



**THE DATASHEET OF  
MF-R010-0-17**





## Features

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

## Additional Information

Click these links for more information:



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## MF-R Series - PTC Resettable Fuses

### Electrical Characteristic

Model	V <sub>max.</sub>	I <sub>max.</sub>	I <sub>hold</sub>	I <sub>trip</sub>	Initial Resistance		1 Hour (R <sub>1</sub> ) Post-Trip Resistance	Max. Time To Trip		Tripped Power Dissipation	Agency Recognition	
					Ohms at 23 °C		Ohms at 23 °C	at 23 °C		Watts at 23 °C	cUL	TÜV
			Volts	Amps	Amps	Min.	Max.	Max.	Amps	Seconds	Typ.	<a href="#">E174545</a>
MF-R005	60	40	0.05	0.10	7.3	11.1	22.0	0.5	5.0	0.22	✓	✓
MF-R010	60	40	0.10	0.20	2.50	4.50	7.50	0.5	4.0	0.38	✓	✓
MF-R017	60	40	0.17	0.34	2.00	3.20	8.00	0.85	3.0	0.48	✓	✓
MF-R020	60	40	0.20	0.40	1.50	2.84	4.40	1.0	2.2	0.40	✓	✓
MF-R025	60	40	0.25	0.50	1.00	1.95	3.00	1.25	2.5	0.45	✓	✓
MF-R030	60	40	0.30	0.60	0.76	1.36	2.10	1.5	3.0	0.50	✓	✓
MF-R040	60	40	0.40	0.80	0.52	0.86	1.29	2.0	3.8	0.55	✓	✓
MF-R050	60	40	0.50	1.00	0.41	0.77	1.17	2.5	4.0	0.75	✓	✓
MF-R065	60	40	0.65	1.30	0.27	0.48	0.72	3.25	5.3	0.90	✓	✓
MF-R075	60	40	0.75	1.50	0.18	0.40	0.60	3.75	6.3	0.90	✓	✓
MF-R090	60	40	0.90	1.80	0.14	0.31	0.47	4.5	7.2	1.00	✓	✓
MF-R090-0-9	30	40	0.90	1.80	0.07	0.12	0.22	4.5	5.9	0.60	✓	✓
MF-R110	30	40	1.10	2.20	0.10	0.18	0.27	5.5	6.6	0.70	✓	✓
MF-R135	30	40	1.35	2.70	0.065	0.115	0.17	6.75	7.3	0.80	✓	✓
MF-R160	30	40	1.60	3.20	0.055	0.105	0.15	8.0	8.0	0.90	✓	✓
MF-R185	30	40	1.85	3.70	0.040	0.07	0.11	9.25	8.7	1.00	✓	✓
MF-R250	30	40	2.50	5.00	0.025	0.048	0.07	12.5	10.3	1.20	✓	✓
MF-R250-0-10	30	40	2.50	5.00	0.025	0.048	0.07	12.5	10.3	1.20	✓	✓
MF-R300	30	40	3.00	6.00	0.020	0.05	0.08	15.0	10.8	2.00	✓	✓
MF-R400	30	40	4.00	8.00	0.010	0.03	0.05	20.0	12.7	2.50	✓	✓
MF-R500	30	40	5.00	10.00	0.010	0.03	0.05	25.0	14.5	3.00	✓	✓
MF-R600	30	40	6.00	12.00	0.005	0.02	0.04	30.0	16.0	3.50	✓	✓
MF-R700	30	40	7.00	14.00	0.005	0.02	0.03	35.0	17.5	3.80	✓	✓
MF-R800	30	40	8.00	16.00	0.005	0.02	0.03	40.0	18.8	4.00	✓	✓
MF-R900	30	40	9.00	18.00	0.005	0.01	0.02	40.0	20.0	4.20	✓	✓
MF-R1100	16	100	11.00	22.00	0.003	0.01	0.014	40.0	20.0	4.50	✓	✓

\* RoHS Directive 2015/863, Mar 31, 2015 and Annex.

\*\* 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.

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**WARNING**  
**Cancer and Reproductive Harm**  
[www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

## Applications

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

- Computers & peripherals
- General electronics

## MF-R Series - PTC Resettable Fuses

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### Environmental Characteristics

Item	Condition	Criteria
Operating Temperature	-40 °C to +85 °C	
Recommended Storage	+40 °C max. / 70 % RH max.	
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 (marking still legible)
Vibration	MIL-STD-883C, Method 2007.1 Condition A	No change ( $R_{min} < R < R_{1max}$ )
Moisture Sensitivity Level (MSL)	See <a href="#">Note</a>	
ESD Classification	Class 6 (per AEC-Q200-2, HBM)	

### Test Procedures and Requirements

Item	Test Condition	Accept/Reject Criteria
Visual/Mechanical	Verify dimensions and materials	Per MF physical description
Resistance	In still air @ 23 °C	$R_{min} \leq R \leq R_{max}$
Time to Trip	At specified current, $V_{max}$ , 23 °C, still air	$T \leq$ 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
Solderability	245 °C ±5 °C, 5 seconds	95 % min. coverage

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# MF-R Series - PTC Resettable Fuses

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Product Dimensions (see next page for outline drawing)

Model	A Max.	B Max.	C		D Min.	E Max.	Physical Characteristics		
			Nom.	Tol. ±			Style	Lead Dia.	Material
MF-R005	$\frac{8.0}{(0.315)}$	$\frac{8.3}{(0.327)}$	$\frac{5.1}{(0.201)}$	$\frac{0.7}{(0.028)}$	$\frac{7.6}{(0.299)}$	$\frac{3.1}{(0.122)}$	4	$\frac{0.405}{(0.016)}$	Sn/NiCu
MF-R010	$\frac{7.4}{(0.291)}$	$\frac{12.7}{(0.5)}$	$\frac{5.1}{(0.201)}$	$\frac{0.7}{(0.028)}$	$\frac{7.6}{(0.299)}$	$\frac{3.1}{(0.122)}$	1	$\frac{0.51}{(0.020)}$	Sn/NiCu
MF-R017	$\frac{7.4}{(0.291)}$	$\frac{12.7}{(0.5)}$	$\frac{5.1}{(0.201)}$	$\frac{0.7}{(0.028)}$	$\frac{7.6}{(0.299)}$	$\frac{3.1}{(0.122)}$	1	$\frac{0.51}{(0.020)}$	Sn/CuFe
MF-R020	$\frac{7.4}{(0.291)}$	$\frac{12.7}{(0.5)}$	$\frac{5.1}{(0.201)}$	$\frac{0.7}{(0.028)}$	$\frac{7.6}{(0.299)}$	$\frac{3.1}{(0.122)}$	1	$\frac{0.51}{(0.020)}$	Sn/CuFe
MF-R025	$\frac{7.4}{(0.291)}$	$\frac{12.7}{(0.5)}$	$\frac{5.1}{(0.201)}$	$\frac{0.7}{(0.028)}$	$\frac{7.6}{(0.299)}$	$\frac{3.1}{(0.122)}$	1	$\frac{0.51}{(0.020)}$	Sn/CuFe
MF-R030	$\frac{7.4}{(0.291)}$	$\frac{13.4}{(0.528)}$	$\frac{5.1}{(0.201)}$	$\frac{0.7}{(0.028)}$	$\frac{7.6}{(0.299)}$	$\frac{3.1}{(0.122)}$	1	$\frac{0.51}{(0.020)}$	Sn/CuFe
MF-R040	$\frac{7.4}{(0.291)}$	$\frac{13.7}{(0.539)}$	$\frac{5.1}{(0.201)}$	$\frac{0.7}{(0.028)}$	$\frac{7.6}{(0.299)}$	$\frac{3.1}{(0.122)}$	1	$\frac{0.51}{(0.020)}$	Sn/CuFe
MF-R050	$\frac{7.9}{(0.311)}$	$\frac{13.7}{(0.539)}$	$\frac{5.1}{(0.201)}$	$\frac{0.7}{(0.028)}$	$\frac{7.6}{(0.299)}$	$\frac{3.1}{(0.122)}$	1	$\frac{0.51}{(0.020)}$	Sn/Cu
MF-R065	$\frac{9.7}{(0.382)}$	$\frac{15.2}{(0.598)}$	$\frac{5.1}{(0.201)}$	$\frac{0.7}{(0.028)}$	$\frac{7.6}{(0.299)}$	$\frac{3.1}{(0.122)}$	1	$\frac{0.51}{(0.020)}$	Sn/Cu
MF-R075	$\frac{10.4}{(0.409)}$	$\frac{16.0}{(0.630)}$	$\frac{5.1}{(0.201)}$	$\frac{0.7}{(0.028)}$	$\frac{7.6}{(0.299)}$	$\frac{3.1}{(0.122)}$	1	$\frac{0.51}{(0.020)}$	Sn/Cu
MF-R090	$\frac{11.7}{(0.461)}$	$\frac{16.7}{(0.657)}$	$\frac{5.1}{(0.201)}$	$\frac{0.7}{(0.028)}$	$\frac{7.6}{(0.299)}$	$\frac{3.1}{(0.122)}$	1	$\frac{0.51}{(0.020)}$	Sn/Cu
MF-R090-0-9	$\frac{7.4}{(0.291)}$	$\frac{12.2}{(0.480)}$	$\frac{5.1}{(0.201)}$	$\frac{0.7}{(0.028)}$	$\frac{7.6}{(0.299)}$	$\frac{3.0}{(0.118)}$	3	$\frac{0.51}{(0.020)}$	Sn/CuFe
MF-R110	$\frac{8.9}{(0.350)}$	$\frac{14.0}{(0.551)}$	$\frac{5.1}{(0.201)}$	$\frac{0.7}{(0.028)}$	$\frac{7.6}{(0.299)}$	$\frac{3.0}{(0.118)}$	1	$\frac{0.51}{(0.020)}$	Sn/Cu
MF-R135	$\frac{8.9}{(0.350)}$	$\frac{18.9}{(0.744)}$	$\frac{5.1}{(0.201)}$	$\frac{0.7}{(0.028)}$	$\frac{7.6}{(0.299)}$	$\frac{3.0}{(0.118)}$	1	$\frac{0.51}{(0.020)}$	Sn/Cu
MF-R160	$\frac{10.2}{(0.402)}$	$\frac{16.8}{(0.661)}$	$\frac{5.1}{(0.201)}$	$\frac{0.7}{(0.028)}$	$\frac{7.6}{(0.299)}$	$\frac{3.0}{(0.118)}$	1	$\frac{0.51}{(0.020)}$	Sn/Cu
MF-R185	$\frac{12.0}{(0.472)}$	$\frac{18.4}{(0.724)}$	$\frac{5.1}{(0.201)}$	$\frac{0.7}{(0.028)}$	$\frac{7.6}{(0.299)}$	$\frac{3.0}{(0.118)}$	1	$\frac{0.51}{(0.020)}$	Sn/Cu
MF-R250	$\frac{12.0}{(0.472)}$	$\frac{18.3}{(0.720)}$	$\frac{5.1}{(0.201)}$	$\frac{0.7}{(0.028)}$	$\frac{7.6}{(0.299)}$	$\frac{3.0}{(0.118)}$	2	$\frac{0.81}{(0.032)}$	Sn/Cu
MF-R250-0-10	$\frac{12.0}{(0.472)}$	$\frac{18.3}{(0.720)}$	$\frac{5.1}{(0.201)}$	$\frac{0.7}{(0.028)}$	$\frac{7.6}{(0.299)}$	$\frac{3.0}{(0.118)}$	3	$\frac{0.51}{(0.020)}$	Sn/CuFe
MF-R300	$\frac{12.0}{(0.472)}$	$\frac{18.3}{(0.720)}$	$\frac{5.1}{(0.201)}$	$\frac{0.7}{(0.028)}$	$\frac{7.6}{(0.299)}$	$\frac{3.0}{(0.118)}$	2	$\frac{0.81}{(0.032)}$	Sn/Cu
MF-R400	$\frac{14.4}{(0.567)}$	$\frac{24.8}{(0.976)}$	$\frac{5.1}{(0.201)}$	$\frac{0.7}{(0.028)}$	$\frac{7.6}{(0.299)}$	$\frac{3.0}{(0.118)}$	2	$\frac{0.81}{(0.032)}$	Sn/Cu
MF-R500	$\frac{17.4}{(0.685)}$	$\frac{24.9}{(0.980)}$	$\frac{10.2}{(0.402)}$	$\frac{0.7}{(0.028)}$	$\frac{7.6}{(0.299)}$	$\frac{3.0}{(0.118)}$	2	$\frac{0.81}{(0.032)}$	Sn/Cu
MF-R600	$\frac{19.3}{(0.760)}$	$\frac{31.9}{(1.256)}$	$\frac{10.2}{(0.402)}$	$\frac{0.7}{(0.028)}$	$\frac{7.6}{(0.299)}$	$\frac{3.0}{(0.118)}$	2	$\frac{0.81}{(0.032)}$	Sn/Cu
MF-R700	$\frac{22.1}{(0.870)}$	$\frac{29.8}{(1.173)}$	$\frac{10.2}{(0.402)}$	$\frac{0.7}{(0.028)}$	$\frac{7.6}{(0.299)}$	$\frac{3.0}{(0.118)}$	2	$\frac{0.81}{(0.032)}$	Sn/Cu
MF-R800	$\frac{24.2}{(0.953)}$	$\frac{32.9}{(1.295)}$	$\frac{10.2}{(0.402)}$	$\frac{0.7}{(0.028)}$	$\frac{7.6}{(0.299)}$	$\frac{3.0}{(0.118)}$	2	$\frac{0.81}{(0.032)}$	Sn/Cu
MF-R900	$\frac{24.2}{(0.953)}$	$\frac{32.9}{(1.295)}$	$\frac{10.2}{(0.402)}$	$\frac{0.7}{(0.028)}$	$\frac{7.6}{(0.299)}$	$\frac{3.0}{(0.118)}$	2	$\frac{0.81}{(0.032)}$	Sn/Cu
MF-R1100	$\frac{24.2}{(0.953)}$	$\frac{32.9}{(1.295)}$	$\frac{10.2}{(0.402)}$	$\frac{0.7}{(0.028)}$	$\frac{7.6}{(0.299)}$	$\frac{3.0}{(0.118)}$	2	$\frac{0.81}{(0.032)}$	Sn/Cu

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

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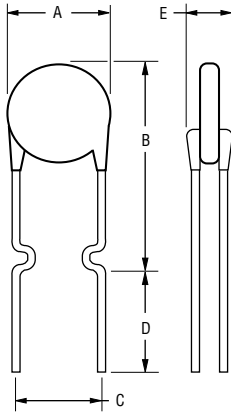
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# MF-R Series - PTC Resettable Fuses

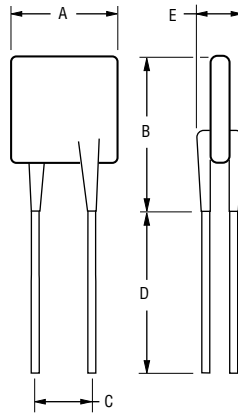
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## Product Dimensions (see previous page for dimensions)

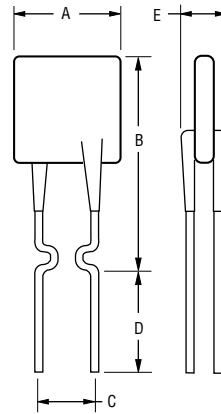
Style 1



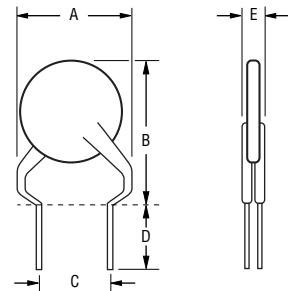
Style 2



Style 3



Style 4



NOTE: Kinked lead option is available for board standoff. (See How to Order.)

NOTE: Also available with straight leads. (See How to Order.)

## Thermal Derating Table - I<sub>hold</sub> / I<sub>trip</sub> (Amps)

Model	Ambient Operating Temperature								
	-40 °C	-20 °C	0 °C	23 °C	40 °C	50 °C	60 °C	70 °C	85 °C
MF-R005	0.08 / 0.16	0.07 / 0.14	0.06 / 0.12	0.05 / 0.10	0.04 / 0.08	0.04 / 0.08	0.03 / 0.07	0.03 / 0.07	0.02 / 0.05
MF-R010	0.16 / 0.32	0.14 / 0.28	0.12 / 0.24	0.10 / 0.20	0.08 / 0.16	0.07 / 0.14	0.06 / 0.12	0.05 / 0.10	0.04 / 0.08
MF-R017	0.26 / 0.52	0.23 / 0.46	0.20 / 0.40	0.17 / 0.34	0.14 / 0.28	0.12 / 0.24	0.11 / 0.22	0.09 / 0.18	0.07 / 0.14
MF-R020	0.31 / 0.62	0.27 / 0.54	0.24 / 0.48	0.20 / 0.40	0.16 / 0.32	0.14 / 0.28	0.13 / 0.26	0.11 / 0.22	0.08 / 0.16
MF-R025	0.39 / 0.78	0.34 / 0.68	0.30 / 0.60	0.25 / 0.50	0.20 / 0.40	0.18 / 0.36	0.16 / 0.32	0.14 / 0.28	0.10 / 0.20
MF-R030	0.47 / 0.94	0.41 / 0.82	0.36 / 0.72	0.30 / 0.60	0.24 / 0.48	0.22 / 0.44	0.19 / 0.38	0.16 / 0.32	0.12 / 0.24
MF-R040	0.62 / 1.24	0.54 / 1.08	0.48 / 0.96	0.40 / 0.80	0.32 / 0.64	0.29 / 0.58	0.25 / 0.50	0.22 / 0.44	0.16 / 0.32
MF-R050	0.78 / 1.56	0.68 / 1.36	0.60 / 1.20	0.50 / 1.00	0.41 / 0.82	0.36 / 0.72	0.32 / 0.64	0.27 / 0.54	0.20 / 0.40
MF-R065	1.01 / 2.02	0.88 / 1.76	0.77 / 1.54	0.65 / 1.30	0.53 / 1.06	0.47 / 0.94	0.41 / 0.82	0.35 / 0.70	0.26 / 0.52
MF-R075	1.16 / 2.32	1.02 / 2.04	0.89 / 1.78	0.75 / 1.50	0.61 / 1.22	0.54 / 1.08	0.47 / 0.94	0.41 / 0.82	0.30 / 0.60
MF-R090	1.40 / 2.80	1.22 / 2.44	1.07 / 2.14	0.90 / 1.80	0.73 / 1.46	0.65 / 1.30	0.57 / 1.14	0.49 / 0.98	0.36 / 0.72
MF-R090-0-9	1.40 / 2.80	1.22 / 2.44	1.07 / 2.14	0.90 / 1.80	0.73 / 1.46	0.65 / 1.30	0.57 / 1.14	0.49 / 0.98	0.36 / 0.72
MF-R110	1.60 / 3.20	1.43 / 2.86	1.27 / 2.54	1.10 / 2.20	0.91 / 1.82	0.85 / 1.70	0.75 / 1.50	0.67 / 1.34	0.57 / 1.14
MF-R135	1.96 / 3.92	1.76 / 3.52	1.55 / 3.10	1.35 / 2.70	1.12 / 2.24	1.04 / 2.08	0.92 / 1.84	0.82 / 1.64	0.70 / 1.40
MF-R160	2.32 / 4.64	2.08 / 4.16	1.84 / 3.68	1.60 / 3.20	1.33 / 2.66	1.23 / 2.46	1.09 / 2.18	0.98 / 1.96	0.83 / 1.66
MF-R185	2.68 / 5.36	2.41 / 4.82	2.13 / 4.26	1.85 / 3.70	1.54 / 3.08	1.42 / 2.84	1.26 / 2.52	1.13 / 2.26	0.96 / 1.92
MF-R250	3.63 / 7.26	3.25 / 6.50	2.88 / 5.76	2.50 / 5.00	2.08 / 4.16	1.93 / 3.86	1.70 / 3.40	1.53 / 3.06	1.30 / 2.60
MF-R250-0-10	3.63 / 7.26	3.25 / 6.50	2.88 / 5.76	2.50 / 5.00	2.08 / 4.16	1.93 / 3.86	1.70 / 3.40	1.53 / 3.06	1.30 / 2.60
MF-R300	4.35 / 8.70	3.90 / 7.80	3.45 / 6.90	3.00 / 6.00	2.49 / 4.98	2.31 / 4.62	2.04 / 4.08	1.83 / 3.66	1.56 / 3.12
MF-R400	5.80 / 11.6	5.20 / 10.4	4.60 / 9.20	4.00 / 8.00	3.32 / 6.64	3.08 / 6.16	2.72 / 5.44	2.44 / 4.88	2.08 / 4.16
MF-R500	7.25 / 14.5	6.50 / 13.0	5.75 / 11.5	5.00 / 10.0	4.15 / 8.30	3.85 / 7.70	3.40 / 6.80	3.05 / 6.10	2.60 / 5.20
MF-R600	8.70 / 17.4	7.80 / 15.6	6.90 / 13.8	6.00 / 12.0	4.98 / 9.96	4.62 / 9.24	4.08 / 8.16	3.66 / 7.32	3.12 / 6.24
MF-R700	10.1 / 20.3	9.10 / 18.2	8.05 / 16.1	7.00 / 14.0	5.81 / 11.6	5.39 / 10.7	4.76 / 9.52	4.27 / 9.44	3.64 / 7.28
MF-R800	11.6 / 23.2	10.4 / 20.8	9.20 / 18.4	8.00 / 16.0	6.64 / 13.2	6.16 / 12.3	5.44 / 10.8	4.88 / 9.76	4.16 / 8.32
MF-R900	13.0 / 26.1	11.7 / 23.4	10.3 / 20.7	9.00 / 18.0	7.47 / 14.9	6.93 / 12.7	6.12 / 12.2	5.49 / 10.9	4.68 / 9.36
MF-R1100	16.1 / 32.0	14.6 / 29.2	13.1 / 26.2	11.0 / 22.1	9.40 / 18.4	8.80 / 17.6	7.80 / 15.6	6.90 / 13.8	5.20 / 10.4

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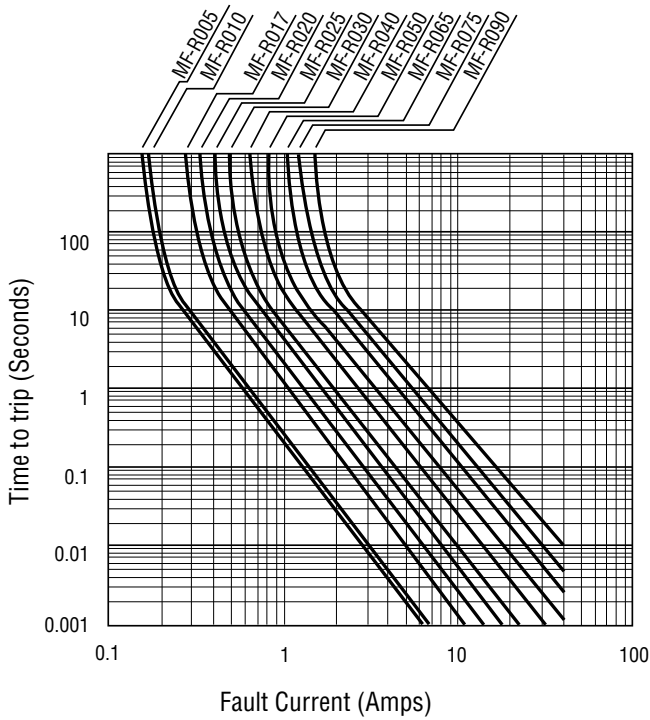
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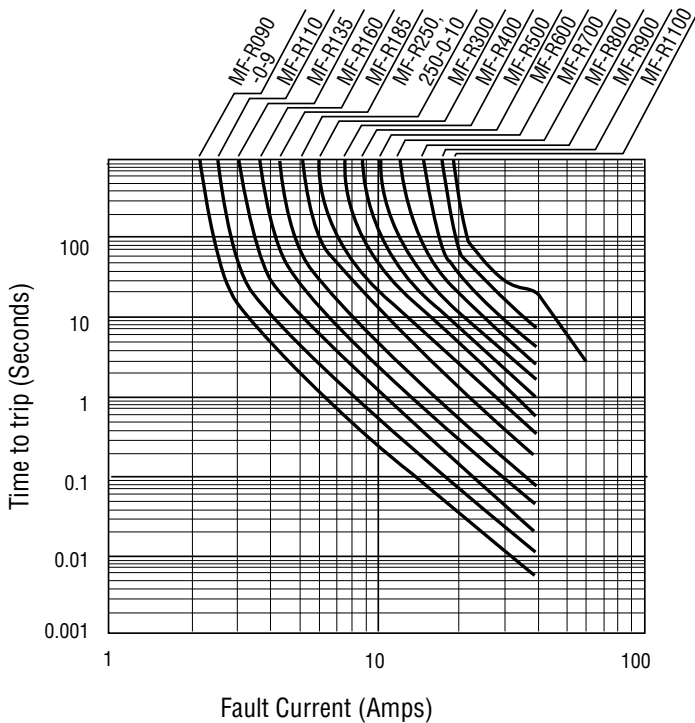
# MF-R Series - PTC Resettable Fuses



## 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.



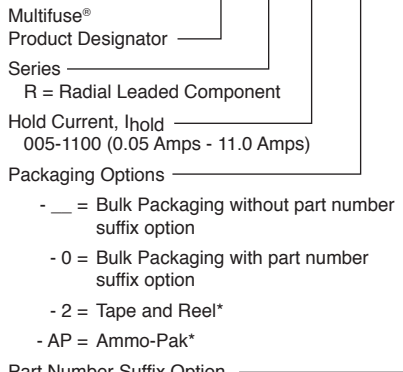
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# MF-R Series - PTC Resettable Fuses



## How to Order

**MF - R 110 - 0 - 14**



- \_\_ = Bulk Packaging without part number suffix option
- 0 = Bulk Packaging with part number suffix option
- 2 = Tape and Reel\*
- AP = Ammo-Pak\*

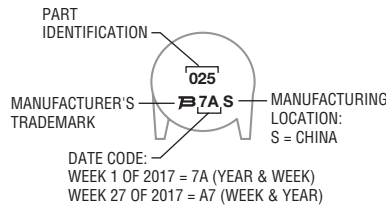
### Part Number Suffix Option

- 14 = Kinked leads where straight leads are standard
- 17 = Straight leads where kinked leads are standard
- 99 = RoHS Compliance  
*As of date code April 1, 2005 all MF-R models are RoHS compliant. The suffix "-99" was originally provided to help customers distinguish between RoHS compliant and non-RoHS compliant products, but the -99 suffix option is no longer necessary. The -99 suffix option will no longer be available starting January 1, 2020. See [Note](#) for more details.*

\*Packaged per EIA-468

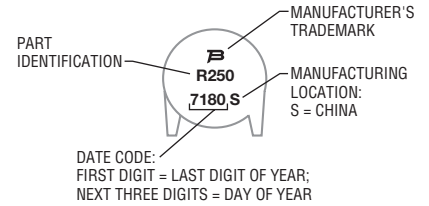
## Typical Part Marking: MF-R005 - R025

Represents total content. Layout may vary.



## Typical Part Marking: MF-R030 - R1100

Represents total content. Layout may vary.



## Packaging Quantity

Packaging Options	Models	Unit Quantity (Pcs.)	Unit
Bulk	All models	500	Bag
Tape & Reel	MF-R005 ~ MF-R160	3000	Reel
	MF-R185 ~ MF-R400	1500	
	MF-R500 ~ MF-R1100	1000	
Ammo-Pack	MF-R005 ~ MF-R160	2000	Pack
	MF-R185 ~ MF-R400	1000	
	MF-R500 ~ MF-R1100	500	

Specifications are subject to change without notice.

Users should verify actual device performance in their specific applications.

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# MF-R Series Tape and Reel Specifications

**BOURNS®**

Devices taped using EIA-468/IEC 60286-2 standards. See table below and figures for details.

Dimension Description	IEC Mark	EIA Mark	Dimensions	Tolerance
Carrier tape width	$W$	$W$	$\frac{18}{(.709)}$	$\frac{+1.0/-0.5}{(+.039/- .020)}$
Hold down tape width	$W_0$	$W_0$	$\frac{5}{(.197)}$	min.
Hold down tape			No protrusion	
Adhesive tape position	$W_2$	$W_2$	$\frac{3}{(.118)}$	max.
Sprocket hole position	$W_1$	$W_1$	$\frac{9}{(.354)}$	$\frac{+0.75/-0.5}{(+.030/- .020)}$
Sprocket hole diameter	$D_0$	$D_0$	$\frac{4}{(.157)}$	$\frac{\pm 0.2}{(\pm .0078)}$
Height to seating plane (straight lead)	$H$	$H$	$\frac{18 \sim 20}{(.709 \sim .787)}$	
Height to seating plane (formed lead)	$H_0$	$H_0$	$\frac{16}{(.630)}$	$\frac{\pm 0.5}{(\pm .020)}$
Overall height above abscissa: MF-R700	$H_1$	$H_1$	$\frac{41}{(1.61)}$	max.
Overall height above abscissa: all other models	$H_1$	$H_1$	$\frac{38.5}{(1.516)}$	max.
Cutout length		$L$	$\frac{11}{(.433)}$	max.
Sprocket hole pitch: MF-R005 ~ MF-R400	$P_0$	$P_0$	$\frac{12.7}{(.500)}$	$\frac{\pm 0.3}{(\pm .012)}$
Sprocket hole pitch: MF-R500 ~ MF-R1100	$P_0$	$P_0$	$\frac{30}{(1.18)}$	$\frac{\pm 0.6}{(\pm .024)}$
Device pitch: MF-R005 ~ MF-R185	$P$	$P$	$\frac{12.7}{(.500)}$	$\frac{\pm 0.3}{(\pm .012)}$
Device pitch: MF-R250 ~ MF-R400	$P$	$P$	$\frac{25.4}{(1.00)}$	$\frac{\pm 0.6}{(\pm .024)}$
Device pitch: MF-R500 ~ MF-R1100	$P$	$P$	$\frac{30}{(1.18)}$	$\frac{\pm 0.6}{(\pm .024)}$
Pitch tolerance			20 consecutive	$\frac{\pm 1}{(\pm .039)}$
Composite tape thickness	$t$	$t$	$\frac{0.9}{(.035)}$	max.
Overall tape and lead thickness: MF-R005 ~ MF-R185	$t_1$	$t_1$	$\frac{2.0}{(.079)}$	max.
Overall tape and lead thickness: MF-R250 ~ MF-R1100	$t_1$	$t_1$	$\frac{2.3}{(.091)}$	max.
Splice sprocket hole alignment			0	$\frac{\pm 0.3}{(\pm .012)}$
Front-to-back deviation	$\Delta_h$	$\Delta_h$	0	$\frac{\pm 1.0}{(\pm .039)}$
Side-to-side deviation	$\Delta_p$	$\Delta_p$	0	$\frac{\pm 1.3}{(\pm .051)}$
Ordinate to adjacent component lead: MF-R005 ~ MF-R400	$P_1$	$P_1$	$\frac{3.81}{(.150)}$	$\frac{\pm 0.7}{(\pm .028)}$
Ordinate to adjacent component lead: MF-R500 ~ MF-R1100	$P_1$	$P_1$	$\frac{9.9}{(.390)}$	$\frac{\pm 0.7}{(\pm .028)}$
Lead spacing: MF-R005 ~ MF-R400	$F$	$F$	$\frac{5.08}{(.200)}$	$\frac{+0.6/-0.2}{(+.024/- .008)}$
Lead spacing: MF-R500 ~ MF-R1100	$F$	$F$	$\frac{10.2}{(.400)}$	$\frac{+0.6/-0.2}{(+.024/- .008)}$

— Continued on next page —

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

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# MF-R Series Tape and Reel Specifications

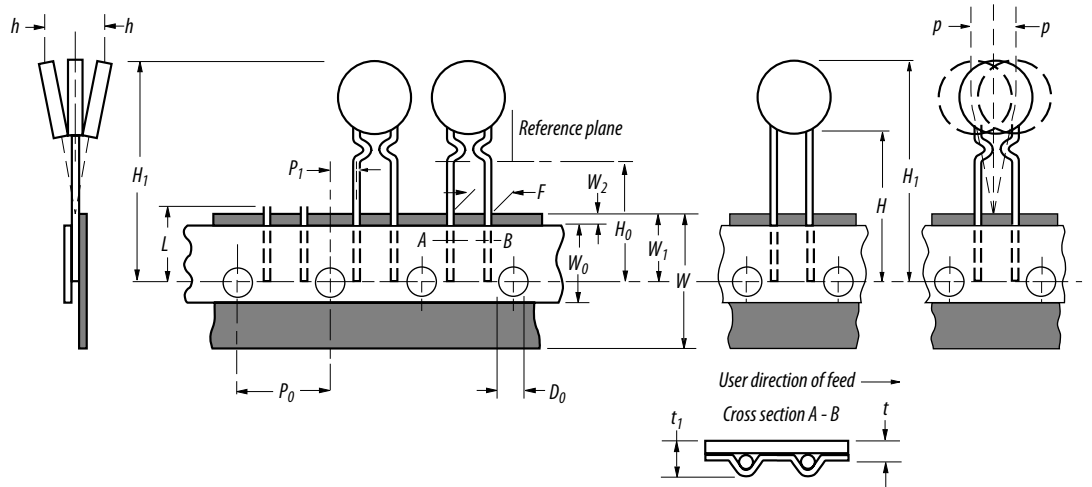
**BOURNS**<sup>®</sup>

Devices taped using EIA-468/IEC 60286-2 standards. See table below and figures for details.

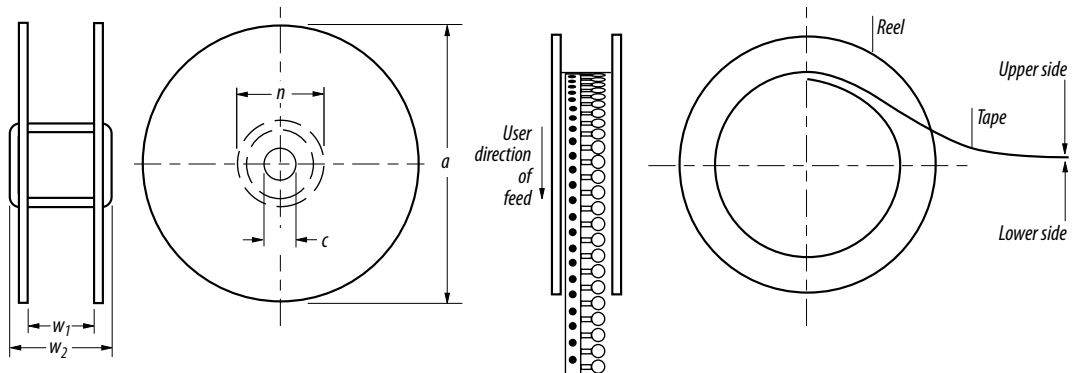
Dimension Description	IEC Mark	EIA Mark	Dimensions	Tolerance
Reel width including flanges and hub	$W_4$	$w_2$	$\frac{62.0}{(2.44)}$	max
Dimension between flanges (measured at hub)	$W_3$	$w_1$	allow proper reeling and unreeling	
Reel diameter	A	a	$\frac{370.0}{(14.57)}$	max.
Space between flanges (at hub, excluding device)			$\frac{4.75}{(.187)}$	$\pm 3.25$ ( $\pm .128$ )
Arbor hole diameter	C	c	$\frac{26.0}{(1.024)}$	$\pm 12.0$ ( $\pm .472$ )
Core diameter	N	n	$\frac{80}{(3.15)}$	min.
Box dimensions			$\frac{62 \times 372 \times 372}{(2.44 \times 14.6 \times 14.6)}$	max.
Consecutive missing places			3	max.
Empty places per reel			Less than 0.1 %	

**Taped Component Dimensions - per EIA Mark - Figure 1**

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



**Reel Dimensions - per EIA Mark - Figure 2**



MF-R SERIES, REV. AM, 01/22

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