




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	Initial Resistance		One Hour Post-Trip Resistance
		Volts (Vrms)	Amps (A)		Amps at 23 °C	Ohms at 23 °C	
		Max.	Max.	I _H	Min.	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	
.....	+60°C, 1000 hours..... ±15 % typical resistance change	
Humidity Aging	+85 °C, 85 % R.H. 500 hours	±15 % typical resistance change
Thermal Shock	MIL-STD-202F, Method 107G.....	±10 % typical resistance change
.....	+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 _{min} ≤ R ≤ R _{max}
Time to Trip.....	5 times I _{hold} , V _{max} , 23 °C	T ≤ max. time to trip (seconds)
Hold Current	30 min. at I _{hold}	No trip
Trip Cycle Life.....	V _{max} , I _{max} , 100 cycles.....	No arcing or burning
Trip Endurance.....	V _{max} , 48 hours.....	No arcing or burning
UL File Number	E 174545S	
CSA File Number.....	CA 110338	
TÜV File Number.....	R2057213	

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

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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} .

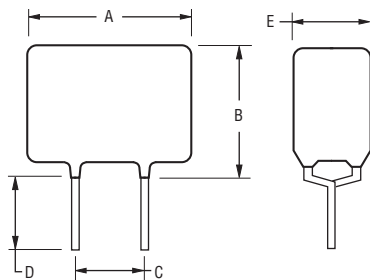
Product Dimensions

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

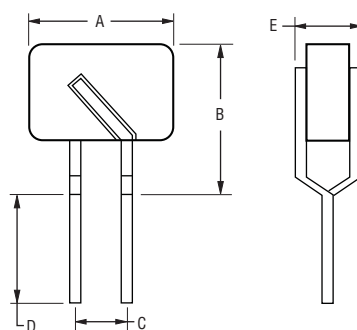
Packaging options: BULK: 500 pcs. per bag. TAPE & REEL: 1500 pcs. per reel (available binned).

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

Style 1

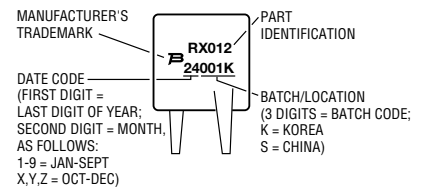


Style 2



Typical Part Marking

Represents total content. Layout may vary.



NOTE: UNCOATED PARTS HAVE NO PART MARKING. MARKING IS ON LABEL ONLY.

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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

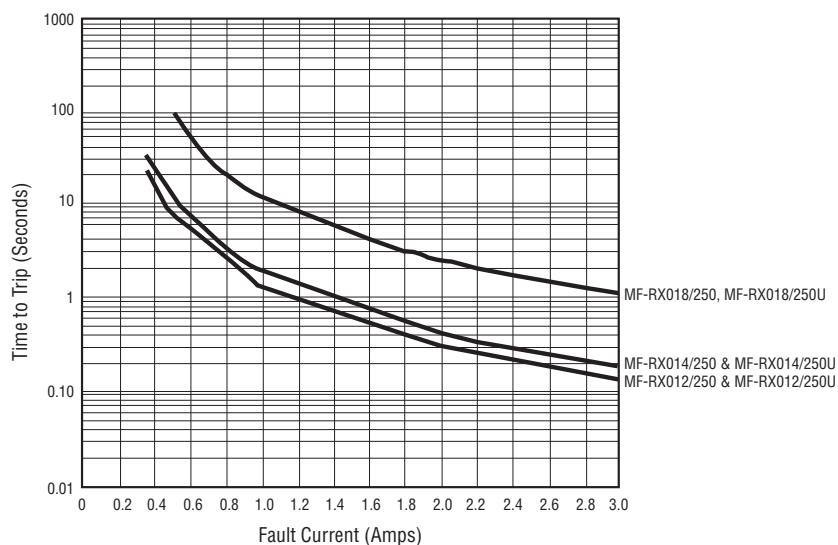
Resistance Bins of 0.5 ohms
05 = 0.5 ohm binned parts (epoxy coated)
5 = 0.5 ohm binned parts (uncoated)

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	0.5
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	0.5
MF-RX014/250	3.0	6.0	14.0	0.5
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	0.5

MF-RX/250, REV. K, 04/14

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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	$\frac{4}{(.157)}$	$\frac{\pm 0.2}{(\pm 0.078)}$
Abscissa to plane (straight lead)	H	H	$\frac{18.5}{(.728)}$	$\frac{\pm 3.0}{(\pm 1.18)}$
Abscissa to plane (kinked lead)	H_0	H_0	$\frac{16}{(.63)}$	$\frac{\pm 0.5}{(\pm 0.2)}$
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	$\frac{12.7}{(0.5)}$	$\frac{\pm 0.3}{(\pm 0.12)}$
Pitch tolerance			20 consecutive	$\frac{\pm 1}{(\pm 0.039)}$
Device pitch			$\frac{12.7}{(0.5)}$	$\frac{\pm 0.3}{(\pm 0.12)}$
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	$\frac{\pm 0.3}{(\pm 0.12)}$
Body lateral deviation	Δ_h	Δ_h	0	$\frac{\pm 1.0}{(\pm 0.039)}$
Body tape plane deviation	Δ_p	Δ_p	0	$\frac{\pm 1.3}{(\pm 0.051)}$
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	$\frac{4.75}{(.187)}$	$\frac{\pm 3.25}{(\pm 1.28)}$
Arbor hole diameter	f	c	$\frac{26.0}{(1.024)}$	$\frac{\pm 12.0}{(\pm 4.72)}$
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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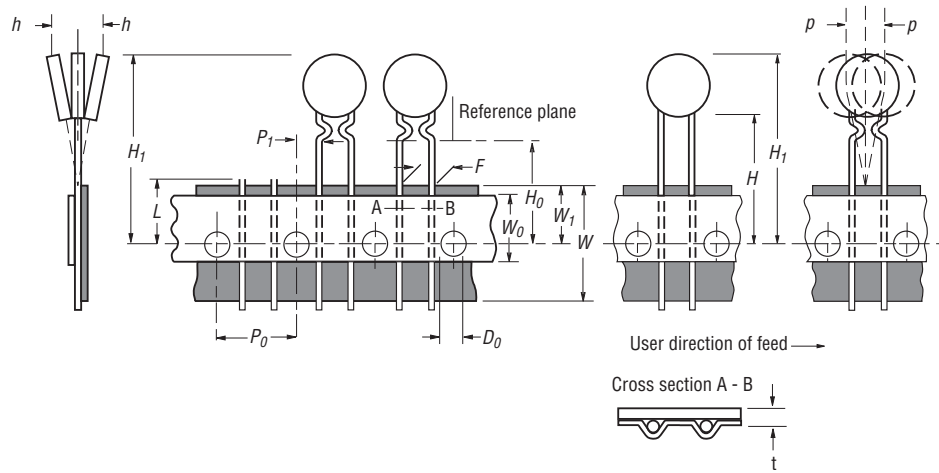
MF-RX/250 Series Tape and Reel Specifications

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Taped Component Dimensions - Figure 1

Applies to Models:

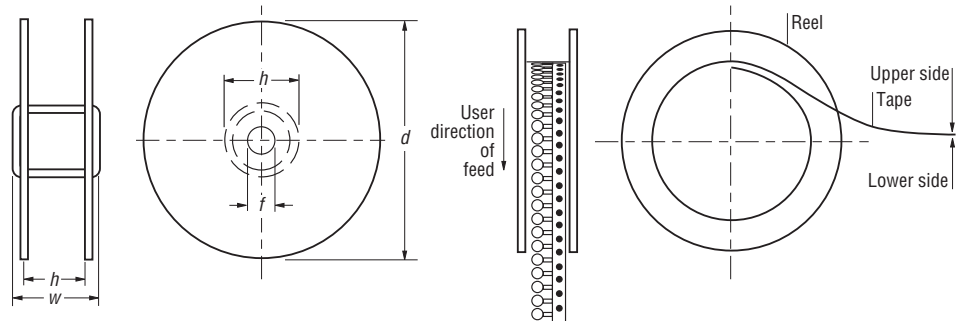
MF-RX012/250U
MF-RX014/250U
MF-RX018/250
MF-RX018/250U



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

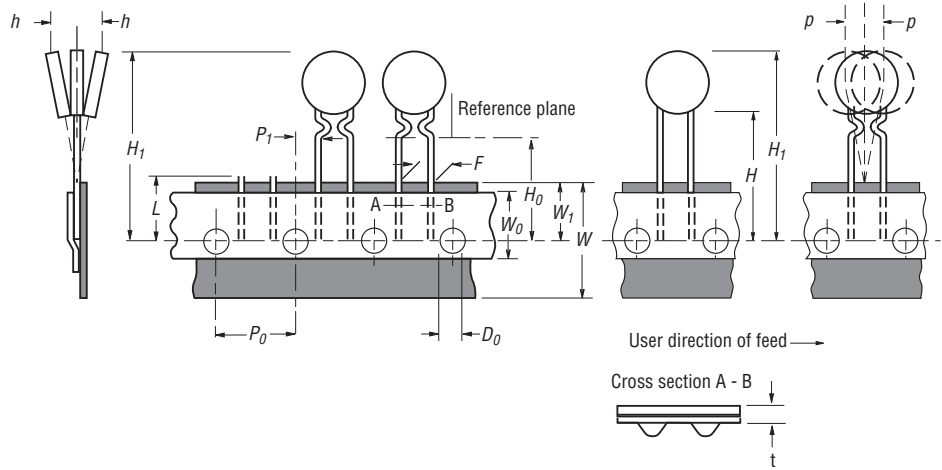
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Taped Component Dimensions - Figure 3

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

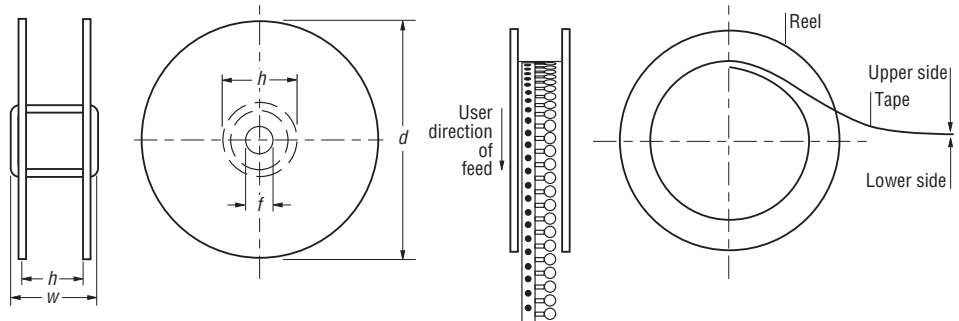


Reel Dimensions - Figure 4

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

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