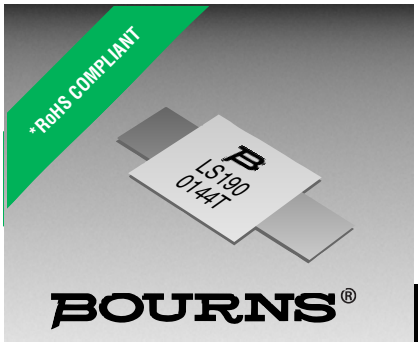


Features

- Axial/radial leaded
- Fully compatible with current industry standards
- Weldable nickel terminals
- Very 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
			Amperes 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-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-LS190RU	15	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

Operating/Storage Temperature ..... -40 °C to +85 °C
Maximum Device Surface Temperature in Tripped State ..... 125 °C
Passive Aging ..... +85 °C, 1000 hours ..... ±10 % typical resistance change
Humidity Aging ..... +85 °C, 85% R.H. 7 days ..... ±5 % typical resistance change
Vibration ..... MIL-STD-883C, Condition A ..... No change

Test Procedures And Requirements For Model MF-LS 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 ≤ 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

UL File Number E174545
TÜV File Number R2057213

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-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	0.20 / 0.42
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	0.20 / 0.42
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 / 0.88
MF-LS190RU	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 / 0.88
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	0.60 / 1.26
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	0.80 / 1.60

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

*RoHS Directive 2002/95/EC Jan. 27, 2003 including annex and RoHS Recast 2011/65/EU June 8, 2011.
Specifications are subject to change without notice.
Users should verify actual device performance in their specific applications.

Product Dimensions

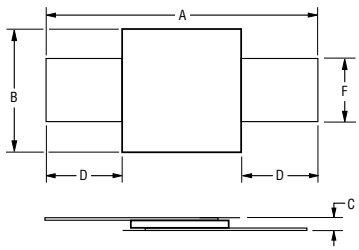
Model	A		B		C		D		F		Pkg. Style
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	
MF-LS180	24.0 (0.945)	26.0 (1.024)	4.9 (0.193)	5.2 (0.205)	0.6 (0.024)	1.0 (0.039)	4.1 (0.161)	5.5 (0.217)	3.8 (0.150)	4.1 (0.161)	Std.
MF-LS180L	35.0 (1.38)	37.5 (1.48)	4.9 (0.193)	5.6 (0.22)	0.6 (0.024)	1.0 (0.039)	9.6 (0.38)	10.0 (0.40)	3.8 (0.150)	4.2 (0.17)	Std.
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)	Std.
MF-LS190RU	19.8 (0.780)	20.8 (0.819)	13.3 (0.524)	14.3 (0.563)	0.4 (0.016)	0.76 (0.030)	8.1 (0.319)	9.5 (0.374)	3.8 (0.150)	4.1 (0.161)	RU
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)	Std.
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)	Std.
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)	4.0 (0.158)	5.0 (0.197)	6.0 (0.236)	6.1 (0.240	Std.

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

NOTE: Longer lead option available. Consult factory.

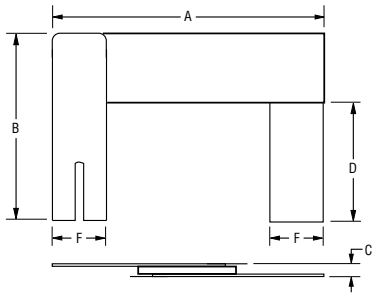
DIMENSIONS: MM / (INCHES)

Standard Style



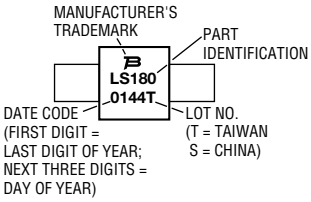
Terminal material: quarter-hard nickel

"RU" Style



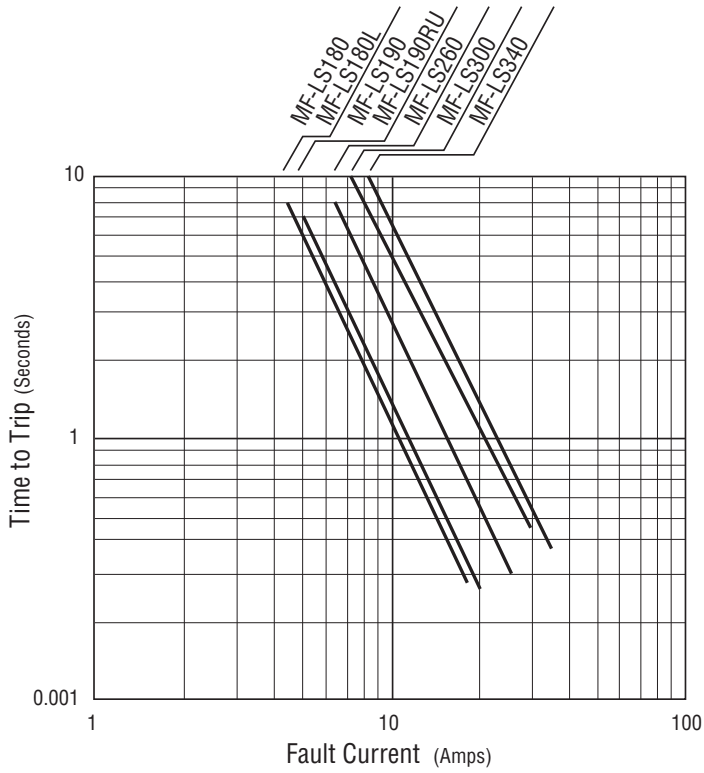
Typical Part Marking

Represents total content. Layout may vary.



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 __

Multifuse® Product Designator

Series
LS = Axial Leaded "Strap" Component

Hold Current, I_{hold}
180-340 (1.8 Amps - 3.40 Amps)

Lead Option
RU = Radial Lead Option

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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