

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 Amps at 23 °C	Trip Current Amps at 23 °C	Initial Resistance		One Hour Post-Trip Resistance Ohms at 23 °C	Max. Time To Trip @ 1 A Seconds at 23 °C	Tripped Power Dissipation Watts at 23 °C
		Volts	Amps			Ohms at 23 °C	Ohms 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.....	$T \leq R_{max}$ 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.

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Customers should verify actual device performance in their specific applications.

Additional Features

- Ability to withstand AC power cross conditions

MF-R/600 Series - Telecom PTC Resettable Fuses

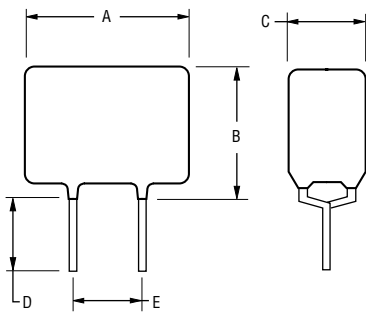
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Product Dimensions

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

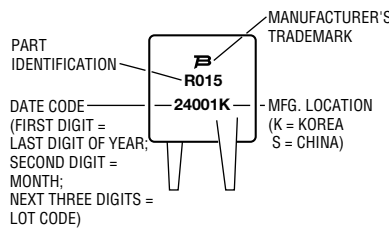
Packaging options: BULK: 500 pcs. per bag. TAPE & REEL: 600 pcs. per reel.
Longer lead lengths available upon request.

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



Typical Part Marking

Represents total content. Layout may vary.

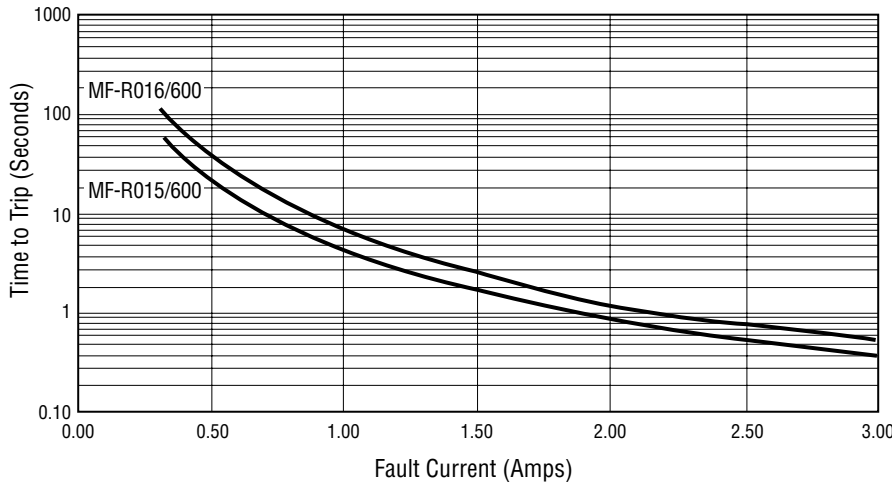


How to Order

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.}	R _{1Max.}	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. H, 05/11

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MF-R, MF-R/90, MF-R/600, MF-RX, MF-RX/72 & MF-RX/250 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	$\frac{\pm 1.3}{(\pm .051)}$

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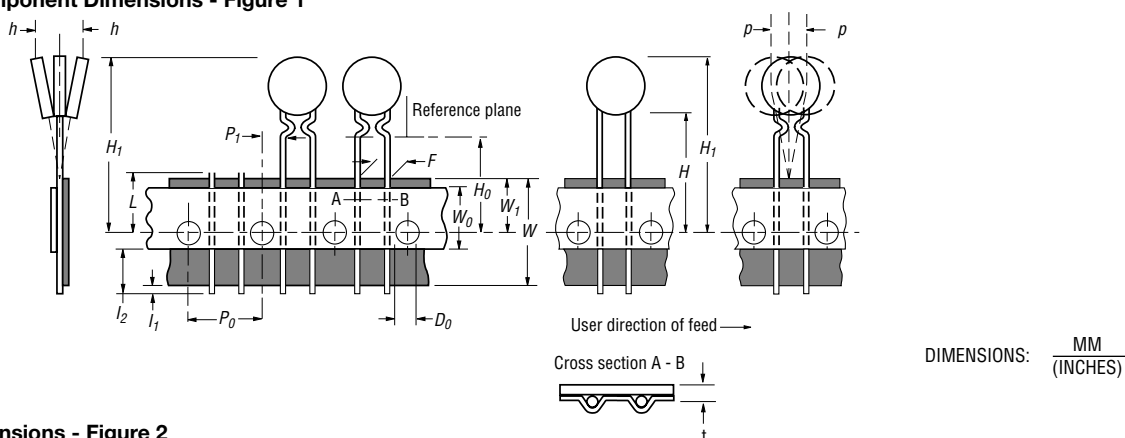
DIMENSIONS: $\frac{\text{MM}}{\text{(INCHES)}}$

MF-R, MF-R/90, MF-R/600, MF-RX, MF-RX/72 & MF-RX/250 Series Tape and Reel Specifications

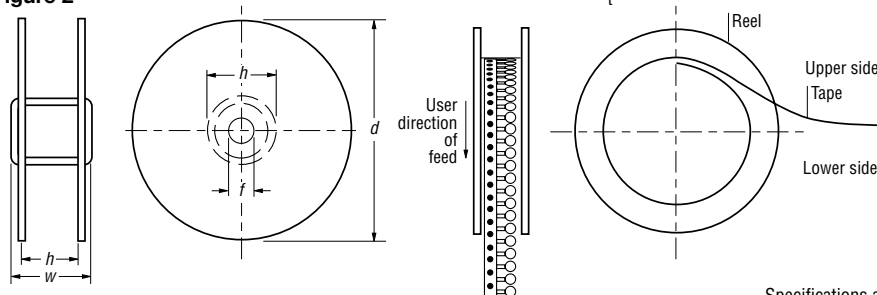
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Dimension Description	IEC Mark	EIA Mark	Dimensions			
			Dimensions	Tolerance		
Lead spacing: MF-R, MF-R/90, MF-R/600, MF-RX, MF-RX/72	<i>F</i>	<i>F</i>	5.08 (0.2)	±0.2 (±0.008)		
Lead spacing: MF-RX/250	<i>F</i>	<i>F</i>	5.08 (0.2)	-0.5/+0.6 (-.020/+0.024)		
Reel width	<i>w</i>	<i>W</i> ₂	56.0 (2.205)	max.		
Reel diameter	<i>d</i>	<i>a</i>	370.0 (14.57)	max.		
Space between flanges less device	<i>W</i> ₁	<i>h</i>	4.75 (.187)	±3.25 (±.128)		
Arbor hole diameter	<i>f</i>	<i>c</i>	26.0 (1.024)	±12.0 (±.472)		
Core diameter: MF-R, MF-RX, MF-R/90	<i>h</i>	<i>n</i>	80 (3.15)	max.		
Core diameter: MF-RX/250, MF-R/600	<i>h</i>	<i>n</i>	91 (3.58)	max.		
Box: MF-R, MF-RX, MF-R/90			56 (2.2)	372 (14.6)	372 (14.6)	max.
Box: MF-RX/250			67 (2.64)	372 (14.6)	362 (14.25)	max.
Box: MF-R/600			64 (2.52)	372 (14.6)	362 (14.25)	max.
Consecutive missing places: MF-R, MF-RX, MF-R/90			3	max.		
Consecutive missing places: MF-RX/250, MF-R/600			none			
Empty places per reel: MF-R, MF-RX, MF-R/90					Not specified	
Empty places per reel: MF-RX/250, MF-R/600					0.1 %	

Taped Component Dimensions - Figure 1



Reel Dimensions - Figure 2



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Данный компонент на территории Российской Федерации

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Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

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