Features

- Radial Leaded Devices
- Cured, flame retardant epoxy polymer insulating material meets UL 94V-0 requirements
- Agency recognition
- RoHS compliant*

The MF-RX Series is currently available, although not recommended for new designs. The higher voltage rated MF-RX/72 Series is preferred.

MF-RX Series PTC Resettable Fuses

Electrical Characteristics

Model	V max. Volts	I max. Amps	I_{hold}	I_{trip}	Initial Resistance		1 Hour (R_1) Post-Trip Resistance	Max. Time To Trip		Tripped Power Dissipation
			Amperes at 23°C		Ohms at 23°C		Ohms at 23°C	Amperes at 23°C	Seconds at 23°C at	Watts at 23°C
			Hold	Trip	Min	Max	Max			Typ
MF-RX110	60	40	1.10	2.20	0.15	0.25	0.38	5.5	8.2	1.50
MF-RX135	60	40	1.35	2.70	0.12	0.19	0.30	6.75	9.6	1.70
MF-RX160	60	40	1.60	3.20	0.09	0.14	0.22	8.0	11.4	1.90
MF-RX185	60	40	1.85	3.70	0.08	0.12	0.19	9.25	12.6	2.10
MF-RX250	60	40	2.50	5.00	0.05	0.08	0.13	12.5	15.6	2.50
MF-RX300	60	40	3.00	6.00	0.04	0.06	0.10	15.0	19.8	2.80
MF-RX375	60	40	3.75	7.50	0.03	0.05	0.08	18.75	24.0	3.20

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.....±5 % typical resistance change
Humidity Aging.....+85 °C, 85 % R.H. 1000 hours.....±5 % typical resistance change
Thermal Shock.....-40 °C to +85 °C,10 times.....±10 % typical resistance change
Solvent Resistance.....MIL-STD-202, Method 215.....No change
Vibration.....MIL-STD-883C, Method 2007.1,.....No change
Condition A

Test Procedures And Requirements For Model MF-RX Series

Test	Test Conditions	Accept/Reject Criteria
Visual/Mech.	Verify dimensions and materials	Per MF physical description
Resistance	In still air @ 23 °C	$R_{min} \le R \le R_{max}$
Time to Trip	5 times Ihold, 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

UL File Number.....E 174545S
CSA File Number.....CA 110338
TÜV File Number.....R2057213

Thermal Derating Chart I_{hold}/I_{trip} (Amps)

Model	Ambient Operating Temperature								
	-40°C	-20°C0	°C	23°C	40°C	50°C	60°C	70°C	85°C
MF-RX110	1.71 / 3.42	1.50 / 3.00	1.31 / 2.62	1.10 / 2.20	0.89 / 1.78	0.79 / 1.58	0.69 / 1.38	0.59 / 1.18	0.44 / 0.88
MF-RX135	2.09 / 4.18	1.84 / 3.68	1.61 / 3.22	1.35 / 2.70	1.09 / 2.18	0.97 / 1.94	0.85 / 1.70	0.73 / 1.46	0.54 / 1.08
MF-RX160	2.48 / 4.96	2.18 / 4.36	1.90 / 3.80	1.60 / 3.20	1.30 / 2.60	1.15 / 2.30	1.01 / 2.02	0.86 / 1.72	0.64 / 1.28
MF-RX185	2.87 / 5.74	2.52 / 5.04	2.20 / 4.40	1.85 / 3.70	1.50 / 3.00	1.33 / 2.66	1.17 / 2.34	1.00 / 2.00	0.74 / 1.48
MF-RX250	3.88 / 7.76	3.40 / 6.80	2.98 / 5.96	2.50 / 5.00	2.03 / 4.06	1.80 / 3.60	1.58 / 3.16	1.35 / 2.70	1.00 / 2.00
MF-RX300	4.65 / 9.30	4.08 / 8.16	3.57 / 7.14	3.00 / 6.00	2.43 / 4.86	2.16 / 4.32	1.89 / 3.78	1.62 / 3.24	1.20 / 2.40
MF-RX375	5.81 / 11.6	5.10 / 10.2	4.46 / 8.92	3.75 / 7.50	3.04 / 6.08	2.70 / 5.40	2.36 / 4.72	2.03 / 4.06	1.50 / 3.00

*RoHS Directive 2002/95/EC Jan 27 2003 including Annex.
Specifications are subject to change without notice.
Customers should verify actual device performance in their specific applications.

Additional Features

- Bulk packaging, tape and reel and Ammo-Pak available on most models
- Resettable circuit protection
- Patents pending

Applications

Almost anywhere there is a low voltage power supply, up to 60 V and a load to be protected, including:

- Security and fire alarm systems
- Loud speakers
- Power transformers

MF-RX Series PTC Resettable Fuses

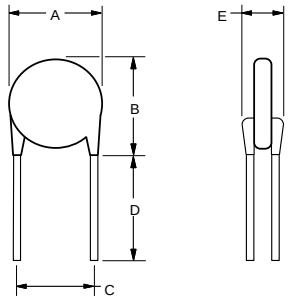
BOURNS®

Product Dimensions

Model	A	B	C		D	E	Physical Characteristics		
	Max.	Max.	Nom.	Tol. ±	Min.	Max.	Style	Lead Dia.	Material
MF-RX110	13.0 (0.512)	18.0 (0.709)	5.1 (0.201)	0.7 (0.028)	7.6 (0.299)	3.1 (0.122)	1	0.81 (0.032)	Sn/Cu
MF-RX135	14.5 (0.571)	19.6 (0.772)	5.1 (0.201)	0.7 (0.028)	7.6 (0.299)	3.1 (0.122)	1	0.81 (0.032)	Sn/Cu
MF-RX160	16.3 (0.642)	21.3 (0.839)	5.1 (0.201)	0.7 (0.028)	7.6 (0.299)	3.1 (0.122)	1	0.81 (0.032)	Sn/Cu
MF-RX185	17.8 (0.701)	22.9 (0.902)	5.1 (0.201)	0.7 (0.028)	7.6 (0.299)	3.1 (0.122)	1	0.81 (0.032)	Sn/Cu
MF-RX250	21.3 (0.839)	26.4 (1.039)	10.2 (0.402)	0.7 (0.028)	7.6 (0.299)	3.1 (0.122)	1	0.81 (0.032)	Sn/Cu
MF-RX300	24.9 (0.980)	30.0 (1.181)	10.2 (0.402)	0.7 (0.028)	7.6 (0.299)	3.1 (0.122)	1	0.81 (0.032)	Sn/Cu
MF-RX375	28.4 (1.118)	33.5 (1.319)	10.2 (0.402)	0.7 (0.028)	7.6 (0.299)	3.1 (0.122)	1	0.81 (0.032)	Sn/Cu

Packaging options:
BULK: All models = 500 pcs. per bag.
TAPE & REEL: MF-RX110 – MF-RX160 = 1500 pcs. per reel; MF-RX185 – MF-RX375 = 1000 pcs. per reel
AMMO-PACK: MF-RX110 – MF-RX160 = 1000 pcs. per reel; MF-RX185 – MF-RX375 = 500 pcs. per reel

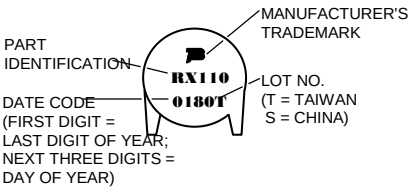
0.81 (20AWG) DIMENSIONS = MM (INCHES)



NOTE: Kinked lead option is available for board standoff. Contact factory for details.

Typical Part Marking

Represents total content. Layout may vary.



How to Order

MF - RX 110 - 0 - 99

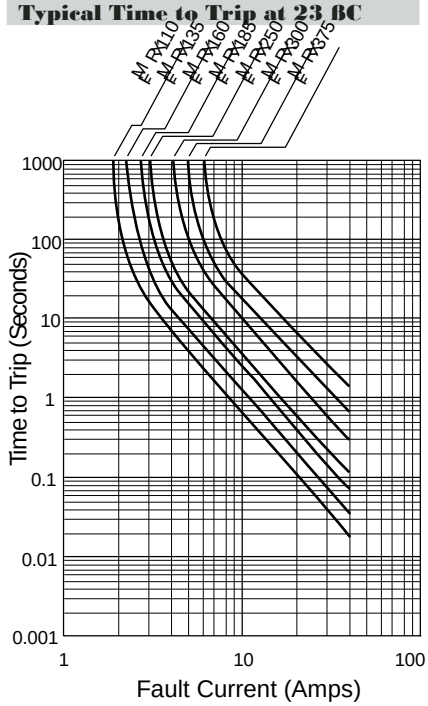
Multifuse®
Product Designator
Series
RX =Radial Leaded Component
Hold Current, Ihold
110-375 (1.10 Amps - 3.75 Amps)
Packaging Options
- __ =Bulk Packaging without part number suffix option
- 0-99 =Bulk Packaging with part number suffix option
- 2 =Tape and Reel without part number suffix option*
- 2-99 =Tape and Reel with part number suffix option
- AP =Ammo-Pak*
- 0-14 =Kinked leads where straight leads are standard
- 0-17 =Straight leads where kinked leads are standard

Part Number Suffix Option
- 99 =As of date code April 1, 2005 all MF-RX models are RoHS compliant. The suffix "-99" can be used if a new part number is required to reference the RoHS compliance.

Examples:
MF-RX110.....Bulk packaging
MF-RX110-0-99....Bulk packaging with part number suffix option
MF-RX110-2.....Tape and reel packaging
MF-RX110-2-99....Tape and reel packaging with part number suffix option

*Packaged per EIA486-B

Typical Time to Trip at 23 °C



MF-R, MF-RX, MF-R/90, MF-RX/72 & MF-RX/250 Series
Tape and Reel Specifications

BOURNS®

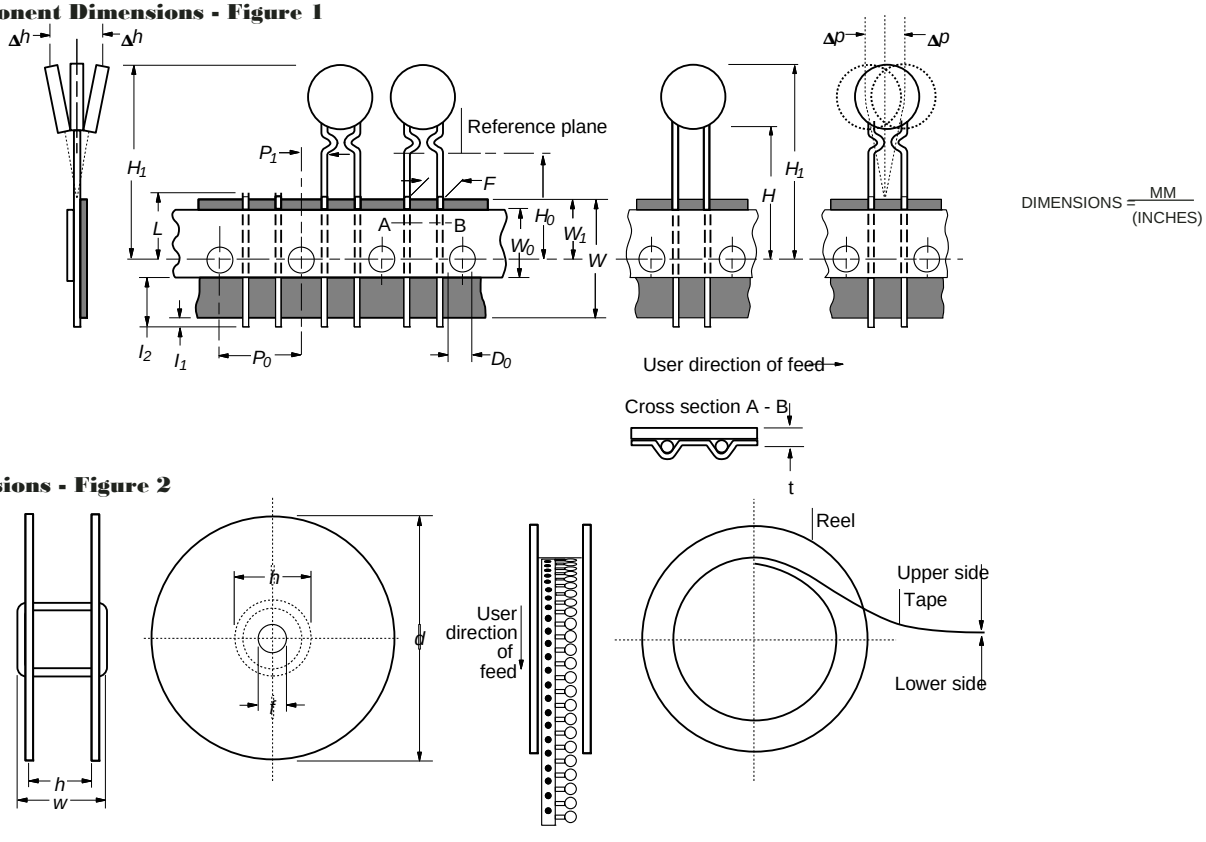
Devices taped using EIA468–B/IEC286-2 standards. See table below and Figures 1 and 2 for details.

Dimension Description	IEC Mark	EIA Mark	Dimensions	
			Dimensions	Tolerance
Carrier tape width	W		18 (.709)	-0.5/+1.0 (-0.02/+.039)
Hold down tape width: all others	W_0	W_4	11 (.433)	min.
Hold down tape			No protrusion	
Top distance between tape edges	W_2	W_6	3 (.118)	max.
Sprocket hole position	W_1	W_5	9 (.354)	-0.5/+0.75 (-0.02/+0.03)
Sprocket hole diameter	D_0	D_0	4 (.157)	±0.2 (±.0078)
Abscissa to plane (straight lead)	H		18.5 (.728)	±3.0 (±.118)
Abscissa to plane (kinked lead)	H_0	H_0	16 (.63)	±0.5 (±.02)
Abscissa to top (straight lead)	H_1	H_1	38.0 (1.496)	max.
Abscissa to top (kinked lead)	H_1	H_1	32.2 (1.268)	max.
Overall width w/lead protrusion (straight lead)		C_1	55.0 (2.165)	max.
Overall width w/lead protrusion (kinked lead)		C_1	43.2 (1.7)	max.
Overall width w/o lead protrusion (straight lead)		C_2	54.0 (2.126)	max.
Overall width w/o lead protrusion (kinked lead)		C_2	42.5 (1.673)	max.
Lead protrusion	I_1	L_1	1.0 (.039)	max.
Protrusion of cutout	L		11 (.433)	max.
Protrusion beyond hold tape	I_2	I_2	Not specified	
Sprocket hole pitch	P_0	P_0	12.7 (0.5)	±0.3 (±.012)
Pitch tolerance			20 consecutive	±1
Device pitch: MF-R005–MF-R160, MF-R/90 & MF-RX/72			12.7 (0.5)	
Device pitch: MF-R185–MF-R400, MF-RX110–MF-RX375			25.4 (1.0)	
Tape thickness	t		0.9 (.035)	max.
Tape thickness with splice: MF-R010–MF-R160		t_1	1.5 (.059)	max.
Tape thickness with splice: MF-R250–MF-R1100 MF-RX110–MF-RX375 & MF-R/90		t_1	2.3 (.091)	max.
Splice sprocket hole alignment			0	±0.3 (±.012)
Body lateral deviation	Δh	Δh	0	±1.0 (±.039)
Body tape plane deviation	Δp	Δp	0	±0.3 (±.021)
Lead spacing	F		5.08 (0.2)	±0.2 (±.008)
Reel width	W	2	56 (2.205)	max.
Reel diameter	d		370 (14.57)	max.
Space between flanges less device	W_1	h	4.75 (.187)	±3.25 (±.128)

DIMENSIONS = MM (INCHES)

Dimension Description	IEC Mark	EIA Mark	Dimensions	Tolerance
Arbor hole diameter	*fc*		26 (1.024)	±12.0 (±.472)
Core diameter: MF-R, MF-RX, MF-R/90	*hn*		80 (3.15)	max.
Box: MF-R, MF-RX, MF-R/90			56 (2.2) 372 (14.6) 372 (14.6)	max.
Consecutive missing places: MF-R, MF-RX, MF-R/90			3 max.	
Empty places per reel: MF-R, MF-RX, MF-R/90			Not specified	

Taped Component Dimensions - Figure 1



Reel Dimensions - Figure 2