

Features

- Radial Leaded Devices
- Maximum 600 VAC interrupt fault rating
- Available in matched resistance "bins"
- Ability to withstand lightning surges
- RoHS compliant*
- Agency recognition:

Applications

Customer Premise Equipment (CPE):

- Modems
- Cable modems
- Fax machines
- POS equipment
- Security equipment
- Set top boxes

MF-R/600 Series - Telecom PTC Resettable Fuses

Electrical Characteristics

Model	Max. Operating Voltage	Max. Interrupt Ratings		Hold Current	Trip Current	Initial Resistance		One Hour Post-Trip Resistance	Max. Time To Trip @ 1 A	Tripped Power Dissipation
		Volts	Amps			Amps at 23 °C	Amps at 23 °C			
		Max.	Max.			Min.	Max.	Max.		
MF-R015/600	60	600	3	0.15	0.30	6.0	12.0	22.0	5.0	1.0
MF-R015/600-A	60	600	3	0.15	0.30	7.0	10.0	20.0	5.0	1.0
MF-R015/600-B	60	600	3	0.15	0.30	9.0	12.0	22.0	5.0	1.0
MF-R015/600-F	60	600	3	0.15	0.30	7.0	12.0	22.0	5.0	1.0
MF-R016/600	60	600	3	0.16	0.32	4.0	10.0	18.0	7.0	1.0
MF-R016/600-A	60	600	3	0.16	0.32	4.0	7.0	16.0	7.0	1.0
MF-R016/600-1	60	600	3	0.16	0.32	4.0	8.0	17.0	7.0	1.0

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
.....	+60 °C, 1000 hours..... ±5 % typical resistance change
Humidity Aging.....	+85 °C, 85 % R.H. 500 hours..... ±5 % typical resistance change
Thermal Shock	MIL-STD-202F, Method 107G..... ±10 % typical resistance change
.....	+125 °C to -55 °C, 10 times..... ±15 % typical resistance change
Solvent Resistance.....	MIL-STD-202, Method 215B..... No change
Lead Solderability	ANSI/J-STD-002
Flammability	IEC 695-2-2..... No Flame for 60 secs.
Vibration	MIL-STD-883C, Method 2007.1, Condition A..... No change

Test Procedures And Requirements For Model MF-R/600 Series

Test	Test Conditions	Accept/Reject Criteria
Visual/Mech.	Verify dimensions and materials.....	Per MF physical description
Resistance.....	In still air @ 23 °C.....	$R_{min} \leq R \leq R_{max}$
Time to Trip.....	5 times I_{hold} , V_{max} , 23 °C.....	$T \leq \text{max. time to trip (seconds)}$
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

UL File Number E 174545S

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-R015/600	0.233	0.206	0.178	0.150	0.124	0.110	0.096	0.083	0.062
MF-R016/600	0.249	0.219	0.190	0.160	0.132	0.117	0.103	0.088	0.066

I_{trip} is approximately two times I_{hold} .

*RoHS Directive 2002/95/EC Jan. 27, 2003 including annex and RoHS Recast 2011/65/EU June 8, 2011. Specifications are subject to change without notice.

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Additional Features

- Ability to withstand AC power cross conditions

MF-R/600 Series - Telecom PTC Resettable Fuses

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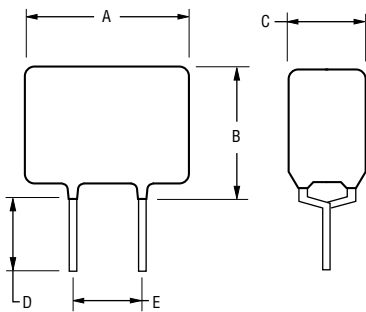
Product Dimensions

Model	A Max.	B Max.	C Max.	D Min.	E Nom.	Physical Characteristics		
						Style	Lead Dia.	Material
MF-R015/600	$\frac{13.5}{(0.531)}$	$\frac{12.6}{(0.496)}$	$\frac{6.0}{(0.236)}$	$\frac{4.7}{(0.185)}$	$\frac{5.0}{(0.197)}$	1	$\frac{0.65}{(0.026)}$	Sn/Cu
MF-R016/600	$\frac{16.0}{(0.629)}$	$\frac{12.6}{(0.496)}$	$\frac{6.0}{(0.236)}$	$\frac{4.7}{(0.185)}$	$\frac{5.0}{(0.197)}$	1	$\frac{0.65}{(0.026)}$	Sn/Cu

Packaging options: BULK: 500 pcs. per bag.
Longer lead lengths available upon request.

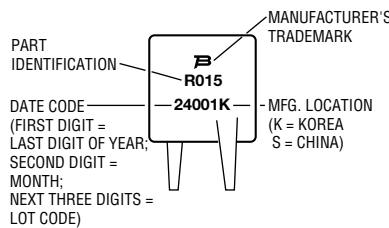
TAPE & REEL: 600 pcs. per reel.

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



Typical Part Marking

Represents total content. Layout may vary.



How to Order

MF - R 015/600 - A 05 - 2

Multifuse®
Product
Designator

Series
R = Radial Leaded
Component

Hold Current, I_{hold}
015-016 (0.15 - 0.16 Amps)

Max. Interrupt Voltage, V

Resistance Range

- Narrow resistance ranges are available on all models as defined in Electrical Characteristics.
- Blank = N/A

Resistance Bins

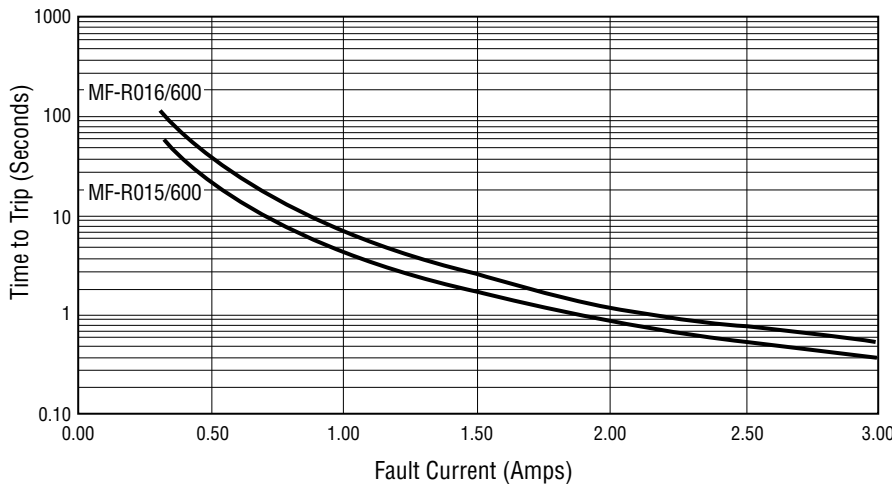
- Narrow resistance ranges can be separated into packages where each device is within 0.5 ohms of each other.
- Blank = N/A

Packaging Options

- 0 = Bulk Packaging
- 2 = Tape and Reel*

*Packaged per EIA486-B

Typical Time to Trip at 23 °C



Resistance Options

Model	R _{min.}	R _{max.}	R1 _{Max.}	Bin
MF-R015/600	6.0	12.0	22.0	N/A
MF-R015/600-A	7.0	10.0	20.0	0.5
MF-R015/600-B	9.0	12.0	22.0	0.5
MF-R015/600-F	7.0	12.0	22.0	0.5
MF-R016/600	4.0	10.0	18.0	N/A
MF-R016/600-A	4.0	7.0	16.0	0.5
MF-R016/600-1	4.0	8.0	17.0	0.5

MF-R/600, REV. I, 04/14

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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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Devices taped using EIA468-B/IEC286-2 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_0	W_4	$\frac{11}{(.433)}$	min.
Hold down tape			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: MF-R005–MF-R160, MF-R/90, MF-RX110/72–MF-RX185/72			$\frac{12.7}{(0.5)}$	$\frac{\pm 0.3}{(\pm .012)}$
Device pitch: MF-R185–MF-R400, MF-RX110–MF-RX375 MF-R/600, MF-RX250/72–MF-RX375/72			$\frac{25.4}{(1.0)}$	$\frac{\pm 0.6}{(\pm .024)}$
Tape thickness	t	t	$\frac{0.9}{(.035)}$	max.
Tape thickness with splice: MF-R010–MF-R160, MF-RX110/72–MF-RX185/72		t_1	$\frac{1.5}{(.059)}$	max.
Tape thickness with splice: MF-R250–MF-R1100, MF-RX110–MF-RX375, MF-R/90, MF-RX250/72–MF-RX375/72		t_1	$\frac{2.3}{(.091)}$	max.
Splice sprocket hole alignment			0	$\frac{\pm 0.3}{(\pm .012)}$
Body lateral deviation	Δ_h	Δ_h	0	$\frac{\pm 1.0}{(\pm .039)}$
Body tape plane deviation	Δ_p	Δ_p	0	$\frac{\pm 1.3}{(\pm .051)}$

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

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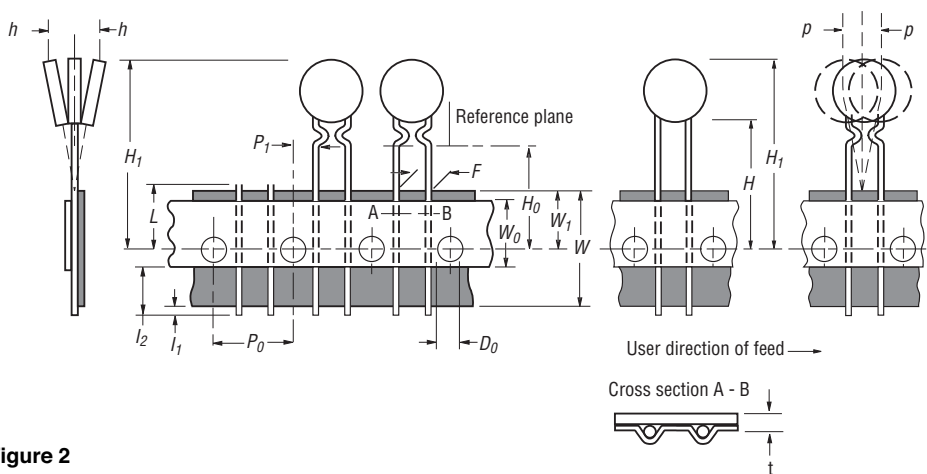
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MF-R, MF-R/90, MF-R/600, MF-RX, & MF-RX/72 Series Tape and Reel Specifications

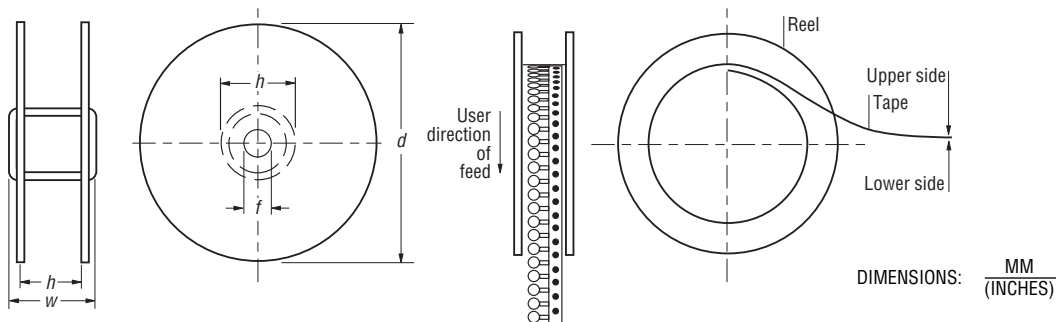
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Dimension Description	IEC Mark	EIA Mark	Dimensions	
			Dimensions	Tolerance
Lead spacing: MF-R, MF-R/90, MF-R/600, MF-RX, MF-RX/72	<i>F</i>	<i>F</i>	$\frac{5.08}{(0.2)}$	$\frac{\pm 0.2}{(\pm 0.008)}$
Reel width	<i>w</i>	<i>W₂</i>	$\frac{56.0}{(2.205)}$	max.
Reel diameter	<i>d</i>	<i>a</i>	$\frac{370.0}{(14.57)}$	max.
Space between flanges less device	<i>W₁</i>	<i>h</i>	$\frac{4.75}{(.187)}$	$\frac{\pm 3.25}{(\pm .128)}$
Arbor hole diameter	<i>f</i>	<i>c</i>	$\frac{26.0}{(1.024)}$	$\frac{\pm 12.0}{(\pm .472)}$
Core diameter: MF-R, MF-RX, MF-R/90	<i>h</i>	<i>n</i>	$\frac{80}{(3.15)}$	max.
Core diameter: MF-R/600	<i>h</i>	<i>n</i>	$\frac{91}{(3.58)}$	max.
Box: MF-R, MF-RX, MF-R/90			$\frac{62}{(2.44)}$ $\frac{355}{(14.0)}$ $\frac{345}{(13.6)}$	nom.
Box: MF-R/600			$\frac{64}{(2.52)}$ $\frac{372}{(14.6)}$ $\frac{362}{(14.25)}$	max.
Consecutive missing places: MF-R, MF-RX, MF-R/90			3	max.
Consecutive missing places: MF-R/600			none	
Empty places per reel: MF-R, MF-RX, MF-R/90			Not specified	
Empty places per reel: MF-R/600			0.1 %	

**Taped Component Dimensions -
Figure 1**



Reel Dimensions - Figure 2



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