





## Features

- Radial leaded devices
- Fast tripping resettable PTCs
- Binned and sorted narrow resistance ranges available
- RoHS compliant\*
- Agency recognition:  

## Applications

- Customer Premise Equipment (CPE)
- Central Office / Telecom Centers (CO)
- Access equipment

## MF-RX/250 Series - Telecom PTC Resettable Fuses

### Electrical Characteristics

Model	Max. Operating Voltage (Vdc)	Max. Interrupt Ratings		Hold Current Amps at 23 °C I <sub>H</sub>	Initial Resistance		One Hour Post-Trip Resistance Ohms at 23 °C Max.
		Volts (Vrms)	Amps (A)		Ohms at 23 °C Min.	Ohms at 23 °C Max.	
		Max.	Max.				
MF-RX012/250	60	250	3.0	0.12	4.0	8.0	16.0
MF-RX012/250-A	60	250	3.0	0.12	7.0	9.0	16.0
MF-RX012/250-C	60	250	3.0	0.12	5.5	7.5	14.0
MF-RX012/250-F	60	250	3.0	0.12	6.0	10.5	16.0
MF-RX012/250-1	60	250	3.0	0.12	6.0	9.0	16.0
MF-RX012/250-2	60	250	3.0	0.12	8.0	10.5	16.0
MF-RX012/250-T	60	250	3.0	0.12	7.0	12.0	16.0
MF-RX012/250U	60	250	3.0	0.12	6.0	10.0	16.0
MF-RX014/250	60	250	3.0	0.145	3.0	6.0	14.0
MF-RX014/250-A	60	250	3.0	0.145	3.0	5.5	12.0
MF-RX014/250-B	60	250	3.0	0.145	4.5	6.0	14.0
MF-RX014/250-T	60	250	3.0	0.145	5.4	7.5	14.0
MF-RX014/250U	60	250	3.0	0.145	3.5	6.5	12.0
MF-RX018/250	60	250	10.0	0.18	0.8	2.0	4.0
MF-RX018/250U	60	250	10.0	0.18	0.8	2.0	4.0

"U" suffix indicates product without insulation coating.

### Environmental Characteristics

Operating/Storage Temperature .....	-40 °C to +85 °C
Maximum Device Surface Temperature in Tripped State .....	125 °C
Passive Aging .....	+85 °C, 1000 hours..... ±15 % typical resistance change
Humidity Aging .....	+85 °C, 85 % R.H. 1000 hours ..... ±15 % typical resistance change
Thermal Shock .....	+125 °C to -55 °C, 10 times..... ±15 % typical resistance change
Solvent Resistance.....	MIL-STD-202, Method 215B..... No change
Lead Solderability .....	ANSI/J-STD-002..... >95 % coverage
Flammability .....	IEC 695-2-2 ..... No Flame for 60 secs.
Vibration .....	MIL-STD-883C, Method 2007.1, Condition A ..... ±5 % typical resistance change

### Test Procedures And Requirements For Model MF-RX/250 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>max</sub>
Time to Trip.....	TTT 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.....	250 Vrms, 3A, 10 cycles .....	No arcing or burning
UL File Number .....	E 174545	
TÜV File Number.....	50260658	

\*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.

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

## Additional Features

- Ability to withstand AC power cross conditions
- Assists equipment with meeting ITU-T K.20/K.21/K.45
- Assists equipment with meeting Telcordia GR-1089-C Intrabuilding

## MF-RX/250 Series - Telecom PTC Resettable Fuses

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### 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-RX012/250	0.186	0.165	0.143	0.120	0.099	0.088	0.077	0.066	0.050
MF-RX014/250	0.225	0.199	0.172	0.145	0.119	0.106	0.093	0.080	0.060
MF-RX018/250	0.269	0.240	0.211	0.180	0.153	0.138	0.123	0.109	0.087

$I_{trip}$  is approximately two times  $I_{hold}$ .

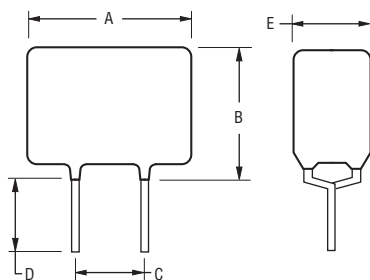
### Product Dimensions

Model	A Max.	B Max.	C Nom.	D Min.	E Max.	Physical Characteristics		
						Lead Dia.	Style	Material
MF-RX012/250	6.5 (0.256)	11.0 (0.433)	5.1 ± 0.7 (0.201 ± 0.028)	4.7 (0.185)	4.6 (0.181)	0.65 (0.026)	1	Sn/Cu
MF-RX012/250U	6.0 (0.236)	10.0 (0.394)	5.1 ± 0.7 (0.201 ± 0.028)	4.7 (0.185)	3.8 (0.150)	0.65 (0.026)	2	Sn/Cu
MF-RX014/250	6.5 (0.256)	11.0 (0.433)	5.1 ± 0.7 (0.201 ± 0.028)	4.7 (0.185)	4.6 (0.181)	0.65 (0.026)	1	Sn/Cu
MF-RX014/250U	6.0 (0.236)	10.0 (0.394)	5.1 ± 0.7 (0.201 ± 0.028)	4.7 (0.185)	3.8 (0.150)	0.65 (0.026)	2	Sn/Cu
MF-RX018/250	11.0 (0.433)	13.6 (0.535)	5.1 ± 0.7 (0.201 ± 0.028)	4.7 (0.185)	4.6 (0.181)	0.65 (0.026)	1	Sn/Cu
MF-RX018/250U	10.4 (0.409)	12.6 (0.496)	5.1 ± 0.7 (0.201 ± 0.028)	4.7 (0.185)	3.8 (0.150)	0.65 (0.026)	2	Sn/Cu

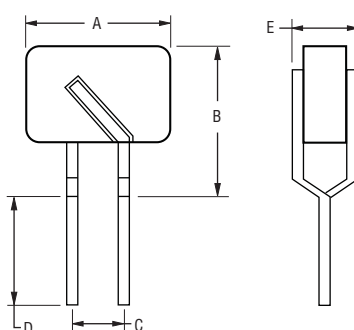
Packaging options: BULK: 500 pcs. per bag. TAPE & REEL: 1500 pcs. per reel (available binned).

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

Style 1

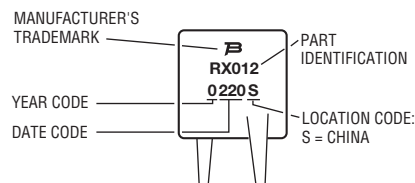


Style 2



### Typical Part Marking

Represents total content. Layout may vary.



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# MF-RX/250 Series - Telecom PTC Resettable Fuses

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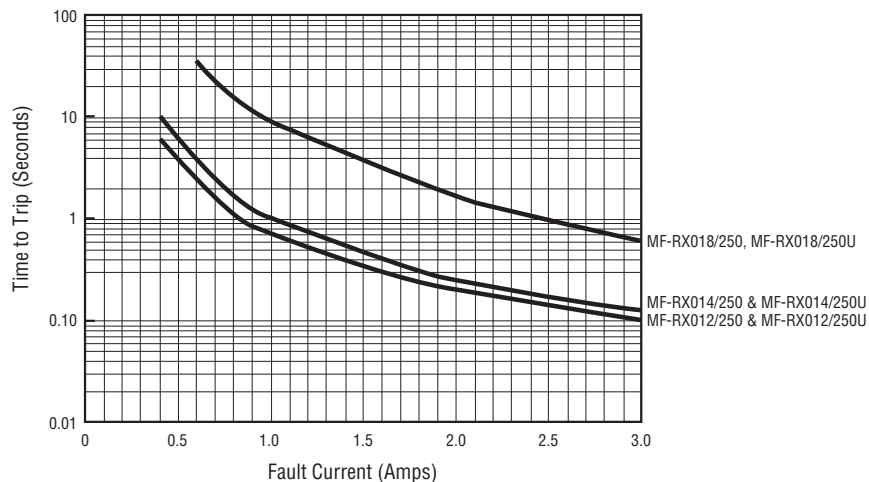
## How to Order

**MF - RX 012/250 U - A 5 - 2**

Multifuse®  
Product Designator  
Series  
RX = Radial Leaded Component  
Hold Current,  $I_{hold}$   
008-018 (0.08-0.18 Amps)  
Max. Interrupt Voltage, V  
250 (250 Volts)  
Telecom Options  
U = Uncoated (radial parts only)  
Resistance Sorted  
Narrow resistance ranges - see Resistance Options chart  
Resistance Bins of 0.5 ohms  
05 = 0.5 ohm binned parts (epoxy coated)  
5 = 0.5 ohm binned parts (uncoated)  
Packaging Options  
- 0 = Bulk Packaging  
- 2 = Tape and Reel\* (available with binned option)

\*Packaged per EIA486-B

## Typical Time to Trip at 23 °C



## Resistance Options

Model	Initial Resistance Values		R1max	Bin
	Ohms @ 23 ° C		Ohms @ 23 ° C	
	Min.	Max.	Max.	
MF-RX012/250	4.0	8.0	16.0	N/A
MF-RX012/250-A05	7.0	9.0	16.0	0.5
MF-RX012/250-C05	5.5	7.5	14.0	0.5
MF-RX012/250-F05	6.0	10.5	16.0	0.5
MF-RX012/250-105	6.0	9.0	16.0	0.5
MF-RX012/250-205	8.0	10.5	16.0	0.5
MF-RX012/250-T05	7.0	12.0	16.0	0.5
MF-RX012/250U	6.0	10.0	16.0	N/A
MF-RX014/250	3.0	6.0	14.0	N/A
MF-RX014/250-A05	3.0	5.5	12.0	0.5
MF-RX014/250-B05	4.5	6.0	14.0	0.5
MF-RX014/250U	3.5	6.5	12.0	N/A

MF-RX/250, REV. L, 02/15

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# MF-RX/250 Series Tape and Reel Specifications

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Devices taped using EIA468–B/IEC286-2 standards. See table below and Figures 1 through 4 for details.

Dimension Description	IEC Mark	EIA Mark	Dimensions	
			Dimensions	Tolerance
Carrier tape width	$W$	$W$	$\frac{18}{(.709)}$	$\frac{-0.5/+1.0}{(-0.02/+0.039)}$
Hold down tape width	$W_0$	$W_4$	$\frac{11}{(.433)}$	min.
Hold down tape			No protrusion	
Top distance between tape edges	$W_2$	$W_6$	$\frac{3}{(.118)}$	max.
Sprocket hole position	$W_1$	$W_5$	$\frac{9}{(.354)}$	$\frac{-0.5/+0.75}{(-0.02/+0.03)}$
Sprocket hole diameter	$D_0$	$D_0$	$\frac{4}{(.157)}$	$\frac{\pm 0.2}{(\pm .0078)}$
Abscissa to plane (straight lead)	$H$	$H$	$\frac{18.5}{(.728)}$	$\frac{\pm 3.0}{(\pm .118)}$
Abscissa to plane (kinked lead)	$H_0$	$H_0$	$\frac{16}{(.63)}$	$\frac{\pm 0.5}{(\pm .02)}$
Abscissa to top (straight lead)	$H_1$	$H_1$	$\frac{38.0}{(1.496)}$	max.
Abscissa to top (kinked lead)	$H_1$	$H_1$	$\frac{32.2}{(1.268)}$	max.
Overall width w/lead protrusion (straight lead)		$C_1$	$\frac{55.0}{(2.165)}$	max.
Overall width w/lead protrusion (kinked lead)		$C_1$	$\frac{43.2}{(1.7)}$	max.
Overall width w/o lead protrusion (straight lead)		$C_2$	$\frac{54.0}{(2.126)}$	max.
Overall width w/o lead protrusion (kinked lead)		$C_2$	$\frac{42.5}{(1.673)}$	max.
Protrusion of cutout	$L$	$L$	$\frac{11}{(.433)}$	max.
Sprocket hole pitch	$P_0$	$P_0$	$\frac{12.7}{(0.5)}$	$\frac{\pm 0.3}{(\pm .012)}$
Pitch tolerance			20 consecutive	$\frac{\pm 1}{(\pm .039)}$
Device pitch			$\frac{12.7}{(0.5)}$	$\frac{\pm 0.3}{(\pm .012)}$
Tape thickness	$t$	$t$	$\frac{0.9}{(.035)}$	max.
Tape thickness with splice		$t_1$	$\frac{1.5}{(.059)}$	max.
Splice sprocket hole alignment			0	$\frac{\pm 0.3}{(\pm .012)}$
Body lateral deviation	$\Delta_h$	$\Delta_h$	0	$\frac{\pm 1.0}{(\pm .039)}$
Body tape plane deviation	$\Delta_p$	$\Delta_p$	0	$\frac{\pm 1.3}{(\pm .051)}$
Lead spacing	$F$	$F$	$\frac{5.08}{(0.2)}$	$\frac{-0.5/+0.6}{(-.020/+0.024)}$
Reel width	$w$	$W_2$	$\frac{56.0}{(2.205)}$	max.
Reel diameter	$d$	$a$	$\frac{370.0}{(14.57)}$	max.
Space between flanges less device	$W_1$	$h$	$\frac{4.75}{(.187)}$	$\frac{\pm 3.25}{(\pm .128)}$
Arbor hole diameter	$f$	$c$	$\frac{26.0}{(1.024)}$	$\frac{\pm 12.0}{(\pm .472)}$
Core diameter	$h$	$n$	$\frac{91}{(3.58)}$	max.
Box			$\frac{67}{(2.64)}$ $\frac{372}{(14.6)}$ $\frac{362}{(14.25)}$	max.
Consecutive missing places			none	
Empty places per reel			0.1 %	

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

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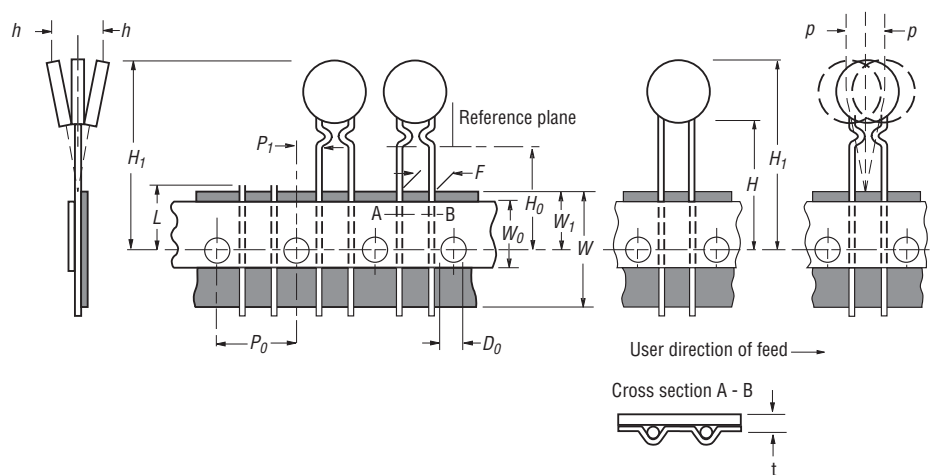
# MF-RX/250 Series Tape and Reel Specifications

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**Taped Component Dimensions -  
Figure 1**

**Applies to Models:**

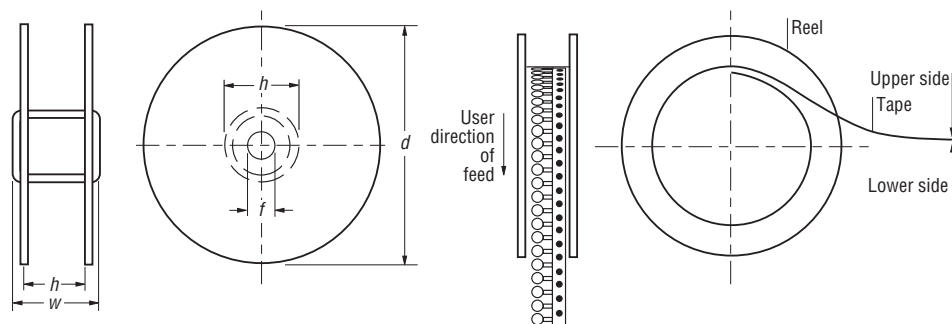
MF-RX012/250U
MF-RX014/250U
MF-RX018/250
MF-RX018/250U



**Reel Dimensions -  
Figure 2**

**Applies to Models:**

MF-RX012/250U
MF-RX014/250U
MF-RX018/250
MF-RX018/250U



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

# MF-RX/250 Series Tape and Reel Specifications

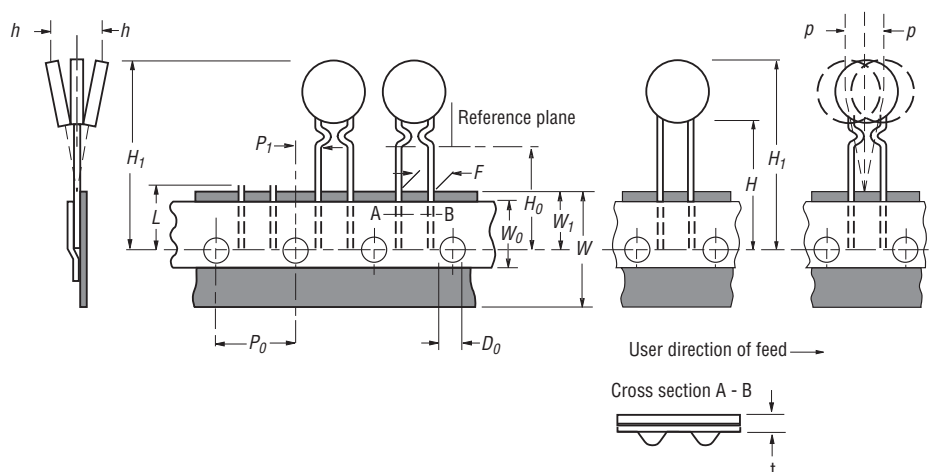
**BOURNS®**

**Taped Component Dimensions -  
Figure 3**

**Applies to Models:**

MF-RX012/250  
MF-RX012/250-A  
MF-RX012/250-C  
MF-RX012/250-F  
MF-RX012/250-1  
MF-RX012/250-2  
MF-RX012/250-T

MF-RX014/250  
MF-RX014/250-A  
MF-RX014/250-B  
MF-RX014-250-T

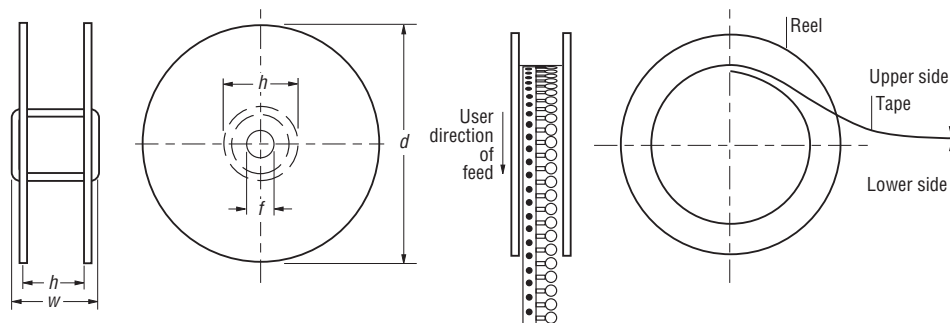


**Reel Dimensions -  
Figure 4**

**Applies to Models:**

MF-RX012/250  
MF-RX012/250-A  
MF-RX012/250-C  
MF-RX012/250-F  
MF-RX012/250-1  
MF-RX012/250-2  
MF-RX012/250-T

MF-RX014/250  
MF-RX014/250-A  
MF-RX014/250-B  
MF-RX014-250-T



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

# Mouser Electronics

Authorized Distributor

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