



## Features

- Radial leaded devices
- Smaller size for similar Ihold rating
- Faster tripping
- RoHS compliant\*

## Applications

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

# MF-RG Series - PTC Resettable Fuses

### Electrical Characteristics

Model	V max. Volts	I max. Amps	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
			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-RG500	16	100	5.00	8.50	0.015	0.023	0.0340	25	2.0	2.60

### 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-RG Series

Test	Test Conditions	Accept/Reject Criteria
Visual/Mech.....	Verify dimensions and materials.....	Per MF physical description
Resistance.....	In still air @ 23 °C.....	R <sub>min</sub> ≤ R ≤ R <sub>max</sub>
Time to Trip.....	5 times I <sub>hold</sub> , V <sub>max</sub> , 23 °C.....	T ≤ max. time to trip (seconds)
Hold Current.....	30 min. at I <sub>hold</sub> .....	No trip
Trip Cycle Life.....	V <sub>max</sub> , I <sub>max</sub> , 100 cycles.....	No arcing or burning
Trip Endurance.....	V <sub>max</sub> , 48 hours.....	No arcing or burning

### Thermal Derating Chart - I<sub>hold</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-RG300	4.4	4.0	3.6	3.0	2.6	2.4	2.1	1.9	1.4
MF-RG500	7.3	6.6	6.0	5.0	4.4	4.0	3.6	3.1	2.4

I<sub>trip</sub> is approximately two times I<sub>hold</sub>.

\*RoHS Directive 2002/95/EC Jan. 27, 2003 including annex and RoHS Recast 2011/65/EU June 8, 2011.

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# MF-RG Series - PTC Resettable Fuses

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## Product Dimensions

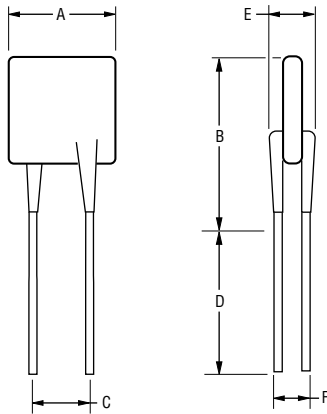
Model	A Max.	B Max.	C		D Min.	E Max.	F Nom.	Physical Characteristics		
			Nom.	Tol. ±				Style	Lead Dia.	Material
MF-RG300	$\frac{7.1}{(0.280)}$	$\frac{11.0}{(0.433)}$	$\frac{5.1}{(0.201)}$	$\frac{0.7}{(0.028)}$	$\frac{7.6}{(0.299)}$	$\frac{3.0}{(0.118)}$	$\frac{0.81}{(0.032)}$	1	$\frac{0.81}{(0.032)}$	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	$\frac{0.81}{(0.032)}$	Sn/Cu

Packaging options:

BULK: 500 pcs. per bag. TAPE & REEL: 3000 pcs. per reel. AMMO-PACK: 2000 pcs. per reel.

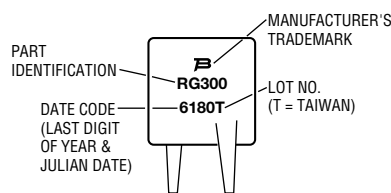
0.81 (20AWG)

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



### Typical Part Marking

Represents total content. Layout may vary.



### How to Order

**MF - RG 300 - 0**

Multifuse® Product Designator \_\_\_\_\_

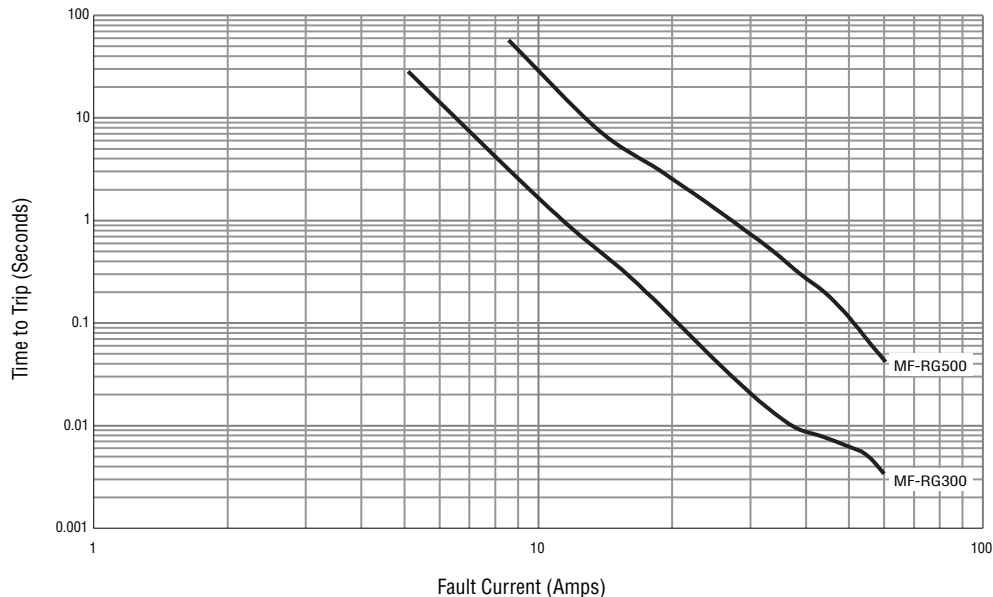
Series \_\_\_\_\_  
 RG = Smaller Radial Leaded Component

Hold Current, I<sub>hold</sub> \_\_\_\_\_  
 300-500 (3.0 Amps - 5.0 Amps)

Packaging Options \_\_\_\_\_  
 - 0 = Bulk Packaging  
 - 2 = Tape and Reel  
 - AP = Ammo-Pak

NOTE: Kinked leads are available for board standoff options. Contact factory for details.

## Typical Time to Trip at 23 °C



MF-RG SERIES, REV. G, 06/13

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# MF-RG Series Tape and Reel Specifications

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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			$\frac{12.7}{(0.5)}$	
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	$\Delta_h$	$\Delta_h$	0	$\frac{\pm 1}{(\pm .039)}$
Body tape plane deviation	$\Delta_p$	$\Delta_p$	0	$\frac{\pm 1.3}{(\pm .051)}$
Lead seating plane deviation	$\Delta P_1$	$P_1$	$\frac{3.81}{(.015)}$	$\frac{\pm 0.7}{(\pm .028)}$
Lead spacing	$F$	$F$	$\frac{8.0}{(.315)}$	
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			$\frac{4.75}{(.187)}$	$\frac{\pm 3.25}{(\pm .128)}$

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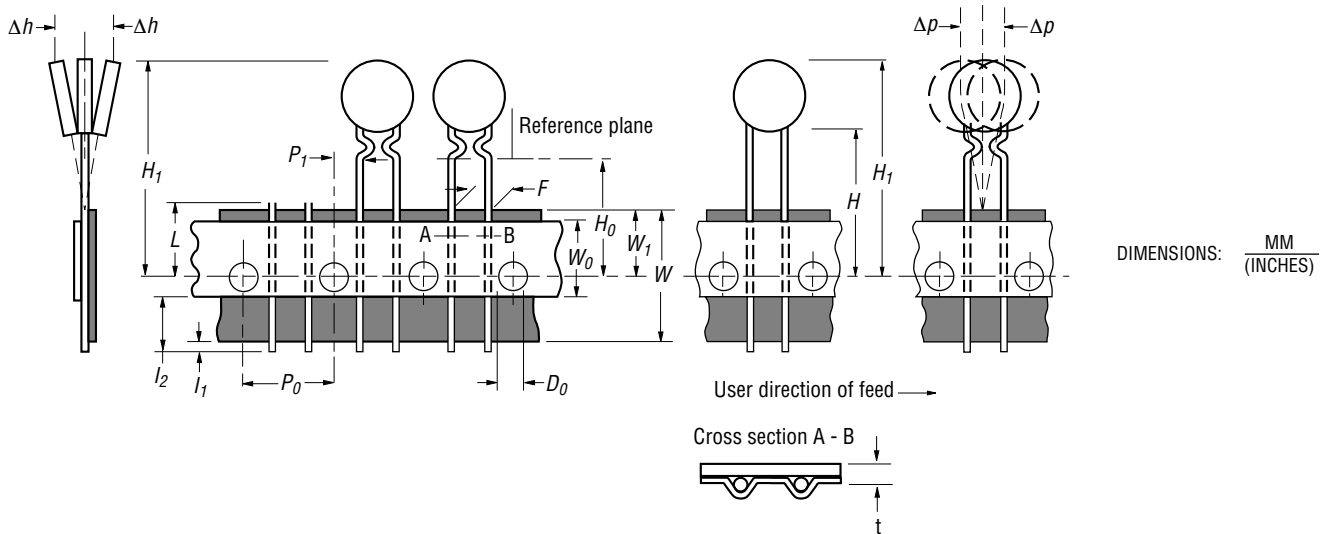
DIMENSIONS:  $\frac{\text{MM}}{\text{(INCHES)}}$

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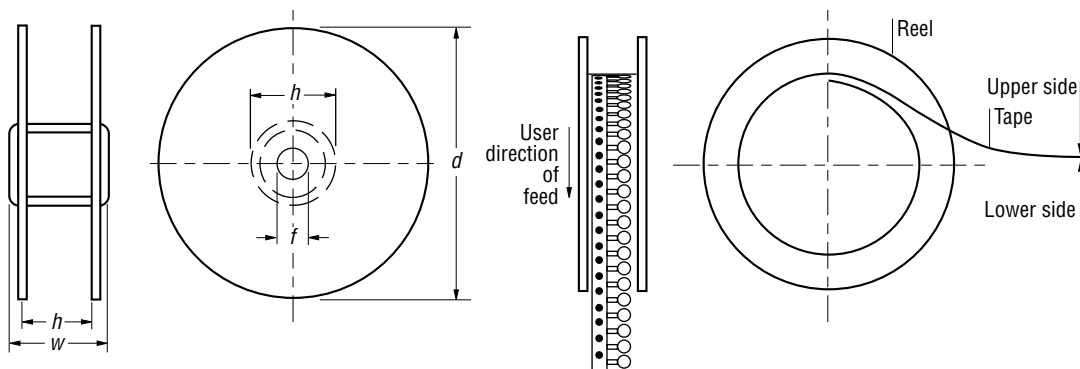
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Dimension Description	IEC Mark	EIA Mark	Dimensions	
			Dimensions	Tolerance
Arbor hole diameter	<i>f</i>	<i>c</i>	$\frac{26.0}{(1.02)}$	$\frac{\pm 12.0}{(\pm .472)}$
Core diameter	<i>h</i>	<i>n</i>	$\frac{80.0}{(3.15)}$	max.
Box			$\frac{62}{(2.44)}$ $\frac{355}{(14.0)}$ $\frac{345}{(13.6)}$	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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