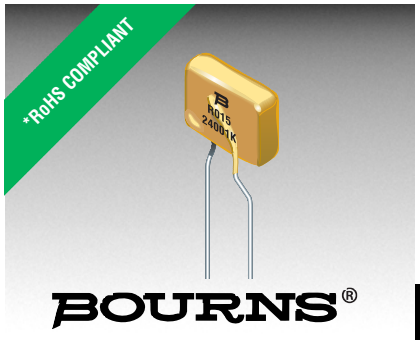


BOURNS®

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	Ohms at 23 °C	Ohms at 23 °C	Ohms at 23 °C	Seconds at 23 °C	Watts 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	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

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.

Specifications are subject to change without notice.
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

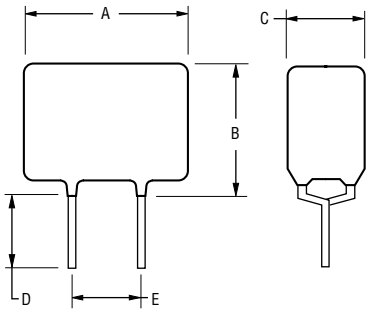
BOURNS®

Product Dimensions

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

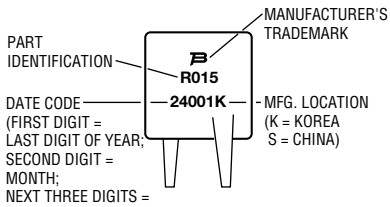
Packaging options: BULK: 500 pcs. per bag. TAPE & REEL: 600 pcs. per reel.
Longer lead lengths available upon request.

DIMENSIONS: MM (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, Ihold
015-016 (0.15 - 0.16 Amps)

Max. Interrupt Voltage, V

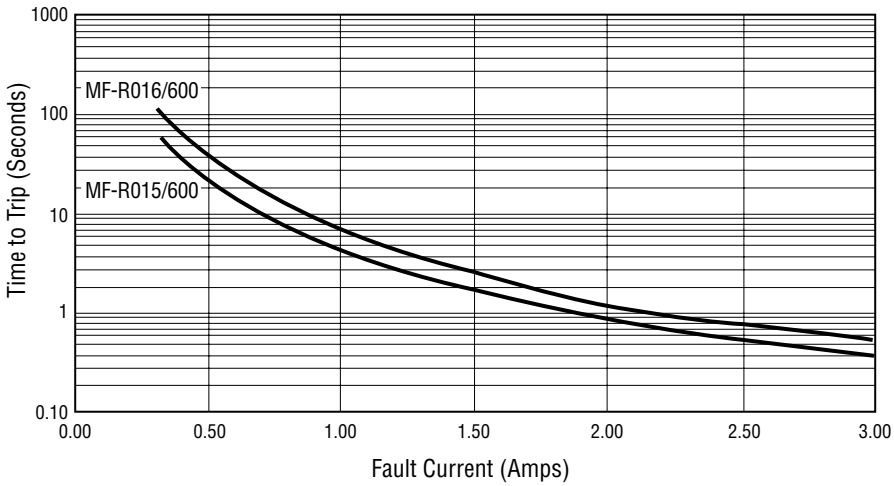
Resistance Range
- Narrow resistance ranges are available on all models as defined in Electrical Characteristics.
- Blank = N/A

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	Rmin.	Rmax.	R1Max.	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

Specifications are subject to change without notice.
Customers should verify actual device performance in their specific applications.

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

BOURNS®

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	18 (.709)	-0.5/+1.0 (-0.02/+.039)
Hold down tape width	W_0	W_4	11 (.433)	min.
Hold down tape			No protrusion	
Top distance between tape edges	W_2	W_6	3 (.118)	max.
Sprocket hole position	W_1	W_5	9 (.354)	-0.5/+0.75 (-0.02/+0.03)
Sprocket hole diameter	D_0	D_0	4 (.157)	±0.2 (±.0078)
Abscissa to plane (straight lead)	H	H	18.5 (.728)	±3.0 (±.118)
Abscissa to plane (kinked lead)	H_0	H_0	16 (.63)	±0.5 (±.02)
Abscissa to top (straight lead)	H_1	H_1	38.0 (1.496)	max.
Abscissa to top (kinked lead)	H_1	H_1	32.2 (1.268)	max.
Overall width w/lead protrusion (straight lead)		C_1	55.0 (2.165)	max.
Overall width w/lead protrusion (kinked lead)		C_1	43.2 (1.7)	max.
Overall width w/o lead protrusion (straight lead)		C_2	54.0 (2.126)	max.
Overall width w/o lead protrusion (kinked lead)		C_2	42.5 (1.673)	max.
Lead protrusion	l_1	L_1	1.0 (.039)	max.
Protrusion of cutout	L	L	11 (.433)	max.
Protrusion beyond hold-down tape	l_2	l_2	Not specified	
Sprocket hole pitch	P_0	P_0	12.7 (0.5)	±0.3 (±.012)
Pitch tolerance			20 consecutive	±1 (±.039)
Device pitch: MF-R005–MF-R160, MF-R/90, MF-RX110/72–MF-RX185/72			12.7 (0.5)	±0.3 (±.012)
Device pitch: MF-R185–MF-R400, MF-RX110–MF-RX375 MF-R/600, MF-RX250/72–MF-RX375/72			25.4 (1.0)	±0.6 (±.024)
Tape thickness	t	t	0.9 (.035)	max.
Tape thickness with splice: MF-R010–MF-R160, MF-RX110/72–MF-RX185/72		t_1	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	2.3 (.091)	max.
Splice sprocket hole alignment			0	±0.3 (±.012)
Body lateral deviation	Δh	Δh	0	±1.0 (±.039)
Body tape plane deviation	Δp	Δp	0	±1.3 (±.051)

Specifications are subject to change without notice.
Customers should verify actual device performance in their specific applications.

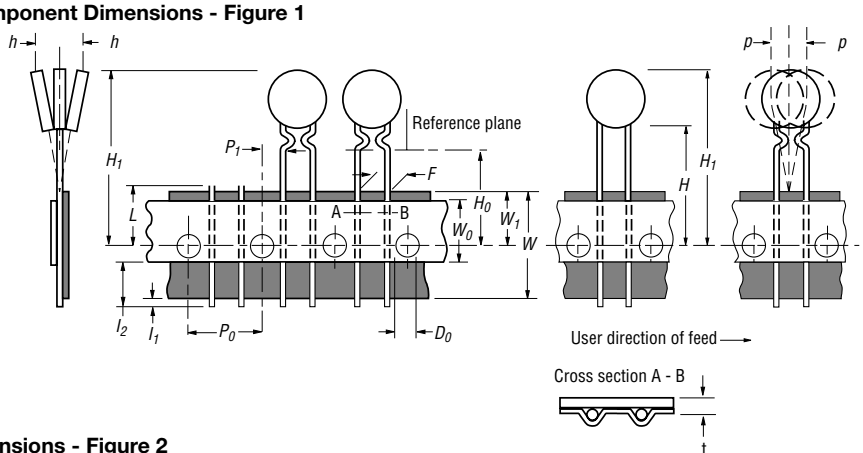
DIMENSIONS: MM (INCHES)

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

BOURNS®

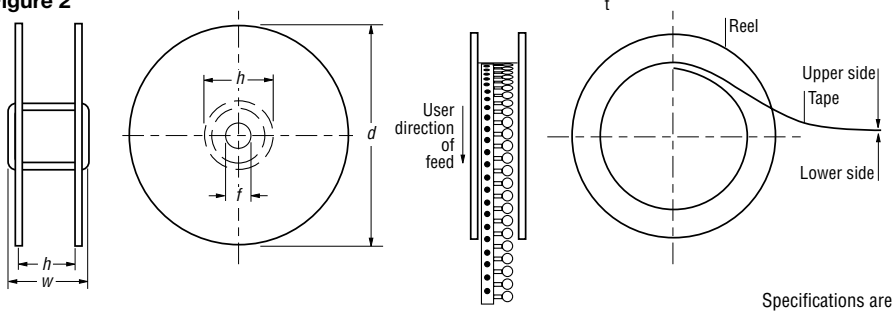
Dimension Description	IEC Mark	EIA Mark	Dimensions	Tolerance
Lead spacing: MF-R, MF-R/90, MF-R/600, MF-RX, MF-RX/72	*F*	*F*	5.08 (0.2)	±0.2 (±0.008)
Lead spacing: MF-RX/250	*F*	*F*	5.08 (0.2)	-0.5/+0.6 (-.020/+.024)
Reel width	*w*	W_2	56.0 (2.205)	max.
Reel diameter	*d*	*a*	370.0 (14.57)	max.
Space between flanges less device	W_1	*h*	4.75 (.187)	±3.25 (±.128)
Arbor hole diameter	*f*	*c*	26.0 (1.024)	±12.0 (±.472)
Core diameter: MF-R, MF-RX, MF-R/90	*h*	*n*	80 (3.15)	max.
Core diameter: MF-RX/250, MF-R/600	*h*	*n*	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



DIMENSIONS: MM / (INCHES)

Reel Dimensions - Figure 2



Specifications are subject to change without notice.
Customers should verify actual device performance in their specific applications.

Стандарт Электрон Связь

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