



## Features

- Axial leaded
- Fully compatible with current industry standards
- Weldable nickel terminals
- Very low internal resistance
- Operating currents to 9.0 Amps
- RoHS compliant\*, lead free

■ Agency recognition:   

## Applications

- Any application that requires protection at low resistances
- Rechargeable battery packs
- Cellular phones
- Laptop computers

# MF-LR Series - PTC Resettable Fuses

## Electrical Characteristics

Model	V max. Volts	I max. Amps	$I_{hold}$		$I_{trip}$		Initial Resistance		1 Hour ( $R_1$ ) Post-Trip Resistance	Max. Time To Trip		Tripped Power Dissipation
			Amperes At 23 °C		Ohms 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-LR190	15	100	1.90	3.90	0.039	0.072	0.102	9.5	5.0	1.2		
MF-LR190S	15	100	1.90	3.90	0.039	0.072	0.102	9.5	5.0	1.2		
MF-LR260	15	100	2.60	5.80	0.020	0.042	0.063	13.0	5.0	1.3		
MF-LR260S	15	100	2.60	5.80	0.020	0.042	0.063	13.0	5.0	2.5		
MF-LR380	15	100	3.80	8.30	0.013	0.026	0.037	19.0	5.0	2.5		
MF-LR450	20	100	4.50	8.90	0.011	0.020	0.028	22.5	5.0	1.4		
MF-LR550	20	100	5.50	10.50	0.009	0.019	0.022	27.5	5.0	1.4		
MF-LR600	10	100	6.00	11.70	0.007	0.014	0.016	30.0	5.0	2.8		
MF-LR730	10	100	7.30	14.10	0.006	0.012	0.015	30.0	5.0	3.0		
MF-LR730/20*	20	100	7.30	14.10	0.006	0.012	0.015	30.0	5.0	3.0		
MF-LR900/20*	20	100	9.00	16.70	0.006	0.010	0.014	45.0	5.0	3.0		

\* TÜV recognition pending.

## Environmental Characteristics

Operating/Storage Temperature ..... -40 °C to +85 °C  
 Maximum Device Surface Temperature  
 in Tripped State ..... 125 °C  
 Passive Aging ..... +70 °C, 1000 hours ..... ±10 % typical resistance change  
 Humidity Aging ..... +85 °C, 85 % R.H. 7 days ..... ±10 % typical resistance change  
 Vibration ..... MIL-STD-883C, Condition A ..... No change

## Test Procedures And Requirements For Model MF-LR Series

Test	Test Conditions	Accept/Reject Criteria
Visual/Mech.	Verify dimensions and materials	Per MF physical description
Resistance	In still air @ 23 °C	$R_{min} \leq R \leq R_{1max}$
Time to Trip	At specified current, $V_{max}$ , 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  
 CSA File Number ..... CA 110338  
 TÜV File Number ..... R2057213

## 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-LR190	2.8	2.5	2.3	1.9	1.6	1.5	1.4	1.2	1.0
MF-LR190S	2.8	2.5	2.3	1.9	1.6	1.5	1.4	1.2	1.0
MF-LR260	3.8	3.4	3.1	2.6	2.2	2.0	1.9	1.7	1.4
MF-LR260S	3.8	3.4	3.1	2.6	2.2	2.0	1.9	1.7	1.4
MF-LR380	5.5	4.9	4.4	3.8	3.3	3.0	2.8	2.5	2.1
MF-LR450	6.5	5.8	5.3	4.5	3.9	3.6	3.3	2.9	2.5
MF-LR550	8.0	7.1	6.2	5.5	4.7	4.3	4.0	3.6	3.0
MF-LR600	8.7	7.8	7.1	6.0	5.2	4.7	4.4	3.9	3.3
MF-LR730	10.5	9.5	8.6	7.3	7.4	6.8	6.2	5.5	4.5
MF-LR730/20	10.5	9.5	8.6	7.3	7.4	6.8	6.2	5.5	4.5
MF-LR900/20	12.7	11.4	10.0	9.0	7.5	6.8	6.2	5.5	4.5

\* $I_{trip}$  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.

# MF-LR Series - PTC Resettable Fuses

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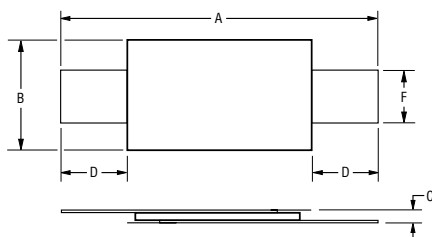
## Product Dimensions

Model	A		B		C		D		F		Pkg. Style
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	
MF-LR190	19.9 (0.783)	22.1 (0.870)	4.9 (0.193)	5.2 (0.205)	0.6 (0.024)	1.0 (0.039)	5.5 (0.217)	7.5 (0.295)	3.9 (0.154)	4.1 (0.161)	Std.
MF-LR190S	19.9 (0.783)	22.1 (0.870)	4.9 (0.193)	5.2 (0.205)	0.6 (0.024)	1.0 (0.039)	5.5 (0.217)	7.5 (0.295)	3.9 (0.154)	4.1 (0.161)	S
MF-LR260	20.9 (0.823)	23.1 (0.909)	4.9 (0.193)	5.2 (0.205)	0.6 (0.024)	1.0 (0.039)	4.1 (0.161)	5.5 (0.217)	3.9 (0.154)	4.1 (0.161)	Std.
MF-LR260S	20.9 (0.823)	23.1 (0.909)	4.9 (0.193)	5.2 (0.205)	0.6 (0.024)	1.0 (0.039)	4.1 (0.161)	5.5 (0.217)	3.9 (0.154)	4.1 (0.161)	S
MF-LR380	24.0 (0.945)	26.0 (1.024)	6.9 (0.272)	7.5 (0.295)	0.6 (0.024)	1.0 (0.039)	4.1 (0.161)	5.5 (0.217)	4.9 (0.193)	5.1 (0.201)	Std.
MF-LR450	24.0 (0.945)	26.0 (1.024)	9.9 (0.390)	10.5 (0.414)	0.6 (0.024)	1.0 (0.039)	5.3 (0.209)	6.7 (0.264)	5.9 (0.232)	6.1 (0.240)	Std.
MF-LR550	35.0 (1.378)	37.0 (1.457)	6.9 (0.272)	7.5 (0.295)	0.6 (0.024)	1.0 (0.039)	5.3 (0.209)	6.7 (0.264)	4.9 (0.193)	5.1 (0.201)	Std.
MF-LR600	24.0 (0.945)	26.0 (1.024)	13.9 (0.547)	14.5 (0.571)	0.6 (0.024)	1.0 (0.039)	4.1 (0.161)	5.5 (0.217)	5.9 (0.232)	6.1 (0.240)	Std.
MF-LR730	27.1 (1.067)	29.1 (1.146)	13.9 (0.547)	14.5 (0.571)	0.6 (0.024)	1.0 (0.039)	4.1 (0.161)	5.5 (0.217)	5.9 (0.232)	6.1 (0.240)	Std.
MF-LR730/20	27.1 (1.067)	29.1 (1.146)	13.9 (0.547)	14.5 (0.571)	0.6 (0.024)	1.0 (0.039)	4.1 (0.161)	5.5 (0.217)	5.9 (0.232)	6.1 (0.240)	Std.
MF-LR900/20	45.4 (1.787)	47.6 (1.874)	7.9 (0.311)	8.5 (0.335)	0.6 (0.024)	1.3 (0.051)	4.6 (0.181)	9.2 (0.362)	5.9 (0.232)	6.1 (0.240)	Std.

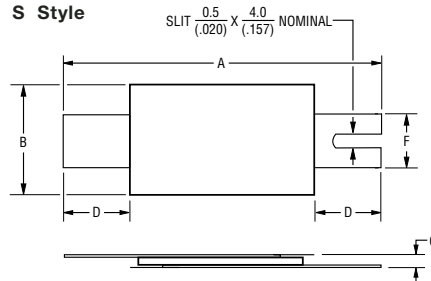
Packaging: Bulk - 500 pcs. per bag. Tape and Reel - Consult factory.

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

### Standard Style

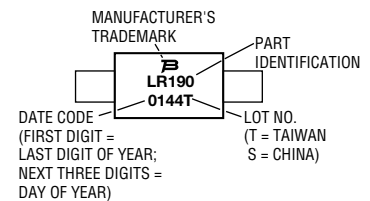


### S Style



### Typical Part Marking

Represents total content. Layout may vary.

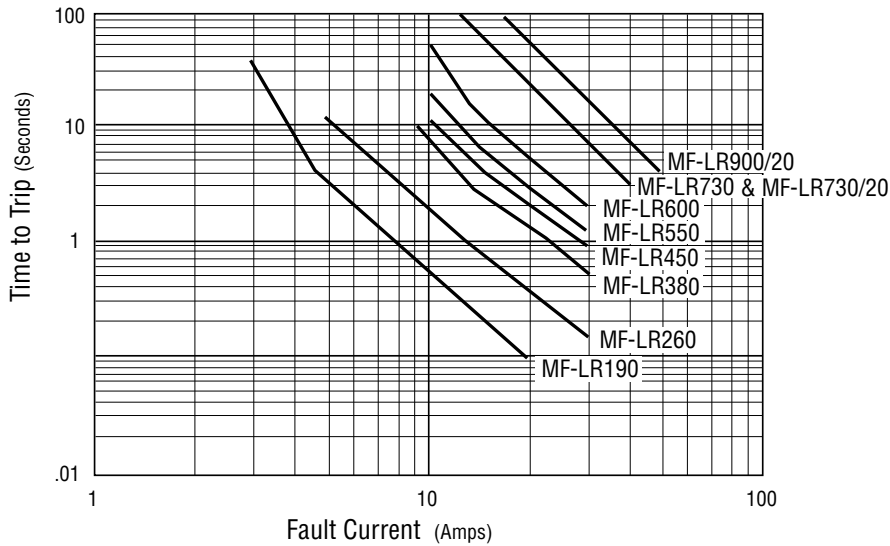


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# MF-LR Series - PTC Resettable Fuses

**BOURNS®**

Typical Time to Trip at 23 °C



## How To Order

**MF - LR 730/20 S - 0**

Multifuse® Product \_\_\_\_\_  
 Designator \_\_\_\_\_  
 Series \_\_\_\_\_  
 LR = Axial Leaded "Strap" Component  
 Hold Current, I<sub>hold</sub>/V<sub>max</sub>\* \_\_\_\_\_  
 190-900 (1.90 Amps - 9.00 Amps)  
 Lead Option\*\* \_\_\_\_\_  
 S = Slotted Lead Option  
 Packaging Options \_\_\_\_\_  
 - = Bulk Packaging Designator  
 for Models MF-LR190 through MF-LR730  
 -0 = Bulk Packaging Designator  
 for Models MF-LR730/20 and MF-LR900/20  
 -2 = Tape and Reel\*\*\*

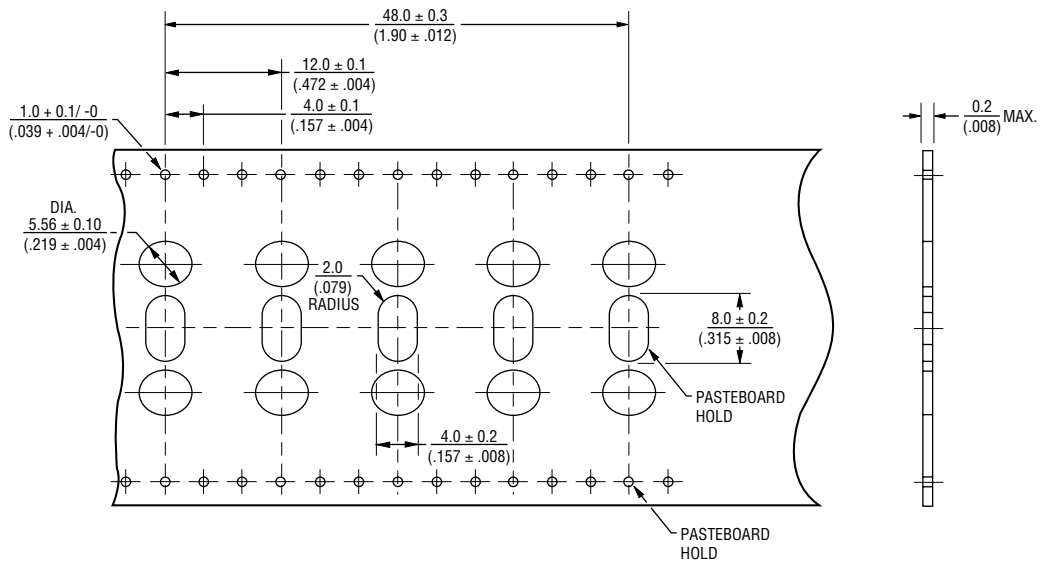
\*V<sub>max</sub> entry applies only to Models MF-LR730/20 & MF-LR900/20.

\*\*Slotted Lead Option applies only to Models MF-LR190 & MF-LR260.

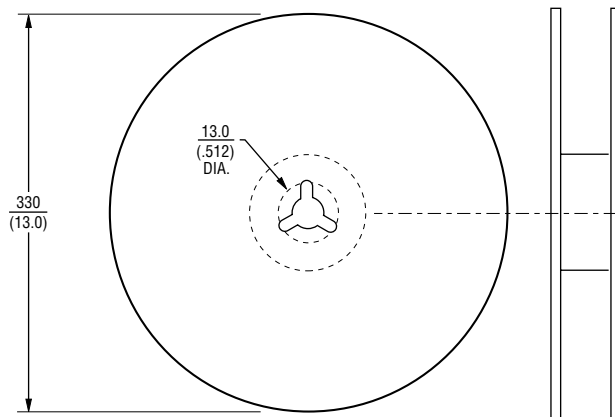
\*\*\*Packaged per EIA 486-B

# MF-S, MF-LS, MF-LR and MF-VS Series Tape and Reel Specifications **BOURNS®**

## Taped Component Dimensions



## Reel Dimensions



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