$	$\frac{6.25}{(0.246)}$	$\frac{22.25}{(0.876)}$
T max.	$\frac{0.6}{(0.024)}$	$\frac{0.6}{(0.024)}$	$\frac{0.6}{(0.024)}$
T <sub>1</sub> max.	$\frac{0.1}{(0.004)}$	$\frac{0.1}{(0.004)}$	$\frac{0.1}{(0.004)}$
K <sub>0</sub>	$\frac{0.95 \pm 0.10}{(0.037 \pm 0.004)}$	$\frac{0.82 \pm 0.10}{(0.032 \pm 0.004)}$	$\frac{0.85 \pm 0.1}{(0.033 \pm 0.004)}$
Leader min.	$\frac{390}{(15.35)}$	$\frac{390}{(15.35)}$	$\frac{390}{(15.35)}$
Trailer min.	$\frac{160}{(6.30)}$	$\frac{160}{(6.30)}$	$\frac{160}{(6.30)}$

**Reel Dimensions**

A max.	$\frac{185}{(7.28)}$	$\frac{185}{(7.28)}$	$\frac{360}{(14.17)}$
N min.	$\frac{50}{(1.97)}$	$\frac{50}{(1.97)}$	$\frac{60}{(2.36)}$
W <sub>1</sub>	$\frac{12.4 + 2.0/-0.0}{(0.488 + 0.079/-0.0)}$	$\frac{8.4 + 1.5/-0.0}{(0.331 + 0.059/-0)}$	$\frac{24.4 + 2.0/-0.0}{(0.961 + 0.079/-0)}$
W <sub>2</sub> max.	$\frac{18.4}{(0.724)}$	$\frac{14.4}{(0.567)}$	$\frac{30.4}{(1.20)}$



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

# Mouser Electronics

Authorized Distributor

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Bourns:

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