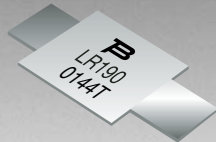


\*ROHS COMPLIANT



**BOURNS®**

## 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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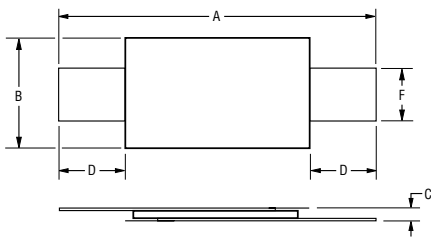
## Product Dimensions

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

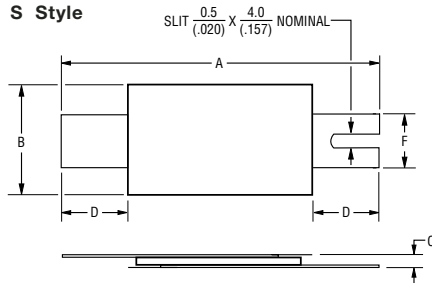
Packaging: Bulk - 500 pcs. per bag. Tape and Reel - Consult factory.

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

### Standard Style

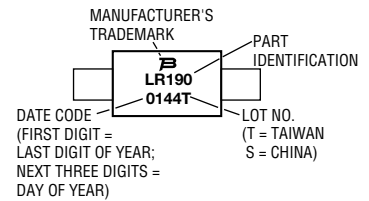


### S Style



### Typical Part Marking

Represents total content. Layout may vary.

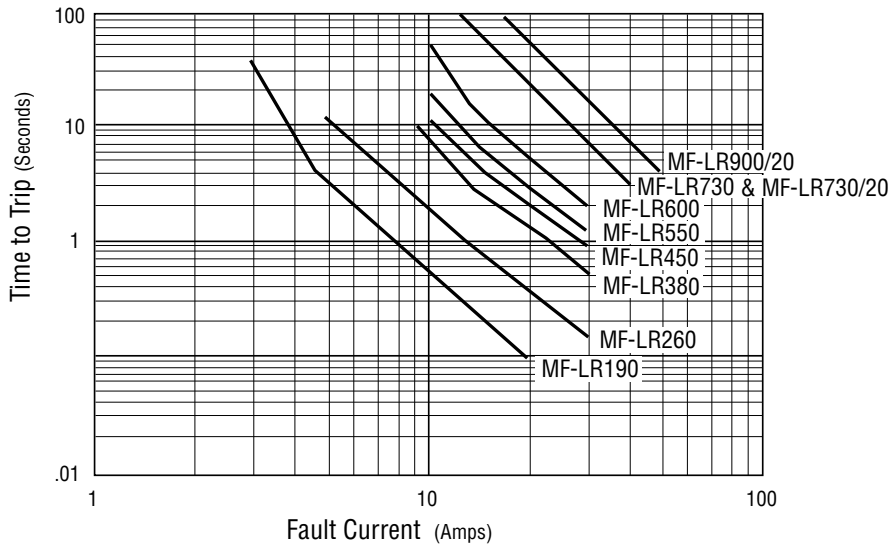


Specifications are subject to change without notice. Customers should verify actual device performance in their specific applications.

# 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\*\*\*

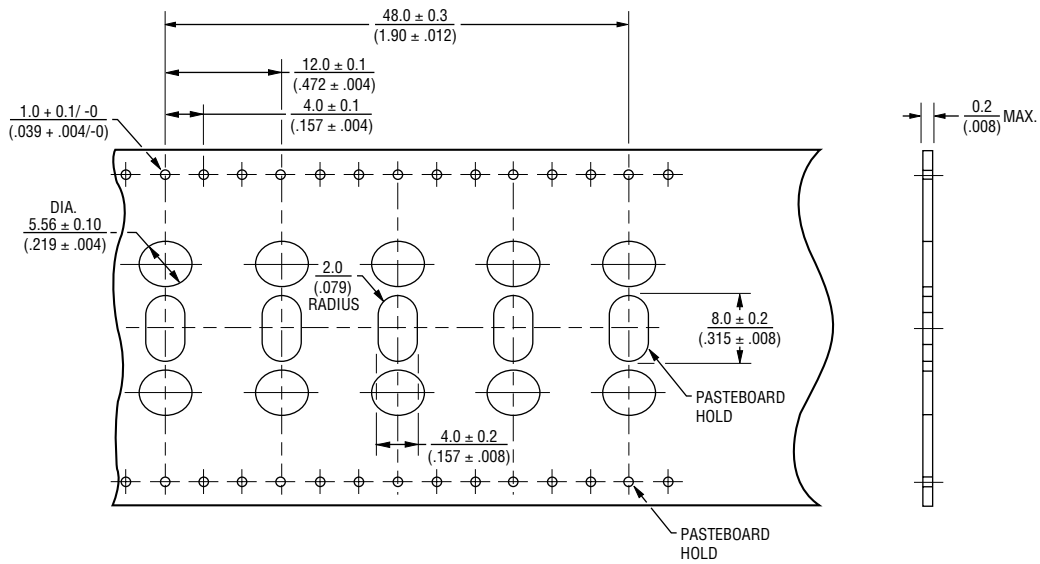
\*V<sub>max</sub> entry applies only to Models MF-LR730/20 & MF-LR900/20.

\*\*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

