



Features

- Compliant with AEC-Q200 Rev-C- Stress Test Qualification for Passive Components in Automotive Applications
- Radial leaded devices
- Smaller size for similar Ihold rating
- Faster tripping
- RoHS compliant* and halogen free**
- Agency recognition: us

Applications

- Automotive applications
- Where space is limited and fast tripping is required

MF-RG Series - PTC Resettable Fuses

Electrical Characteristics

| Model | V max. Volts | I max. Amps | Ihold | Itrip | Initial Resistance | | 1 Hour (R1) 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 | Watts at 23 °C |
| | | | Hold | Trip | Min. | Max. | Max. | | | Typ. |
| MF-RG300 | 16 | 100 | 3.00 | 5.10 | 0.038 | 0.065 | 0.0975 | 15 | 1.0 | 2.30 |
| MF-RG400 | 16 | 100 | 4.00 | 6.80 | 0.021 | 0.0385 | 0.0600 | 20 | 1.7 | 2.40 |
| MF-RG500 | 16 | 100 | 5.00 | 8.50 | 0.015 | 0.023 | 0.0340 | 25 | 2.0 | 2.60 |
| MF-RG600 | 16 | 100 | 6.00 | 10.20 | 0.010 | 0.0185 | 0.0280 | 30 | 3.3 | 2.8 |
| MF-RG650 | 16 | 100 | 6.50 | 11.10 | 0.0088 | 0.0158 | 0.0240 | 33 | 3.5 | 3.0 |
| MF-RG700 | 16 | 100 | 7.00 | 11.90 | 0.0077 | 0.0130 | 0.0200 | 35 | 3.5 | 3.0 |
| MF-RG800 | 16 | 100 | 8.00 | 13.60 | 0.0056 | 0.0110 | 0.0175 | 40 | 5.0 | 3.0 |
| MF-RG900 | 16 | 100 | 9.00 | 15.30 | 0.0047 | 0.0092 | 0.0135 | 45 | 5.5 | 3.3 |
| MF-RG1000 | 16 | 100 | 10.00 | 17.00 | 0.0040 | 0.0071 | 0.0102 | 50 | 6.0 | 3.6 |
| MF-RG1100 | 16 | 100 | 11.00 | 18.70 | 0.0037 | 0.0062 | 0.0089 | 55 | 7.0 | 3.7 |

Environmental Characteristics

| | | |
|----------------------------------|--|---------------------------------|
| Operating Temperature | -40 °C to +85 °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, Condition A | No change |
| Moisture Sensitivity Level (MSL) | Level 1 | |
| ESD Classification - HBM | Class 6 | |

Test Procedures And Requirements For Model MF-RG 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 |

Thermal Derating Chart - Ihold (Amps)

| Model | Ambient Operating Temperature | | | | | | | | |
|-----------|-------------------------------|--------|------|-------|-------|-------|-------|-------|-------|
| | -40 °C | -20 °C | 0 °C | 23 °C | 40 °C | 50 °C | 60 °C | 70 °C | 85 °C |
| MF-RG300 | 4.4 | 4.0 | 3.6 | 3.0 | 2.6 | 2.4 | 2.1 | 1.9 | 1.4 |
| MF-RG400 | 5.9 | 5.3 | 4.8 | 4.0 | 3.5 | 3.2 | 2.8 | 2.5 | 1.9 |
| MF-RG500 | 7.3 | 6.6 | 6.0 | 5.0 | 4.4 | 4.0 | 3.6 | 3.1 | 2.4 |
| MF-RG600 | 8.8 | 8.0 | 7.2 | 6.0 | 5.2 | 4.8 | 4.2 | 3.8 | 2.8 |
| MF-RG650 | 10.3 | 9.3 | 8.4 | 7.0 | 6.2 | 5.6 | 5.0 | 4.4 | 3.3 |
| MF-RG700 | 10.3 | 9.3 | 8.4 | 7.0 | 6.2 | 5.6 | 5.0 | 4.4 | 3.3 |
| MF-RG800 | 11.7 | 10.7 | 9.6 | 8.0 | 6.9 | 6.4 | 5.6 | 5.1 | 3.7 |
| MF-RG900 | 13.2 | 11.9 | 10.7 | 9.0 | 7.9 | 7.2 | 6.4 | 5.6 | 4.2 |
| MF-RG1000 | 14.7 | 13.3 | 12.0 | 10.0 | 8.7 | 8.0 | 7.0 | 6.3 | 4.7 |
| MF-RG1100 | 16.1 | 14.6 | 13.1 | 11.0 | 9.7 | 8.8 | 7.8 | 6.9 | 5.2 |

Itrip is approximately two times Ihold.



WARNING Cancer and Reproductive Harm - www.P65Warnings.ca.gov

* 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.
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MF-RG Series - PTC Resettable Fuses

Product Dimensions

| Model | A Max. | B Max. | C | | D Min. | E Max. | F Nom. | Physical Characteristics | |
|-----------|------------------------|------------------------|-----------------------|-----------------------|-----------------------|-----------------------|------------------------|--------------------------|----------|
| | | | Nom. | Tol. \pm | | | | Style | Material |
| MF-RG300 | $\frac{7.1}{(0.280)}$ | $\frac{11.0}{(0.433)}$ | $\frac{5.1}{(0.201)}$ | $\frac{0.7}{(0.028)}$ | $\frac{7.6}{(0.299)}$ | $\frac{3.0}{(0.118)}$ | $\frac{0.81}{(0.032)}$ | 1 | Sn/Cu |
| MF-RG400 | $\frac{9.9}{(0.350)}$ | $\frac{12.8}{(0.504)}$ | $\frac{5.1}{(0.201)}$ | $\frac{0.7}{(0.028)}$ | $\frac{7.6}{(0.299)}$ | $\frac{3.0}{(0.118)}$ | $\frac{0.81}{(0.032)}$ | 1 | Sn/Cu |
| MF-RG500 | $\frac{10.4}{(0.409)}$ | $\frac{14.3}{(0.563)}$ | $\frac{5.1}{(0.201)}$ | $\frac{0.7}{(0.028)}$ | $\frac{7.6}{(0.299)}$ | $\frac{3.0}{(0.118)}$ | $\frac{0.81}{(0.032)}$ | 1 | Sn/Cu |
| MF-RG600 | $\frac{10.7}{(0.421)}$ | $\frac{17.1}{(0.673)}$ | $\frac{5.1}{(0.201)}$ | $\frac{0.7}{(0.028)}$ | $\frac{7.6}{(0.299)}$ | $\frac{3.0}{(0.118)}$ | $\frac{0.81}{(0.032)}$ | 1 | Sn/Cu |
| MF-RG650 | $\frac{11.2}{(0.441)}$ | $\frac{19.7}{(0.776)}$ | $\frac{5.1}{(0.201)}$ | $\frac{0.7}{(0.028)}$ | $\frac{7.6}{(0.299)}$ | $\frac{3.0}{(0.118)}$ | $\frac{0.81}{(0.032)}$ | 1 | Sn/Cu |
| MF-RG700 | $\frac{11.2}{(0.441)}$ | $\frac{19.7}{(0.776)}$ | $\frac{5.1}{(0.201)}$ | $\frac{0.7}{(0.028)}$ | $\frac{7.6}{(0.299)}$ | $\frac{3.0}{(0.118)}$ | $\frac{0.81}{(0.032)}$ | 1 | Sn/Cu |
| MF-RG800 | $\frac{12.7}{(0.500)}$ | $\frac{20.9}{(0.823)}$ | $\frac{5.1}{(0.201)}$ | $\frac{0.7}{(0.028)}$ | $\frac{7.6}{(0.299)}$ | $\frac{3.0}{(0.118)}$ | $\frac{0.81}{(0.032)}$ | 1 | Sn/Cu |
| MF-RG900 | $\frac{14.0}{(0.551)}$ | $\frac{21.7}{(0.854)}$ | $\frac{5.1}{(0.201)}$ | $\frac{0.7}{(0.028)}$ | $\frac{7.6}{(0.299)}$ | $\frac{3.0}{(0.118)}$ | $\frac{0.81}{(0.032)}$ | 1 | Sn/Cu |
| MF-RG1000 | $\frac{16.5}{(0.650)}$ | $\frac{21.7}{(0.854)}$ | $\frac{5.1}{(0.201)}$ | $\frac{0.7}{(0.028)}$ | $\frac{7.6}{(0.299)}$ | $\frac{3.0}{(0.118)}$ | $\frac{0.81}{(0.032)}$ | 1 | Sn/Cu |
| MF-RG1100 | $\frac{17.5}{(0.689)}$ | $\frac{26.0}{(1.024)}$ | $\frac{5.1}{(0.201)}$ | $\frac{0.7}{(0.028)}$ | $\frac{7.6}{(0.299)}$ | $\frac{3.0}{(0.118)}$ | $\frac{0.81}{(0.032)}$ | 1 | Sn/Cu |

Packaging options:

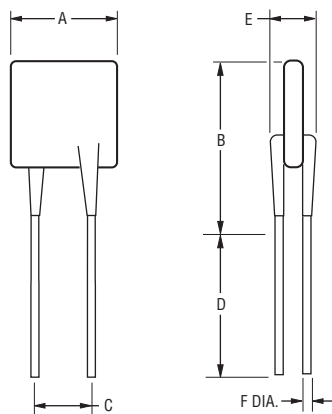
BULK: MF-RG300~MF-RG1100 = 500 pcs. per bag.

TAPE & REEL: MF-RG300~MF-RG500 = 3000 pcs. per reel; MF-RG600~MF-RG1100 = 1000 pcs. per reel.

AMMO-PACK: MF-RG300~MF-RG500 = 2000 pcs. per reel; MF-RG600~MF-RG1100 = 1000 pcs. per reel.

0.81 (20AWG)

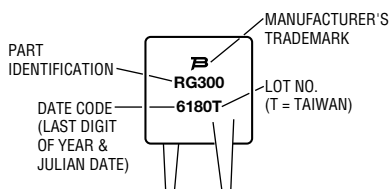
DIMENSIONS: $\frac{\text{MM}}{\text{(INCHES)}}$



Also available with kinked leads (see How to Order).

Typical Part Marking

Represents total content. Layout may vary.



How to Order

MF - RG 300 - 0 - 14

Multifuse® Product Designator _____
 Series _____
 RG = Smaller Radial Ledged Component
 Hold Current, I_{hold} _____
 300-1100 (3.0 Amps - 11.0 Amps)
 Packaging Options _____
 - 0 = Bulk Packaging
 - 2 = Tape and Reel
 - AP = Ammo-Pak
 Part Number Suffix Option _____
 - ____ = Standard Straight Leads without part number suffix option
 - 14 = Kinked Leads in Place of Standard Straight Leads

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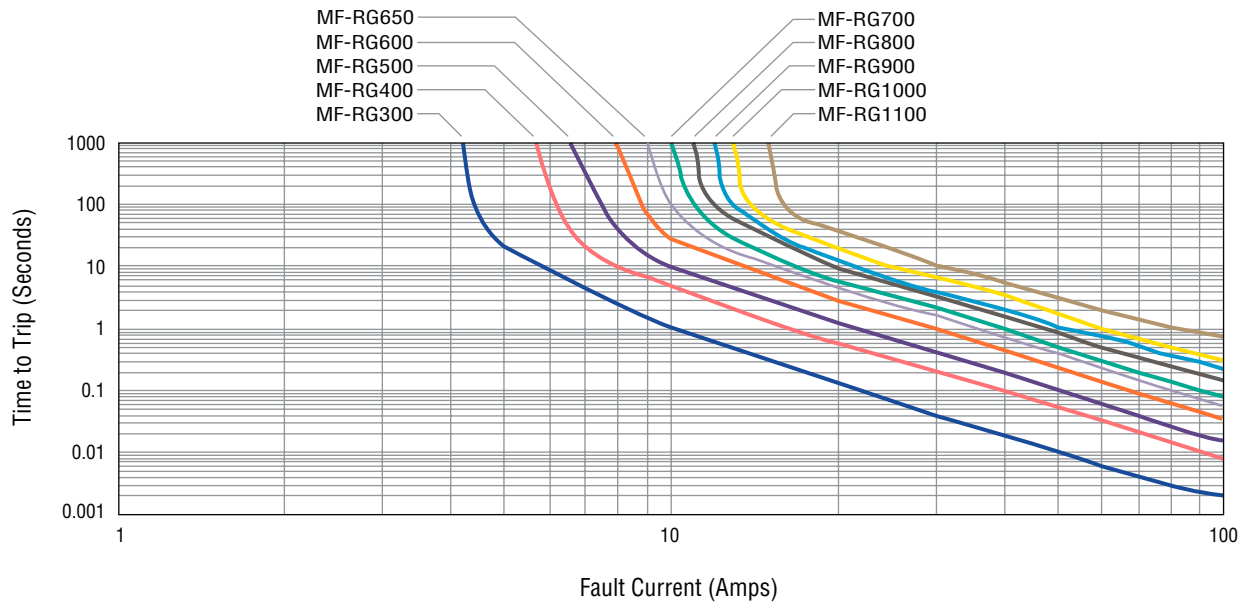
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MF-RG Series - PTC Resettable Fuses

BOURNS[®]

Typical Time to Trip at 23 °C



BOURNS[®]

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EMEA: Tel: +36 88 520 390 • Email: eurocus@bourns.com

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www.bourns.com

MF-RG SERIES, REV. N, 05/18

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MF-RG Series Tape and Reel Specifications

BOURNS®

Devices taped using EIA468–B/IEC60286-2 standards. See table below and Figures 1 and 2 for details.

| Dimension Description | IEC Mark | EIA Mark | Dimensions | |
|---|--------------|------------|-------------------------|------------------------------------|
| | | | Dimensions | Tolerance |
| Carrier tape width | W | W | $\frac{18}{(.709)}$ | $\frac{-0.5/+1.0}{(-0.02/+0.039)}$ |
| Hold down tape width | | W_4 | $\frac{11}{(.433)}$ | min. |
| Hold down tape | W_0 | | 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 | $\frac{4}{(.157)}$ | $\frac{\pm 0.2}{(\pm .0078)}$ |
| Abscissa to plane (straight lead) | H | H | $\frac{18.5}{(.728)}$ | $\frac{\pm 3.0}{(\pm .118)}$ |
| Abscissa to plane (kinked lead) | H_0 | H_0 | $\frac{16}{(.63)}$ | $\frac{\pm 0.5}{(\pm .02)}$ |
| 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. |
| Lead protrusion | l_1 | L_1 | $\frac{1.0}{(.039)}$ | max. |
| Protrusion of cutout | L | L | $\frac{11}{(.433)}$ | max. |
| Protrusion beyond hold-down tape | l_2 | l_2 | Not specified | |
| Sprocket hole pitch | P_0 | P_0 | $\frac{12.7}{(0.5)}$ | $\frac{\pm 0.3}{(\pm .012)}$ |
| Pitch tolerance | | | 20 consecutive | $\frac{\pm 1}{(\pm .039)}$ |
| Device pitch | | | $\frac{25.4}{(1.000)}$ | $\frac{\pm 0.3}{(\pm .012)}$ |
| Tape thickness | t | t | $\frac{0.9}{(.035)}$ | max. |
| Tape thickness with splice | | t_1 | $\frac{2.0}{(.079)}$ | max. |
| Splice sprocket hole alignment | | | $\frac{4.0}{(.157)}$ | $\frac{\pm 0.2}{(\pm .008)}$ |
| Body lateral deviation | Δ_h | Δ_h | 0 | $\frac{\pm 1}{(\pm .039)}$ |
| Body tape plane deviation | Δ_p | Δ_p | 0 | $\frac{\pm 1.3}{(\pm .051)}$ |
| Lead seating plane deviation | ΔP_1 | P_1 | $\frac{3.81}{(.015)}$ | $\frac{\pm 0.7}{(\pm .028)}$ |
| Lead spacing | F | F | $\frac{5.08}{(.200)}$ | $\frac{-0.2/+0.8}{(.008/+0.031)}$ |
| Reel width | w | w | $\frac{56.0}{(2.20)}$ | max. |
| Reel diameter | d | a | $\frac{370.0}{(14.57)}$ | max. |
| Space between flanges less device | | | $\frac{4.75}{(.187)}$ | $\frac{\pm 3.25}{(\pm .128)}$ |

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

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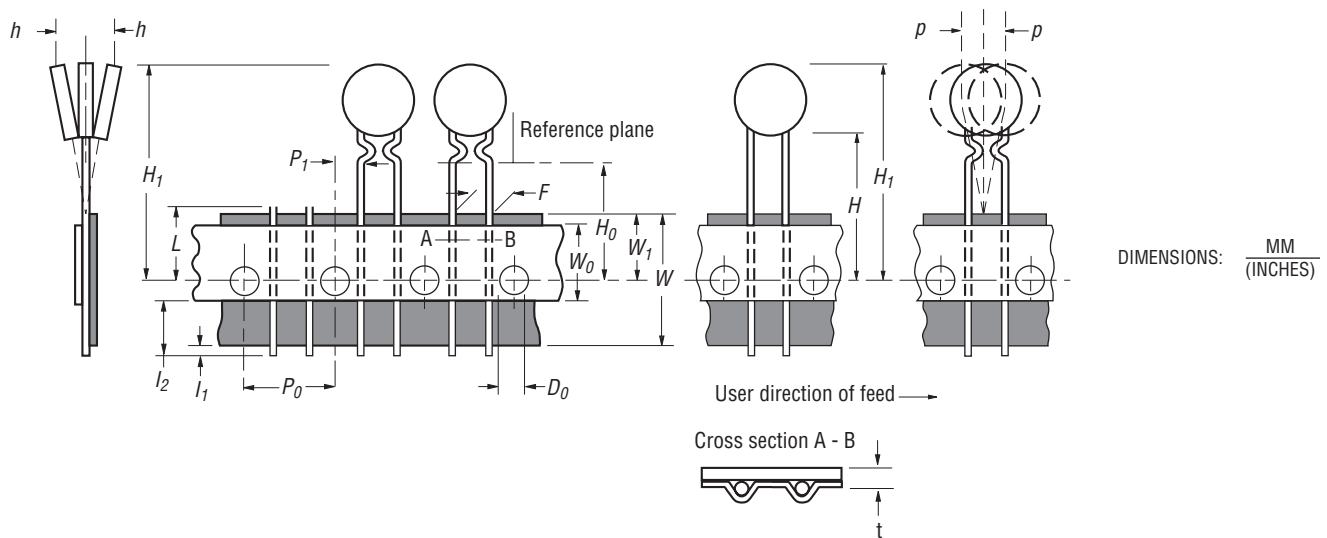
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MF-RG Series Tape and Reel Specifications

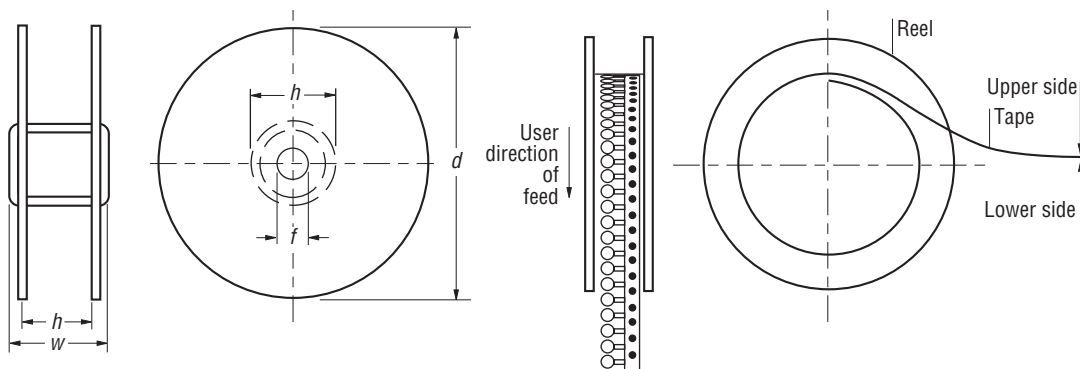


| Dimension Description | IEC Mark | EIA Mark | Dimensions | | | |
|----------------------------|----------|----------|----------------|-----------------------------|---------------|------|
| | | | Dimensions | Tolerance | | |
| Arbor hole diameter | <i>f</i> | <i>c</i> | 26.0 (1.02) | ± 12.0 (± 472) | | |
| Core diameter | <i>h</i> | <i>n</i> | 80.0 (3.15) | max. | | |
| Box | | | 64 (2.50) | 372 (14.6) | 372 (14.6) | nom. |
| Consecutive missing places | | | | 3 | max. | |
| Empty places per reel | | | | | Not specified | |

Taped Component Dimensions - Figure 1



Reel Dimensions - Figure 2



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- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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