

Features

- 72 V rated
- Radial leaded devices
- Cured, flame retardant epoxy polymer insulating material meets UL 94 V-0 requirements
- RoHS compliant* and halogen free**
- Agency recognition: c Wus

Applications

Almost anywhere there is a low voltage power supply, up to 72 V and a load to be protected, including:

- Security and fire alarm systems
- Loudspeakers
- Power transformers

MF-RX/72 Series - PTC Resettable Fuses

Electrical Characteristics

	V max.	I max.	I _{hold}	l _{trip}		Initial Resistance Resistance		To Trip		Tripped Power Dissipation
Model	Volts	Amps		eres 3 °C		ms 3 °C	Ohms at 23 °C	Amperes at 23 °C	Seconds at 23 °C	Watts at 23 °C
			Hold	Trip	Min.	Max.	Max.			Тур.
MF-RX020/72	72	40	0.20	0.40	1.50	2.84	4.40	1.0	2.2	0.40
MF-RX025/72	72	40	0.25	0.50	1.00	1.95	3.00	1.25	2.5	0.45
MF-RX030/72	72	40	0.30	0.60	0.76	1.36	2.10	1.5	3.0	0.50
MF-RX040/72	72	40	0.40	0.80	0.52	0.86	1.29	2.0	3.9	0.55
MF-RX050/72	72	40	0.50	1.00	0.41	0.77	1.17	2.5	4.0	0.75
MF-RX065/72	72	40	0.65	1.30	0.27	0.48	0.72	3.25	5.3	0.90
MF-RX075/72	72	40	0.75	1.50	0.18	0.40	0.60	3.75	6.3	0.90
MF-RX090/72	72	40	0.90	1.80	0.14	0.31	0.47	4.5	7.2	1.00
MF-RX110/72	72	40	1.10	2.20	0.15	0.25	0.38	5.5	8.2	1.50
MF-RX135/72	72	40	1.35	2.70	0.12	0.19	0.30	6.75	9.6	1.70
MF-RX160/72	72	40	1.60	3.20	0.09	0.14	0.22	8.0	11.4	1.90
MF-RX185/72	72	40	1.85	3.70	0.08	0.12	0.19	9.25	12.6	2.10
MF-RX250/72	72	40	2.50	5.00	0.05	0.08	0.13	12.5	15.6	2.50
MF-RX300/72	72	40	3.00	6.00	0.04	0.06	0.10	15.0	19.8	2.80
MF-RX375/72	72	40	3.75	7.50	0.03	0.05	0.08	18.75	24.0	3.20

Environmental Characteristics

Operating/Storage Temperature Maximum Device Surface Temperature	40 °C to +85 °C	
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 -55 °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	C C

Test Procedures And Requirements For Model MF-RX/72 Series

Resistance Time to Trip Hold Current Trip Cycle Life	Test Conditions Verify dimensions and materials In still air @ 23 °C 5 times Ihold, Vmax, 23 °C 30 min. at Ihold Vmax, Imax, 100 cycles Vmax, 48 hours	. Rmin ≤ R ≤ Rmax . T ≤ max. time to trip (seconds) . No trip . No arcing or burning
UL File Number	E174545 http://www.ul.com/ Follow link to Certifications, t	hen UL File No., enter E174545
TÜV Certificate Number	R 02057213 http://www.tuvdotcom.com/ Follow link to "other o	certificates", enter File No. 2057213

* RoHS Directive 2002/95/EC Jan. 27, 2003 including annex and RoHS Recast 2011/65/EU June 8, 2011. ** Bourns considers a product to be "halogen free" if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (Cl) content is 900 ppm or less; and (c) the total Bromine (Br) and Chlorine (Cl) content is 1500 ppm or less. Specifications are subject to change without notice.

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Additional Features

Resettable circuit protection

Bulk packaging, tape and reel and Ammo-Pak available on most models

MF-RX/72 Series - PTC Resettable Fuses

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Product Dimensions

Model	A B		(С		E	Physical Characteristics		
woder	Max.	Max.	Nom.	Tol. ±	Min.	Max.	Style	Lead Dia.	Material
MF-RX020/72	<u>7.4</u> (0.291)	<u>12.7</u> (0.5)	<u>5.1</u> (0.201)	<u>0.7</u> (0.028)	<u>7.6</u> (0.30)	<u>3.1</u> (0.122)	1	<u>0.51</u> (0.020)	Sn/CuFe
MF-RX025/72	<u>7.4</u> (0.291)	<u>12.7</u> (0.5)	<u>5.1</u> (0.201)	<u>0.7</u> (0.028)	<u>7.6</u> (0.30)	<u>3.1</u> (0.122)	1	<u>0.51</u> (0.020)	Sn/CuFe
MF-RX030/72	<u>7.4</u> (0.291)	<u>13.4</u> (0.528)	<u>5.1</u> (0.201)	<u>0.7</u> (0.028)	<u>7.6</u> (0.30)	<u>3.1</u> (0.122)	1	<u>0.51</u> (0.020)	Sn/CuFe
MF-RX040/72	$\frac{7.4}{(0.291)}$	<u>13.7</u> (0.539)	<u>5.1</u> (0.201)	<u>0.7</u> (0.028)	<u>7.6</u> (0.30)	<u>3.1</u> (0.122)	1	0.51 (0.020)	Sn/CuFe
MF-RX050/72	<u>7.9</u> (0.311	<u>13.7</u> (0.539)	<u>5.1</u> (0.201)	<u>0.7</u> (0.028)	<u>7.6</u> (0.30)	<u>3.1</u> (0.122)	1	<u>0.51</u> (0.020)	Sn/Cu
MF-RX065/72	<u>9.7</u> (0.382)	<u>15.2</u> (0.598)	<u>5.1</u> (0.201)	$\frac{0.7}{(0.028)}$	<u>7.6</u> (0.30)	<u>3.1</u> (0.122)	1	<u>0.51</u> (0.020)	Sn/Cu
MF-RX075/72	<u>10.4</u> (0.409)	$\frac{16.0}{(0.630)}$	<u>5.1</u> (0.201)	$\frac{0.7}{(0.028)}$	<u>7.6</u> (0.30)	<u>3.1</u> (0.122)	1	<u>0.51</u> (0.020)	Sn/Cu
MF-RX090/72	<u>11.7</u> (0.461)	$\frac{16.70}{(0.657)}$	<u>5.1</u> (0.201)	$\frac{0.7}{(0.028)}$	7.6 (0.30)	<u>3.1</u> (0.122)	1	<u>0.51</u> (0.020)	Sn/Cu
MF-RX110/72	<u>10.84</u> (0.427)	$\frac{16.84}{(0.662)}$	<u>5.1</u> (0.201)	<u>0.7</u> (0.028)	<u>7.6</u> (0.30)	<u>3.1</u> (0.122)	2	<u>0.81</u> (0.032)	Sn/Cu
MF-RX135/72	<u>12.26</u> (0.483)	<u>18.26</u> (0.718)	<u>5.1</u> (0.201)	<u>0.7</u> (0.028)	<u>7.6</u> (0.30)	<u>3.1</u> (0.122)	2	<u>0.81</u> (0.032)	Sn/Cu
MF-RX160/72	<u>13.94</u> (0.549)	<u>19.94</u> (0.785)	<u>5.1</u> (0.201)	<u>0.7</u> (0.028)	<u>7.6</u> (0.30)	<u>3.1</u> (0.122)	2	<u>0.81</u> (0.032)	Sn/Cu
MF-RX185/72	<u>15.18</u> (0.598)	<u>21.18</u> (0.833)	<u>5.1</u> (0.201)	<u>0.7</u> (0.028)	<u>7.6</u> (0.30)	<u>3.1</u> (0.122)	2	<u>0.81</u> (0.032)	Sn/Cu
MF-RX250/72	<u>17.84</u> (0.702)	<u>23.84</u> (0.938)	<u>10.2</u> (0.402)	<u>0.7</u> (0.028)	<u>7.6</u> (0.30)	<u>3.1</u> (0.122)	2	<u>0.81</u> (0.032)	Sn/Cu
MF-RX300/72	<u>20.67</u> (0.814)	<u>26.67</u> (1.050)	<u>10.2</u> (0.402)	<u>0.7</u> (0.028)	<u>7.6</u> (0.30)	<u>3.1</u> (0.122)	2	<u>0.81</u> (0.032)	Sn/Cu
MF-RX375/72	<u>23.51</u> (0.926)	<u>29.51</u> (1.161)	<u>10.2</u> (0.402)	<u>0.7</u> (0.028)	<u>7.6</u> (0.30)	<u>3.1</u> (0.122)	2	<u>0.81</u> (0.032)	Sn/Cu

Packaging options:

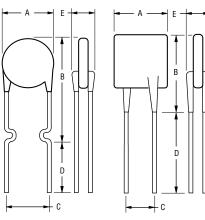
BULK: 500 pcs. per bag.

TAPE & REEL: MF-RX020/72-2 ~ MF-RX090/72-2 = 3000 pcs. per reel; MF-RX110/72-2 ~ MF-RX160/72-2 = 1500 pcs. per reel; MF-RX185/72-2 - MF-RX375/72-2 = 1000 pcs. per reel.

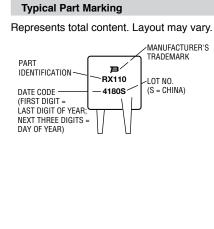
AMMO-PACK: MF-RX020/72-AP ~ MF-RX090/72-AP = 2000 pcs. per pack; MF-RX110/72-AP ~ MF-RX160/72-AP = 1000 pcs. per pack; MF-RX185/72-AP - MF-RX375/72-AP = 500 pcs. per pack.

Style 1

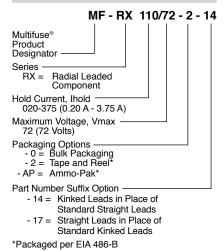
Style 2



Also available with kinked and straight leads in place of standard leads (see How to Order).



How to Order



MM

(INCHES)

DIMENSIONS:

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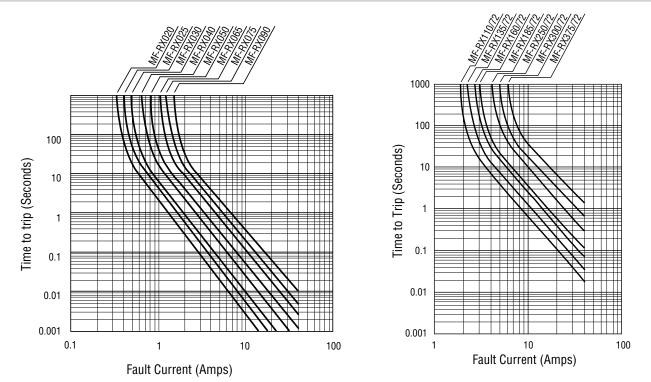
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MF-RX/72 Series - PTC Resettable Fuses

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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.

	-									
Model	Ambient Operating Temperature									
	-40 °C	-20 °C	0 °C	23 °C	40 °C	50 °C	60 °C	70 °C	85 °C	
MF-RX020/72	0.31	0.27	0.24	0.20	0.16	0.14	0.13	0.11	0.08	
MF-RX025/72	0.39	0.34	0.30	0.25	0.20	0.18	0.16	0.14	0.10	
MF-RX030/72	0.47	0.41	0.36	0.30	0.24	0.22	0.19	0.16	0.12	
MF-RX040/72	0.62	0.54	0.48	0.40	0.32	0.29	0.25	0.22	0.16	
MF-RX050/72	0.78	0.68	0.60	0.50	0.41	0.36	0.32	0.27	0.20	
MF-RX065/72	1.01	0.88	0.77	0.65	0.53	0.47	0.41	0.35	0.26	
MF-RX075/72	1.16	1.02	0.89	0.75	0.61	0.54	0.47	0.41	0.30	
MF-RX090/72	1.40	1.22	1.07	0.90	0.73	0.65	0.57	0.49	0.36	
MF-RX110/72	1.71	1.50	1.31	1.10	0.89	0.79	0.69	0.59	0.44	
MF-RX135/72	2.09	1.84	1.61	1.35	1.09	0.97	0.85	0.73	0.54	
MF-RX160/72	2.48	2.18	1.90	1.60	1.30	1.15	1.01	0.86	0.64	
MF-RX185/72	2.87	2.52	2.20	1.85	1.50	1.33	1.17	1.00	0.74	
MF-RX250/72	3.88	3.40	2.98	2.50	2.03	1.80	1.58	1.35	1.00	
MF-RX300/72	4.65	4.08	3.57	3.00	2.43	2.16	1.89	1.62	1.20	
MF-RX375/72	5.81	5.10	4.46	3.75	3.04	2.70	2.36	2.03	1.50	

Thermal Derating Chart - Ihold (Amps)

MF-RX/72 SERIES, REV. O 03/17

MF-R, MF-R/90, MF-R/600, & MF-RX, & MF-RX/72 Series Tape and Reel Specifications

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

Dimension Description	IEC Mark	EIA Mark	Dime Dimensions	ensions Tolerance
Carrier tape width	W	W	<u>18</u> (.709)	-0.5/+1.0 (-0.02/+.039)
Hold down tape width	W ₀	W4	<u>11</u> (.433)	min.
Hold down tape			No protrusion	
Top distance between tape edges	W2	W ₆	<u>3</u> (.118)	max.
Sprocket hole position	W1	W5	<u>9</u> (.354)	-0.5/+0.75 (-0.02/+0.03)
Sprocket hole diameter	D ₀	D ₀	<u>4</u> (.157)	$\frac{\pm 0.2}{(\pm .0078)}$
Abscissa to plane (straight lead)	Н	Н	<u>18.5</u> (.728)	<u>±3.0</u> (±.118)
Abscissa to plane (kinked lead)	H ₀	H ₀	<u>16</u> (.63)	$\frac{\pm 0.5}{(\pm .02)}$
Abscissa to top (straight lead)	H ₁	H ₁	<u>38.0</u> (1.496)	max.
Abscissa to top (kinked lead)	H ₁	H ₁	<u>32.2</u> (1.268)	max.
Overall width w/lead protrusion (straight lead)		C1	<u>55.0</u> (2.165)	max.
Overall width w/lead protrusion (kinked lead)		C ₁	<u>43.2</u> (1.7)	max.
Overall width w/o lead protrusion (straight lead)		C2	<u>54.0</u> (2.126)	max.
Overall width w/o lead protrusion (kinked lead)		C2	<u>42.5</u> (1.673)	max.
Lead protrusion	1 ₁	L ₁	<u>1.0</u> (.039)	max.
Protrusion of cutout	L	L	<u>11</u> (.433)	max.
Protrusion beyond hold-down tape	I ₂	I2	Not specified	
Sprocket hole pitch	P ₀	P ₀	<u>12.7</u> (0.5)	±0.3 (±.012)
Pitch tolerance			20 consecutive	<u>±1</u> (±.039)
Device pitch: MF-R005–MF-R160, MF-R/90, MF-RX020/72–MF-RX030/72			<u>12.7</u> (0.5)	<u>±0.3</u> (±.012)
Device pitch: MF-R185–MF-R400, MF-R/600, MF-RX110–MF-RX375 MF-RX040/72–MF-RX375/72	5		<u>25.4</u> (1.0)	±0.6 (±.024)
Tape thickness	t	t	<u>0.9</u> (.035)	max.
Tape thickness with splice: MF-R010–MF-R160, MF-RX110/72–MF-RX185/72		t ₁	<u>1.5</u> (.059)	max.
Tape thickness with splice: MF-R250–MF-R1100, MF-RX110–MF-RX375, MF-R/90, MF-RX250/72-MF-RX375/72		t1	<u>2.3</u> (.091)	max.
Splice sprocket hole alignment			0	$\frac{\pm 0.3}{(\pm .012)}$
Body lateral deviation	Δ_h	Δ_h	0	<u>±1.0</u> (±.039)
Body tape plane deviation	Δ_{p}	Δ_{p}	0	$\frac{\pm 1.3}{(\pm .051)}$

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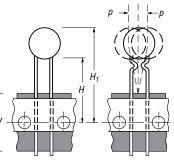
MF-R, MF-R/90, MF-R/600, MF-RX, & MF-RX/72 Series Tape and Reel Specifications

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	EIA	Dimens	sions
Mark	Mark	Dimensions	Tolerance
F	F	5.08 (0.2)	$\frac{\pm 0.2}{(\pm 0.008)}$
W	W2	<u>56.0</u> (2.205)	max.
d	а	<u>370.0</u> (14.57)	max.
W ₁	h	4.75 (.187)	<u>±3.25</u> (±.128)
f	С	<u>26.0</u> (1.024)	±12.0 (±.472)
h	п	<u>80</u> (3.15)	max.
h	п	<u>91</u> (3.58)	max.
		$\frac{62}{(2.44)} \frac{355}{(14.0)} \frac{345}{(13.6)}$	nom.
		$\frac{64}{(2.52)} \frac{372}{(14.6)} \frac{362}{(14.25)}$	max.
		3	max.
		none	
		Not specified	
		0.1 %	
	F w d W1 f h	FFw W_2 da W_1 hfchn	F F $\frac{5.08}{(0.2)}$ w W2 $\frac{56.0}{(2.205)}$ d a $\frac{370.0}{(14.57)}$ W1 h $\frac{4.75}{(.187)}$ f c $\frac{26.0}{(1.024)}$ h n $\frac{80}{(3.15)}$ h n $\frac{91}{(3.58)}$ $\frac{62}{(2.44)}$ $\frac{345}{(14.0)}$ $\frac{345}{(14.25)}$ 3 none 3

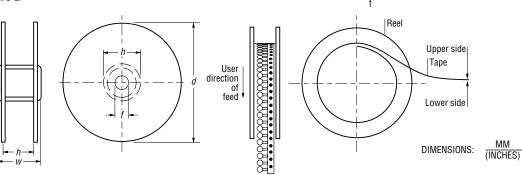
Taped Component Dimensions -Figure 1

h **⊢**h Reference plane H_1 H₁ Н H₀ -#-B || || /+ ₩₁ ₩ ll. Α-11 ll п Ш Ŵ₀ \oplus ii ii • ĺ2 P₀ -D0 İ1 User direction of feed -----



Cross section A - B $\overline{\mathbf{x}}$

Reel Dimensions - Figure 2



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