

Features

- Axial leaded
- Weldable nickel terminals
- Very low internal resistance
- Operating currents to 9.0 amps
- RoHS compliant*
- Agency recognition:

Applications

Any application that requires protection at low resistances:

- Rechargeable battery pack protection
- Cellular phones
- Laptop computers

MF-LR Series - PTC Resettable Fuses

Electrical Characteristics

Model	V_{max}	I_{max}	I_{hold}	I_{trip}	Initial Resistance		1 Hour Post-Trip Resistance	Max. Time to Trip		Tripped Power Dissipation	Agency Recognition	
			at 23 °C		at 23 °C (Ohms)		at 23 °C (Ohms)	at 23 °C		at 23 °C (Watts)	cUL	TÜV
	Volts	Amps	Amps	Amps	R_{min}	R_{max}	$R_{1max.}$	Amps	Seconds	Typ.	E174545	R50410733
MF-LR190	15	100	1.9	3.9	0.039	0.072	0.102	9.5	5.0	1.2	✓	✓
MF-LR260	15	100	2.6	5.8	0.020	0.042	0.083	13.0	5.0	1.3	✓	✓
MF-LR380	15	100	3.8	8.3	0.013	0.026	0.037	19.0	5.0	2.5	✓	✓
MF-LR450	16	100	4.5	8.9	0.011	0.020	0.028	22.5	5.0	1.4	✓	✓
MF-LR550	10	100	5.5	10.5	0.009	0.016	0.022	27.5	5.0	1.4	✓	✓
MF-LR550/20	20	100	5.5	10.5	0.009	0.016	0.022	27.5	5.0	1.4	✓	Pending
MF-LR600	10	100	6.0	11.7	0.007	0.014	0.019	30.0	5.0	2.8	✓	✓
MF-LR730	10	100	7.3	14.1	0.006	0.012	0.015	30.0	5.0	3.0	✓	✓
MF-LR730/20	20	100	7.3	14.1	0.006	0.012	0.015	30.0	5.0	3.0	✓	Pending
MF-LR900/20	20	100	9.0	16.7	0.006	0.010	0.014	45.0	5.0	3.0	✓	Pending

Environmental Characteristics

Item	Condition	Criteria
Operating Temperature	-40 °C to +85 °C	
Recommended Storage	+40 °C max. / 70 % R.H. max.	
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, Method 2007.1 Condition A	$R_{min} \le R \le R_{1max}$
Moisture Sensitivity Level (MSL)	See Note	
ESD Classification	Class 6 (per AEC-Q200-2, HBM)	

Additional Information

Click these links for more information:

PRODUCT SELECTOR | TECHNICAL LIBRARY | INVENTORY | SAMPLES | CONTACT

Test Procedures and Requirements

Test	Test Conditions	Accept/Reject Criteria
Visual/Mech.	Verify dimensions and materials	Per MF physical description
Resistance	In still air @ 23 °C	Rmin ≤ R ≤ R1max
Time to Trip	At specified current, 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

WARNING
Cancer and Reproductive Harm
www.P65Warnings.ca.gov

*RoHS Directive 2015/863, Mar 31, 2015 and Annex.

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Thermal Derating Table - I_{hold} (Amps)

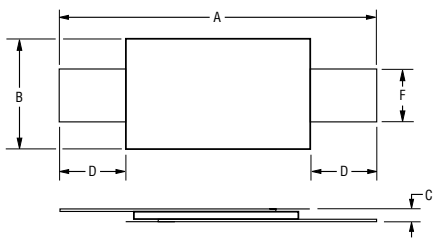
Model	Ambient Operating Temperature								
	-40 °C	-20 °C	0 °C	23 °C	40 °C	50 °C	60 °C	70 °C	85 °C
MF-LR190	2.8	2.5	2.3	1.9	1.6	1.5	1.4	1.2	1.0
MF-LR260	3.8	3.4	3.1	2.6	2.2	2.0	1.9	1.7	1.4
MF-LR380	5.5	4.9	4.4	3.8	3.3	3.0	2.8	2.5	2.1
MF-LR450	6.5	5.8	5.3	4.5	3.9	3.6	3.3	2.9	2.5
MF-LR550	8.0	7.1	6.2	5.5	4.7	4.3	4.0	3.6	3.0
MF-LR550/20	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}.

Product Dimensions

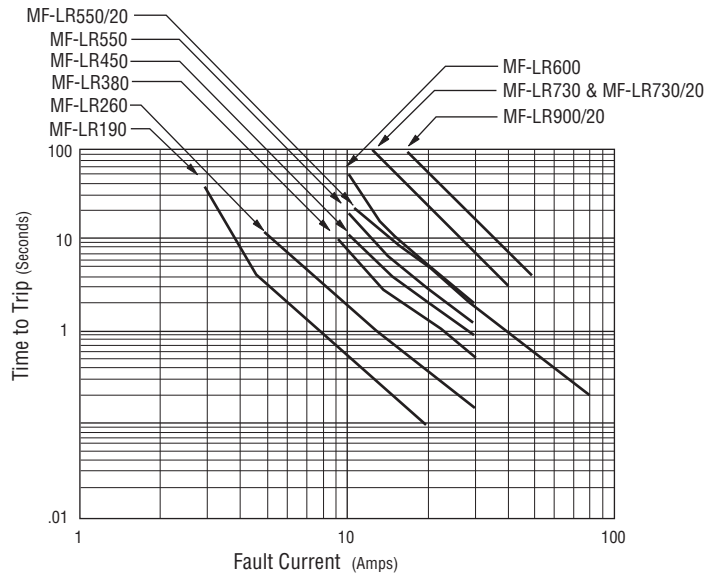
Model	A		B		C		D		F	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
MF-LR190	19.9 (0.783)	22.1 (0.870)	4.9 (0.193)	5.2 (0.205)	0.6 (0.024)	1.0 (0.039)	5.5 (0.217)	7.5 (0.295)	3.9 (0.154)	4.1 (0.161)
MF-LR260	20.9 (0.823)	23.1 (0.909)	4.9 (0.193)	5.2 (0.205)	0.6 (0.024)	1.0 (0.039)	4.1 (0.161)	5.5 (0.217)	3.9 (0.154)	4.1 (0.161)
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)
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)
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)
MF-LR550/20	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)
MF-LR600	24.0 (0.945)	26.0 (1.024)	14.8 (0.583)	15.9 (0.626)	0.6 (0.024)	1.0 (0.039)	4.1 (0.161)	5.5 (0.217)	5.9 (0.232)	6.1 (0.240)
MF-LR730	28.0 (1.102)	30.0 (1.181)	14.0 (0.551)	15.0 (0.590)	0.6 (0.024)	1.0 (0.039)	4.8 (0.189)	5.7 (0.224)	5.9 (0.232)	6.1 (0.240)
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)
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)

DIMENSIONS: MM (INCHES)



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Typical Time to Trip at 23 ˚C

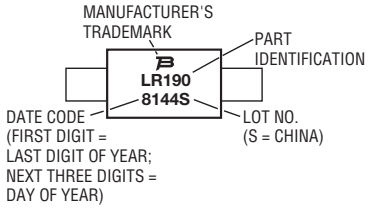


Packaging Quantity

Packaging: Bulk - 500 pcs. per bag

Typical Part Marking

Represents total content. Layout may vary.



How to Order

MF - LR 730/20 - 0

Multifuse® Product Designator

Series
LR = Axial Leaded "Strap" Component

Hold Current, I_{hold}/V_{max}*
190-900 (1.90 Amps - 9.00 Amps)

Packaging Options
-__ = Bulk Packaging Designator for Models MF-LR190 through MF-LR730
-0 = Bulk Packaging Designator for Models MF-LR550/20, MF-LR730/20 and MF-LR900/20

*Vmax entry applies only to Models MF-LR550/20, MF-LR730/20 & MF-LR900/20.

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MF-LR SERIES, REV. Y, 01/22

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Application Notice

- Users are responsible for independent and adequate evaluation of Bourns® Multifuse® Polymer PTC devices in the user's application, including the PPTC device characteristics stated in the applicable data sheet.
- Polymer PTC devices must not be allowed to operate beyond their stated maximum ratings. Operation in excess of such maximum ratings could result in damage to the PTC device and possibly lead to electrical arcing and/or fire. Circuits with inductance may generate a voltage above the rated voltage of the polymer PTC device and should be thoroughly evaluated within the user's application during the PTC selection and qualification process.
- Polymer PTC devices are intended to protect against adverse effects of temporary overcurrent or overtemperature conditions up to rated limits and are not intended to serve as protective devices where overcurrent or overvoltage conditions are expected to be repetitive or prolonged.
- In normal operation, polymer PTC devices experience thermal expansion under fault conditions. Thus, a polymer PTC device must be protected against mechanical stress, and must be given adequate clearance within the user's application to accommodate such thermal expansion. Rigid potting materials or fixed housings or coverings that do not provide adequate clearance should be thoroughly examined and tested by the user, as they may result in the malfunction of polymer PTC devices if the thermal expansion is inhibited.
- Exposure to lubricants, silicon-based oils, solvents, gels, electrolytes, acids, and other related or similar materials may adversely affect the performance of polymer PTC devices.
- Aggressive solvents may adversely affect the performance of polymer PTC devices. Conformal coating, encapsulating, potting, molding, and sealing materials may contain aggressive solvents including but not limited to xylene and toluene, which are known to cause adverse effects on the performance of polymer PTCs. Such aggressive solvents must be thoroughly cured or baked to ensure their complete removal from polymer PTCs to minimize the possible adverse effect on the device.
- Recommended storage conditions should be followed at all times. Such conditions can be found on the applicable data sheet and on the Multifuse® Polymer PTC Moisture/Reflow Sensitivity Classification (MSL) note: https://www.bourns.com/docs/RoHS-MSL/msl_mf.pdf

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- Bourns considers implantable/invasive devices and devices/procedures designed as life-supporting or life-sustaining by the U.S. Food and Drug Administration or equivalent organizations outside of the United States as "life-critical" medical applications. Bourns expressly identifies those Bourns® standard products that are suitable for use in typical medical applications that are not life-critical in its publication entitled "Bourns Medical Grade Component Guide."

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