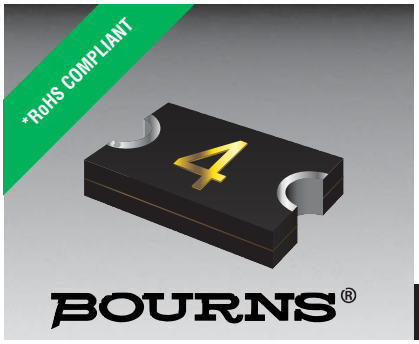


Features

- Compact design to save board space - 0805 footprint
- Small size results in very fast time to react to fault events
- Symmetrical design
- Low profile
- RoHS compliant* and halogen free*
- Agency recognition:

Applications

- USB port protection - USB 2.0, 3.0 & OTG
- HDMI 1.4 Source protection
- PC motherboards - Plug and Play protection
- Mobile phones - Battery and port protection
- PDAs / digital cameras
- Game console port protection

MF-PSMF Series - PTC Resettable Fuses

Electrical Characteristics

Model	V max. Volts	I max. Amps	I_{hold}	I_{trip}	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	$R_{Min.}$	$R_{1Max.}$			Typ.
MF-PSMF010X	15	40	0.10	0.30	1.0	7.5	0.5	1.5	0.5
MF-PSMF020X	9	40	0.20	0.50	0.65	3.5	8.00	0.02	0.5
MF-PSMF035X	6	40	0.35	0.75	0.250	1.200	8.00	0.10	0.5
MF-PSMF050X	6	40	0.50	1.00	0.150	0.900	8.00	0.10	0.5
MF-PSMF075X	6	40	0.75	1.50	0.090	0.350	8.00	0.20	0.6
MF-PSMF110X	6	40	1.10	2.20	0.060	0.210	8.00	0.30	0.6

Environmental Characteristics

Operating Temperature..... -40 °C to +85 °C
Maximum Device Surface Temperature in Tripped State ..... 125 °C
Passive Aging..... +85 °C, 1000 hours..... ±5 % typical resistance change
Humidity Aging..... +85 °C, 85 % R.H. 1000 hours..... ±5 % typical resistance change
Thermal Shock ..... +85 °C to -40 °C, 20 times ..... ±10 % typical resistance change
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-PSMF Series

Test	Test Conditions	Accept/Reject Criteria
Visual/Mech.	Verify dimensions and materials	Per MF physical description
Resistance	In still air @ 23 °C	Rmin ≤ R ≤ R1max
Time to Trip	At specified current, Vmax, 23 °C	T ≤ max. time to trip (seconds)
Hold Current	30 min. at Ihold	No trip
Trip Cycle Life	Vmax, Imax, 100 cycles	No arcing or burning
Trip Endurance	Vmax, 48 hours	No arcing or burning
Solderability	ANSI/J-STD-002	95 % min. coverage

UL File Number E174545
http://www.ul.com/ Follow link to Certifications, then UL File No., enter E174545

Thermal Derating Chart - I_{hold} (Amps)

Model	Ambient Operating Temperature								
	-40 °C	-20 °C	0 °C	23 °C	40 °C	50 °C	60 °C	70 °C	85 °C
MF-PSMF010X	0.15	0.13	0.12	0.10	0.09	0.08	0.07	0.06	0.05
MF-PSMF020X	0.28	0.25	0.23	0.20	0.17	0.14	0.12	0.10	0.07
MF-PSMF035X	0.47	0.44	0.39	0.35	0.30	0.27	0.24	0.20	0.14
MF-PSMF050X	0.68	0.62	0.55	0.50	0.40	0.37	0.33	0.29	0.23
MF-PSMF075X	1.00	0.90	0.79	0.75	0.63	0.57	0.53	0.42	0.35
MF-PSMF110X	1.45	1.35	1.20	1.10	0.92	0.84	0.75	0.65	0.52

*RoHS Directive 2002/95/EC Jan 27 2003 including Annex.
**To be considered halogen free, each homogenous material can have a maximum concentration of 900 ppm of either bromine or chlorine.

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

Additional Features

■ Patents pending

Additional Applications

■ Automotive electronic control modules

MF-PSMF Series - PTC Resettable Fuses

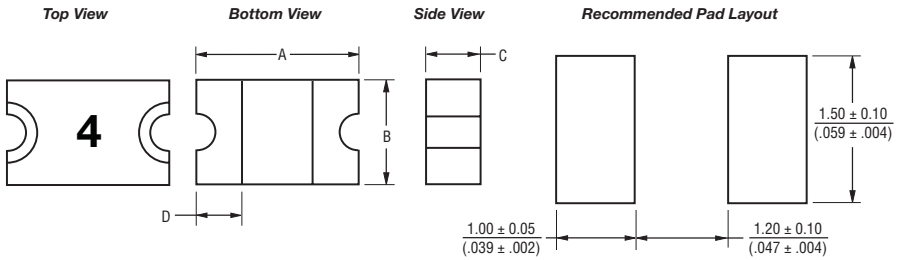
BOURNS®

Product Dimensions

Model	A		B		C		D
	Min.	Max.	Min.	Max.	Min.	Max.	Min.
MF-PSMF010X	2.00 (0.079)	2.30 (0.091)	1.20 (0.047)	1.50 (0.059)	0.48 (0.019)	0.85 (0.033)	0.20 (0.008)
MF-PSMF020X	2.00 (0.079)	2.30 (0.091)	1.20 (0.047)	1.50 (0.059)	0.48 (0.019)	0.85 (0.033)	0.20 (0.008)
MF-PSMF035X	2.00 (0.079)	2.30 (0.091)	1.20 (0.047)	1.50 (0.059)	0.48 (0.019)	0.85 (0.033)	0.20 (0.008)
MF-PSMF050X	2.00 (0.079)	2.30 (0.091)	1.20 (0.047)	1.50 (0.059)	0.48 (0.019)	0.85 (0.033)	0.20 (0.008)
MF-PSMF075X	2.00 (0.079)	2.30 (0.091)	1.20 (0.047)	1.50 (0.059)	0.75 (0.030)	1.25 (0.049)	0.20 (0.008)
MF-PSMF110X	2.00 (0.079)	2.30 (0.091)	1.20 (0.047)	1.50 (0.059)	0.75 (0.030)	1.25 (0.049)	0.20 (0.008)

Packaging: 3000 pcs. per reel.

DIMENSIONS: MM (INCHES)

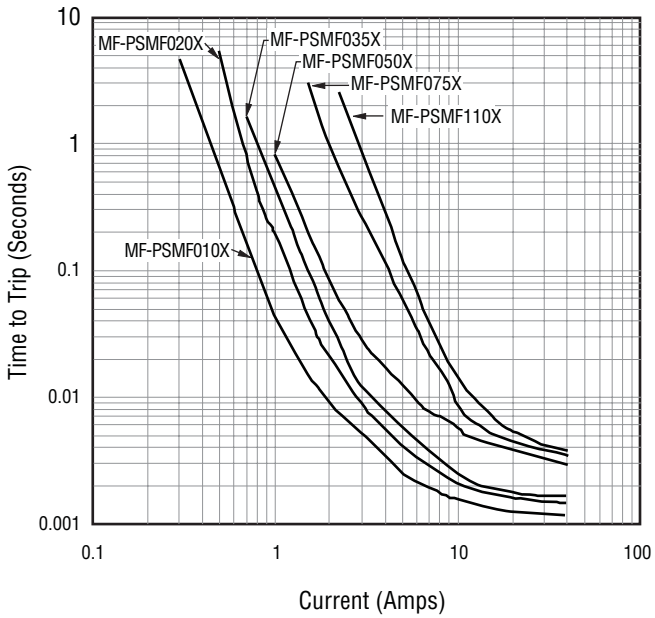


Terminal material:
Nickel/gold plated.

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 - PSMF 050 X - 2

Multifuse® Product Designator

Series
PSMF = 0805 Surface Mount Component

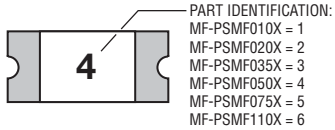
Hold Current, Ihold
010-110 (0.10 - 1.10 Amps)

Free Expansion 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

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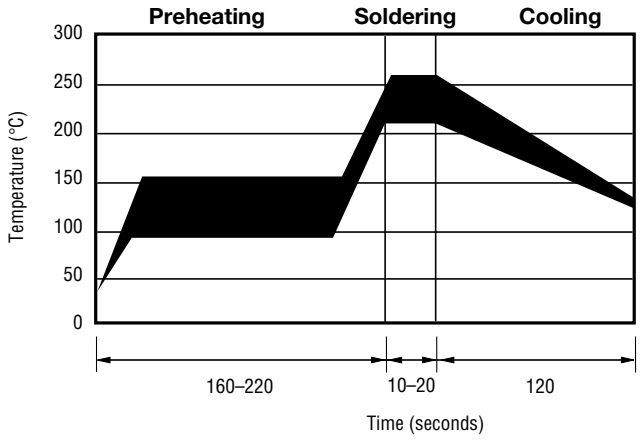
Solder Reflow Recommendations



Notes:

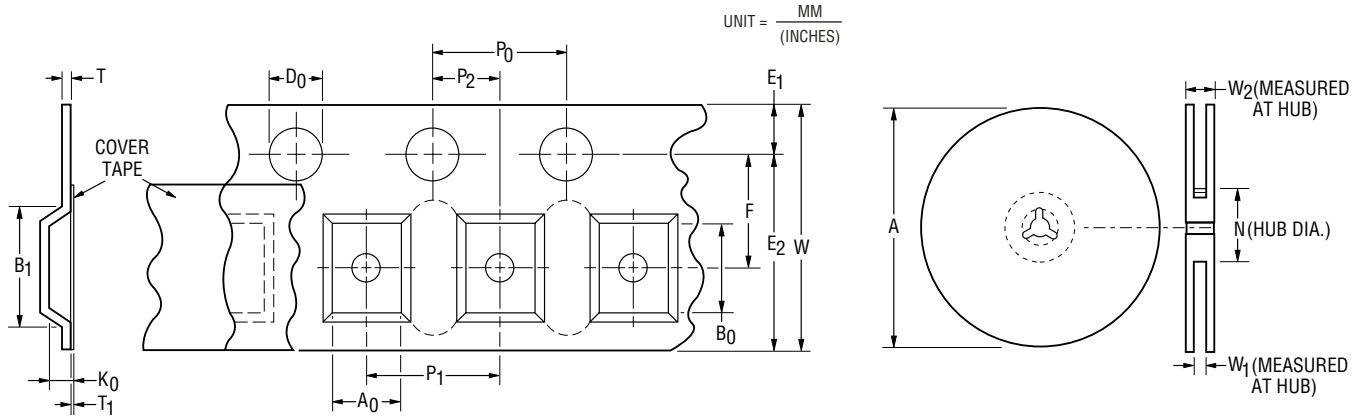
- MF-PSMF models cannot be wave soldered. Please contact Bourns for hand soldering recommendations.
- If reflow temperatures exceed the recommended profile, devices may not meet the performance requirements.
- Compatible with Pb and Pb-free solder reflow profiles.

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

MF-PSMF Series Tape and Reel Specifications

BOURNS®

Tape Dimensions	MF-PSMF010X, MF-PSMF020X, MF-PSMF035X & MF-PSMF050X per EIA 481-1	MF-PSMF075X & MF-PSMF110X per EIA 481-1
W	8.0 – 0.30 (0.315 – 0.012)	8.0 – 0.30 (0.315 – 0.012)
P_0	4.0 – 0.10 (0.157 – 0.004)	4.0 – 0.10 (0.157 – 0.004)
P_1	4.0 – 0.10 (0.157 – 0.004)	4.0 – 0.10 (0.157 – 0.004)
P_2	2.0 – 0.05 (0.079 – 0.002)	2.0 – 0.05 (0.079 – 0.002)
A_0	1.65 – 0.10 (0.065 – 0.004)	1.65 – 0.10 (0.065 – 0.004)
B_0	2.4 – 0.10 (0.094 – 0.004)	2.4 – 0.10 (0.094 – 0.004)
B_1 max.	4.35 (0.171)	4.35 (0.171)
D_0	1.50 + 0.10/-0.0 (0.059 + 0.004/-0)	1.50 + 0.10/-0.0 (0.059 + 0.004/-0)
F	3.5 – 0.05 (0.138 + 0.002)	3.5 – 0.05 (0.138 + 0.002)
E_1	1.75 – 0.10 (0.069 – 0.004)	1.75 – 0.10 (0.069 – 0.004)
E_2 min.	6.25 (0.246)	6.25 (0.246)
T max.	0.6 (0.024)	0.6 (0.024)
T_1 max.	0.10 (0.004)	0.10 (0.004)
K_0	0.95 – 0.10 (0.037 – 0.004)	1.25 – 0.10 (0.049 – 0.004)
Leader min.	390 (15.35)	390 (15.35)
Trailer min.	160 (6.30)	160 (6.30)
Reel Dimensions		
A max.	185 (7.28)	185 (7.28)
N min.	50 (1.97)	50 (1.97)
W_1	8.4 + 1.5/ -0.0 (0.331 + 0.059/-0)	8.4 + 1.5/ -0.0 (0.331 + 0.059/-0)
W_2 max.	14.4 (0.567)	14.4 (0.567)



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