Features

- Radial Leaded Devices
- Cured, flame retardant epoxy polymer insulating material meets UL 94V-0 requirements
- Bulk packaging, tape and reel and Ammo-Pak available on most models
- Agency recognition: UL,TÜV & CSA

Applications

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

- Computers & peripherals
- General electronics
- Automotive applications

MF-R 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 at 5*I_h	Tripped Power Dissipation
			Amperes at 23°C		Ohms at 23°C		Ohms at 23°C	Seconds at 23°C	Watts at 23°C
			Hold	Trip	Min.	Max.	Max.		
MF-R010	60	40	0.10	0.20	2.50	4.50	7.50	4.0	0.38
MF-R017	60	40	0.17	0.34	2.0	3.2	8.00	3.0	0.48
MF-R020	60	40	0.20	0.40	1.50	2.84	4.40	2.2	0.40
MF-R025	60	40	0.25	0.50	1.00	1.95	3.00	2.5	0.45
MF-R030	60	40	0.30	0.60	0.76	1.36	2.10	3.0	0.50
MF-R040	60	40	0.40	0.80	0.52	0.86	1.29	3.8	0.55
MF-R050	60	40	0.50	1.00	0.41	0.77	1.17	4.0	0.75
MF-R065	60	40	0.65	1.30	0.27	0.48	0.72	5.3	0.90
MF-R075	60	40	0.75	1.50	0.18	0.40	0.60	6.3	0.90
MF-R090	60	40	0.90	1.80	0.14	0.31	0.47	7.2	1.00
MF-R090-0-009	30	40	0.90	1.80	0.07	0.12	0.22	5.9	0.60
MF-R110	30	40	1.10	2.20	0.10	0.18	0.27	6.6	0.70
MF-R135	30	40	1.35	2.70	0.065	0.115	0.17	7.3	0.80
MF-R160	30	40	1.60	3.20	0.055	0.105	0.15	8.0	0.90
MF-R185	30	40	1.85	3.70	0.04	0.07	0.11	8.7	1.00
MF-R250	30	40	2.50	5.00	0.025	0.048	0.07	10.3	1.20
MF-R250-0-010	30	40	2.50	5.00	0.025	0.048	0.07	10.3	1.20
MF-R300	30	40	3.00	6.00	0.02	0.05	0.08	10.8	2.00
MF-R400	30	40	4.00	8.00	0.01	0.03	0.05	12.7	2.50
MF-R500	30	40	5.00	10.00	0.01	0.03	0.05	14.5	3.00
MF-R600	30	40	6.00	12.00	0.005	0.02	0.04	16.0	3.50
MF-R700	30	40	7.00	14.00	0.005	0.02	0.03	17.5	3.80
MF-R800	30	40	8.00	16.00	0.005	0.02	0.03	18.8	4.00
MF-R900	30	40	9.00	18.00	0.005	0.01	0.02	*20.0	4.20

*Tested at 40 amps

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 .....MIL-STD-202F, Method 107G, ...±10% typical resistance change
+125°C to -40°C,10 times
Mechanical Shock .....MIL-STD-202, Method 213, ...No resistance change
Condition 1 (100g, 6 seconds)
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-R Series

Test	Test Conditions	Accept/Reject Criteria
Visual/Mech.	Verify dimensions and materials	Per MF physical description
Resistance	In still air @ 23°C	Rmin ≤ R ≤ Rmax
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) - 30V
CSA File Number .....(CA 110338) - All MF-R models
TÜV File Number .....(E9772255.01) - 30V

MF-R Series - PTC Resettable Fuses

BOURNS®

Product Dimensions

Model	A	B	C		D	E	Physical Characteristics		
	Max.	Max.	Nom.	Tol. ±	Min.	Max.	Style	Lead	Material
MF-R010	7.4	12.7	5.1	0.7	7.6	3.1	1	0.51 dia.	Sn/NiCu
MF-R017	7.4	12.7	5.1	0.7	7.6	3.1	1	0.51 dia.	Sn/CuFe
MF-R020	7.4	12.7	5.1	0.7	7.6	3.1	1	0.51 dia.	Sn/CuFe
MF-R025	7.4	12.7	5.1	0.7	7.6	3.1	1	0.51 dia.	Sn/CuFe
MF-R030	7.4	13.4	5.1	0.7	7.6	3.1	1	0.51 dia.	Sn/CuFe
MF-R040	7.4	13.7	5.1	0.7	7.6	3.1	1	0.51 dia.	Sn/CuFe
MF-R050	7.9	13.7	5.1	0.7	7.6	3.1	1	0.51 dia.	Sn/Cu
MF-R065	9.7	15.2	5.1	0.7	7.6	3.1	1	0.51 dia.	Sn/Cu
MF-R075	10.4	16.0	5.1	0.7	7.6	3.1	1	0.51 dia.	Sn/Cu
MF-R090	11.7	16.7	5.1	0.7	7.6	3.1	1	0.51 dia.	Sn/Cu
MF-R090-0-009	7.4	12.2	5.1	0.7	7.6	3.0	2	0.51 dia.	Sn/CuFe
MF-R110	8.9	14.0	5.1	0.7	7.6	3.0	1	0.51 dia.	Sn/Cu
MF-R135	8.9	18.9	5.1	0.7	7.6	3.0	1	0.51 dia.	Sn/Cu
MF-R160	10.2	16.8	5.1	0.7	7.6	3.0	1	0.51 dia.	Sn/Cu
MF-R185	12.0	18.4	5.1	0.7	7.6	3.0	1	0.51 dia.	Sn/Cu
MF-R250	12.0	18.3	5.1	0.7	7.6	3.0	2	0.81 dia.	Sn/Cu
MF-R-250-0-010	12.0	18.3	5.1	0.7	7.6	3.0	2	0.51 dia.	Sn/CuFe
MF-R300	12.0	18.3	5.1	0.7	7.6	3.0	2	0.81 dia.	Sn/Cu
MF-R400	14.4	24.8	5.1	0.7	7.6	3.0	2	0.81 dia.	Sn/Cu
MF-R500	17.4	24.9	10.2	0.7	7.6	3.0	2	0.81 dia.	Sn/Cu
MF-R600	19.3	31.9	10.2	0.7	7.6	3.0	2	0.81 dia.	Sn/Cu
MF-R700	22.1	29.8	10.2	0.7	7.6	3.0	2	0.81 dia.	Sn/Cu
MF-R800	24.2	32.9	10.2	0.7	7.6	3.0	2	0.81 dia.	Sn/Cu
MF-R900	24.2	32.9	10.2	0.7	7.6	3.0	2	0.81 dia.	Sn/Cu

DIMENSIONS = MM.
0.51 (24AWG)
0.81 (20AWG)

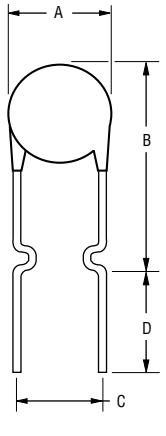
Packaging options:

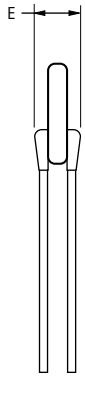
BULK: MF-R010-MF-R185 = 500 pcs. per bag; MF-R250-MF-R900 = 100 pcs. per bag;
MF-R090-0-009 & MF-R250-0-010 = 500 pcs. per bag.

TAPE & REEL: MF-R010-MF-R160 - 12.7mm device pitch = 3000 pcs. per reel; MF-R185-MF-R400 - 25.4mm device pitch = 1500 pcs. per reel;
MF-R090-0-009 & MF-R250-0-010 = 3000 pcs. per reel.

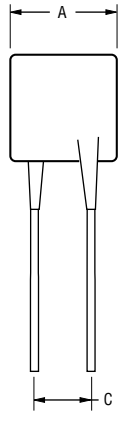
AMMO-PACK: MF-R010-MF-R160 - 12.7mm device pitch = 2000 pcs. per reel; MF-R185-MF-R400 - 25.4mm device pitch = 1000 pcs. per reel;
MF-R090-0-009 & MF-R250-0-010 = 2000 pcs. per reel.

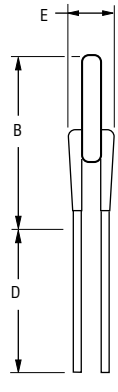
Package 1





Package 2





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

MF-R Series - PTC Resettable Fuses

BOURNS®

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-R010	0.16	0.14	0.12	0.10	0.08	0.07	0.06	0.05	0.04
MF-R017	0.26	0.23	0.20	0.17	0.14	0.12	0.11	0.09	0.07
MF-R020	0.31	0.27	0.24	0.20	0.16	0.14	0.13	0.11	0.08
MF-R025	0.39	0.34	0.30	0.25	0.20	0.18	0.16	0.14	0.10
MF-R030	0.47	0.41	0.36	0.30	0.24	0.22	0.19	0.16	0.12
MF-R040	0.62	0.54	0.48	0.40	0.32	0.29	0.25	0.22	0.16
MF-R050	0.78	0.68	0.60	0.50	0.41	0.36	0.32	0.27	0.20
MF-R065	1.01	0.88	0.77	0.65	0.53	0.47	0.41	0.35	0.26
MF-R075	1.16	1.02	0.89	0.75	0.61	0.54	0.47	0.41	0.30
MF-R090	1.40	1.22	1.07	0.90	0.73	0.65	0.57	0.49	0.36
MF-R090-0-009	1.40	1.22	1.07	0.90	0.73	0.65	0.57	0.49	0.36
MF-R110	1.60	1.43	1.27	1.10	0.91	0.85	0.75	0.67	0.57
MF-R135	1.96	1.76	1.55	1.35	1.12	1.04	0.92	0.82	0.70
MF-R160	2.32	2.08	1.84	1.60	1.33	1.23	1.09	0.98	0.83
MF-R185	2.68	2.41	2.13	1.85	1.54	1.42	1.26	1.13	0.96
MF-R250	3.63	3.25	2.88	2.50	2.08	1.93	1.70	1.53	1.30
MF-R250-0-010	3.63	3.25	2.88	2.50	2.08	1.93	1.70	1.53	1.30
MF-R300	4.35	3.90	3.45	3.00	2.49	2.31	2.04	1.83	1.56
MF-R400	5.80	5.20	4.60	4.00	3.32	3.08	2.72	2.44	2.08
MF-R500	7.25	6.50	5.75	5.00	4.15	3.85	3.40	3.05	2.60
MF-R600	8.70	7.80	6.90	6.00	4.98	4.62	4.08	3.66	3.12
MF-R700	10.15	9.10	8.05	7.00	5.81	5.39	4.76	4.27	3.64
MF-R800	11.60	10.40	9.20	8.00	6.64	6.16	5.44	4.88	4.16
MF-R900	13.05	11.70	10.35	9.00	7.47	6.93	6.12	5.49	4.68

How to Order

MF - R 250 -

Multifuse® Product Designator

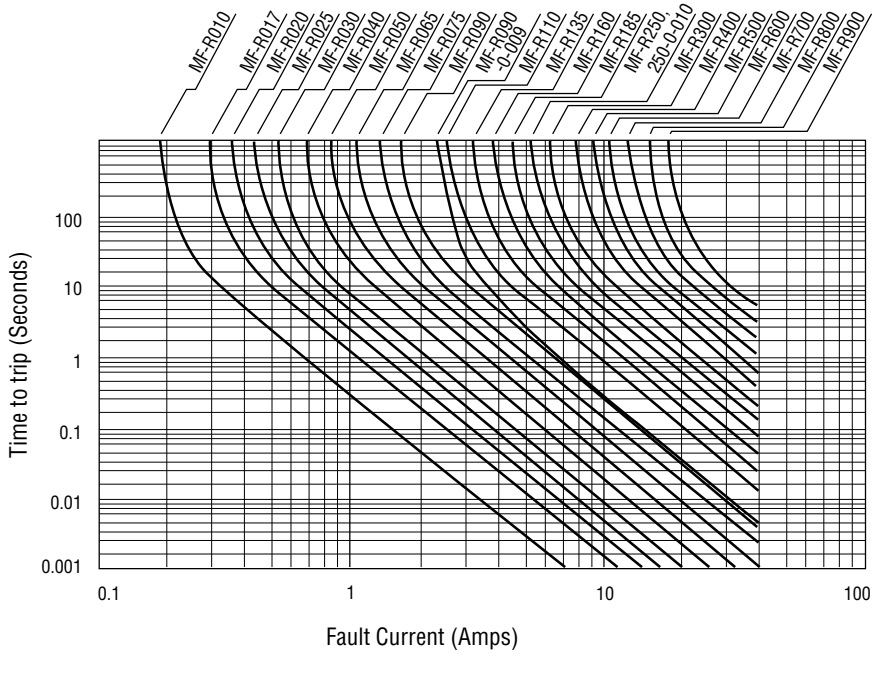
Style
- R = Radial Leaded Component
- RX = Radial Leaded Component
- S = Axial Leaded "Strap" Component
- LS = Low Temperature Axial Leaded "Strap" Component
- SM = Surface Mount Component
- MSM = 4.5mm SMD
- D = Uncoated, Unleaded "Disk" Component

Hold Current, Ihold
010-900 (100m Amps - 9.0 Amps)

Packaging Options
- - = Bulk Packaging
- - 2 = Tape and Reel*
- - AP = Ammo-Pak*

*Packaged per EIA486-B

Typical Time to Trip at 23°C



Typical Part Marking

Represents total content. Layout may vary.