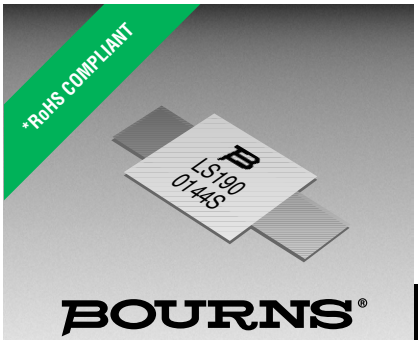

Features

- Axial/radial leaded
- Fully compatible with current industry standards
- Weldable nickel terminals
- Low internal resistance
- RoHS compliant*
- Agency recognition: c UL us, TÜV

Applications

Any application that requires extra protection at elevated ambient temperatures, which the 100 °C trip temperature provides.

- Rechargeable battery pack protection
- Cellular phones
- Laptop computers

MF-LS 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	Certifications	
			Amperes at 23 °C		Ohms at 23 °C		Ohms at 23 °C	Amperes at 23 °C	Seconds at 23 °C	Watts at 23 °C	cUL	TÜV
			Hold	Trip	R_{min}	R_{max}	R_{max}			Typ.	E174545	R50410733
MF-LS100	24	100	1.0	2.5	0.070	0.130	0.260	5	7.0	1.5	✓	✓
MF-LS180	24	100	1.8	3.8	0.040	0.068	0.120	9	2.9	2.0	✓	✓
MF-LS180L	24	100	1.8	3.8	0.040	0.068	0.120	9	2.9	2.0	✓	✓
MF-LS190	24	100	1.9	4.2	0.030	0.057	0.100	10	3.0	1.9	✓	✓
MF-LS260	24	100	2.6	5.2	0.025	0.042	0.076	13	5.0	2.3	✓	✓
MF-LS300	24	100	3.0	6.3	0.015	0.031	0.055	15	4.0	2.0	✓	✓
MF-LS340	24	100	3.4	6.8	0.016	0.027	0.050	17	5.0	2.7	✓	✓

Environmental Characteristics

Item	Condition	Criteria
Operating Temperature	-40 °C to +85 °C	
Storage Condition	+40 °C max. 70 % R.H. max.	
Passive Aging	+70 °C, 1000 hours	±10 % typical resistance change
Humidity Aging	+85 °C, 85 % R.H. 168 hours	±5 % typical resistance change
Vibration	MIL-STD-883C, Method 2007.1 Condition A	$R_{min} \le R \le R1_{max}$
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 For Model MF-LS Series

Test	Test Conditions	Accept/Reject Criteria
Visual/Mechanical	Verify dimensions and materials	Per MF physical description
Resistance	In still air @ 23 °C	$R_{min} \le R \le R1_{max}$
Time to Trip	At specified current, V_{max}, 23 °C, still air	T ≤ max. time to trip (seconds)
Hold Current	30 min. at I_{hold}, still air	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

CALIFORNIA WARNING: Can expose you to lead, a carcinogen and reproductive toxicant.
See www.P65Warnings.ca.gov

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

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Thermal Derating Chart - I_{hold}/I_{trip} (Amps)

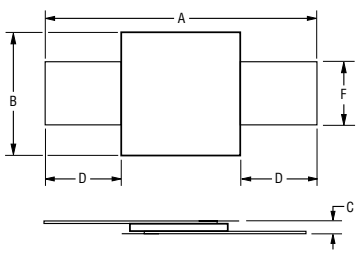
Model	Ambient Operating Temperature								
	-40 °C	-20 °C	0 °C	23 °C	40 °C	50 °C	60 °C	70 °C	85 °C
MF-LS100	1.80 / 3.80	1.60 / 3.38	1.40 / 2.95	1.00 / 2.11	0.80 / 1.69	0.70 / 1.48	0.60 / 1.27	0.40 / 0.85	0.20 / 0.43
MF-LS180	3.10 / 6.54	2.60 / 5.49	2.20 / 4.64	1.80 / 3.80	1.30 / 2.74	1.10 / 2.32	0.90 / 1.90	0.60 / 1.27	0.30 / 0.64
MF-LS180L	3.10 / 6.54	2.60 / 5.49	2.20 / 4.64	1.80 / 3.80	1.30 / 2.74	1.10 / 2.32	0.90 / 1.90	0.60 / 1.27	0.30 / 0.64
MF-LS190	3.30 / 7.29	2.80 / 6.19	2.40 / 5.31	1.90 / 4.20	1.40 / 3.09	1.20 / 2.65	1.10 / 2.43	0.70 / 1.55	0.40 / 0.89
MF-LS260	4.30 / 8.60	3.70 / 7.40	3.10 / 6.20	2.60 / 5.20	1.90 / 3.80	1.60 / 3.20	1.40 / 2.80	1.10 / 2.20	0.60 / 1.20
MF-LS300	5.10 / 10.7	4.40 / 9.24	3.70 / 7.77	3.00 / 6.30	2.30 / 4.83	1.90 / 3.99	1.60 / 3.36	1.20 / 2.52	0.70 / 1.47
MF-LS340	5.50 / 11.0	4.70 / 9.40	4.00 / 8.00	3.40 / 6.80	2.60 / 5.20	2.20 / 4.40	1.90 / 3.80	1.50 / 3.00	0.90 / 1.80

Product Dimensions

Model	A		B		C		D		F	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
MF-LS100	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)	3.8 (0.150)	4.2 (0.165)
MF-LS180	24.0 (0.945)	26.0 (1.024)	4.9 (0.193)	5.2 (0.205)	0.6 (0.024)	1.0 (0.039)	4.1 (0.161)	5.5 (0.217)	3.8 (0.150)	4.2 (0.165)
MF-LS180L	35.0 (1.378)	37.5 (1.476)	4.9 (0.193)	5.6 (0.220)	0.6 (0.024)	1.0 (0.039)	9.6 (0.378)	11.0 (0.433)	3.8 (0.150)	4.2 (0.165)
MF-LS190	21.3 (0.839)	23.4 (0.921)	10.2 (0.402)	11.0 (0.433)	0.5 (0.020)	1.1 (0.043)	5.0 (0.197)	7.6 (0.299)	4.8 (0.189)	5.4 (0.213)
MF-LS260	24.0 (0.945)	26.0 (1.024)	10.8 (0.425)	11.9 (0.469)	0.6 (0.024)	1.0 (0.039)	5.0 (0.197)	7.0 (0.276)	5.9 (0.232)	6.1 (0.240)
MF-LS300	28.4 (1.118)	31.8 (1.252)	13.0 (0.512)	13.5 (0.531)	0.5 (0.020)	1.1 (0.043)	6.3 (0.248)	8.9 (0.350)	6.0 (0.236)	6.6 (0.260)
MF-LS340	24.0 (0.945)	26.0 (1.024)	14.8 (0.583)	15.9 (0.626)	0.6 (0.024)	1.0 (0.039)	4.8 (0.189)	6.0 (0.236)	5.9 (0.232)	6.1 (0.240

NOTE: Longer lead option available. Consult factory.

DIMENSIONS: MM / (INCHES)



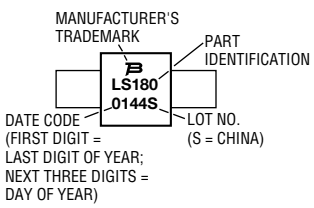
Terminal material: quarter-hard nickel

Packaging Specifications

Bulk – 500 pcs. per bag

Typical Part Marking

Represents total content. Layout may vary.



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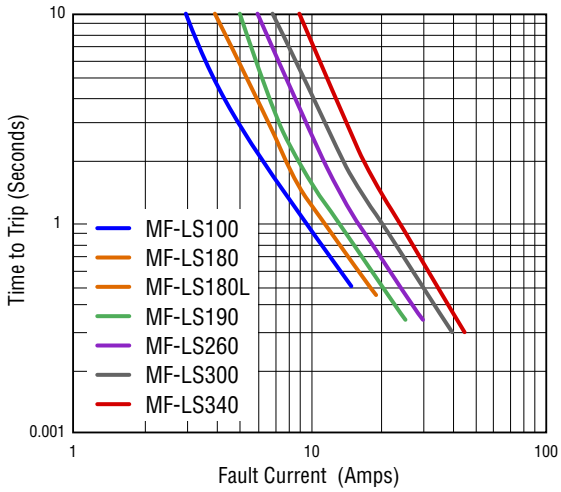
Typical Time to Trip at 23 °C

MF-LS models offer trip temperatures lower than MF-S models for extra protection at elevated temperatures.



How to Order

MF - LS 180 L

Multifuse® Product Designator

Series
LS = Axial Leaded "Strap" Component

Hold Current, I_{hold}
100-340 (1.0 Amps - 3.40 Amps)

Lead Option
L = Long Lead Option

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MF-LS, REV. P, 09/26

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- 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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