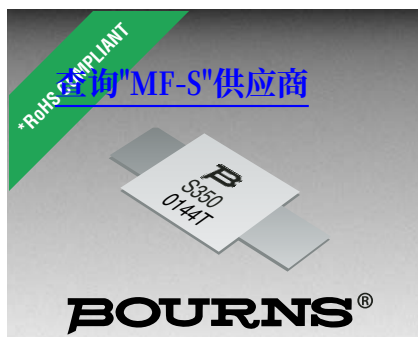




Features

- Axial leaded
- Fully compatible with current industry standards
- Weldable nickel terminals
- Very low internal resistance
- Agency recognition:

- RoHS compliant*
- Lead free

Applications

- Rechargeable Battery Pack Protection
- Provides overcurrent protection with 125 °C trip temperature

MF-S 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-S120	15	100	1.20	2.70	0.085	0.160	0.220	6	5.0	1.20
MF-S120S	15	100	1.20	2.70	0.085	0.160	0.220	6	5.0	1.20
MF-S150	15	100	1.50	3.00	0.050	0.090	0.110	8	5.0	1.30
MF-S175	15	100	1.75	3.80	0.050	0.090	0.120	9	4.0	1.50
MF-S175S	15	100	1.75	3.80	0.050	0.090	0.120	9	4.0	1.50
MF-S200	30	100	2.00	4.40	0.030	0.060	0.080	10	4.0	1.90
MF-S350	30	100	3.50	6.30	0.017	0.031	0.040	20	3.0	2.50
MF-S420	30	100	4.20	7.60	0.012	0.024	0.040	20	6.0	2.90

NOTE: Slotted lead option available on all models.

Environmental Characteristics

Operating/Storage Temperature-40 °C to +85 °C
Maximum Device Surface Temperature
in Tripped State125 °C
Passive Aging.....+85 °C, 1000 hours±5 % typical resistance change
Humidity Aging.....+85 °C, 85% R.H. 7 days±5 % typical resistance change
VibrationMIL-STD-883C, Method 2007.1,No change
Condition A

Test Procedures And Requirements For Model MF-S 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} ≤ R ≤ R _{1max}
Time to Trip	At specified current, V _{max} , 23 °C	T ≤ 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} / 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-S120	1.90 / 4.28	1.70 / 3.83	1.50 / 3.38	1.20 / 2.70	1.00 / 2.25	0.90 / 2.03	0.80 / 1.80	0.70 / 1.58	0.50 / 1.13
MF-S120S	1.90 / 4.28	1.70 / 3.83	1.50 / 3.38	1.20 / 2.70	1.00 / 2.25	0.90 / 2.03	0.80 / 1.80	0.70 / 1.58	0.50 / 1.13
MF-S150	2.20 / 4.40	2.00 / 4.00	1.80 / 3.60	1.50 / 3.00	1.30 / 2.60	1.10 / 2.20	1.00 / 2.00	0.90 / 1.80	0.70 / 1.40
MF-S175	2.50 / 5.59	2.30 / 5.14	2.00 / 4.47	1.70 / 3.80	1.50 / 3.35	1.30 / 2.91	1.20 / 2.68	1.10 / 2.46	0.90 / 2.01
MF-S175S	2.50 / 5.59	2.30 / 5.14	2.00 / 4.47	1.70 / 3.80	1.50 / 3.35	1.30 / 2.91	1.20 / 2.68	1.10 / 2.46	0.90 / 2.01
MF-S200	3.20 / 7.04	2.80 / 6.16	2.50 / 5.50	2.00 / 4.40	1.70 / 3.74	1.60 / 3.52	1.40 / 3.08	1.20 / 2.64	0.90 / 1.98
MF-S350	5.40 / 9.72	4.80 / 8.64	4.30 / 7.74	3.50 / 6.30	3.00 / 5.40	2.80 / 5.04	2.50 / 4.50	2.20 / 3.96	1.70 / 3.06
MF-S420	6.40 / 11.5	5.70 / 10.3	5.10 / 9.23	4.20 / 7.60	3.60 / 6.51	3.30 / 5.97	3.00 / 5.43	2.60 / 4.70	2.10 / 3.80

*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.

Additional Features

- Patents pending

MF-S Series - PTC Resettable Fuses

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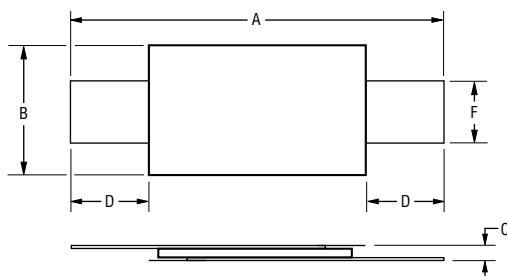
Product Dimensions

Model	A		B		C		D		F	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
MF-S120	$\frac{19.9}{(0.783)}$	$\frac{22.1}{(0.870)}$	$\frac{4.9}{(0.193)}$	$\frac{5.2}{(0.205)}$	$\frac{0.6}{(0.024)}$	$\frac{1.0}{(0.039)}$	$\frac{5.5}{(0.217)}$	$\frac{7.5}{(0.295)}$	$\frac{3.8}{(0.150)}$	$\frac{4.1}{(0.161)}$
MF-S120S	$\frac{19.9}{(0.783)}$	$\frac{22.1}{(0.870)}$	$\frac{4.9}{(0.193)}$	$\frac{5.2}{(0.205)}$	$\frac{0.6}{(0.024)}$	$\frac{1.0}{(0.039)}$	$\frac{5.5}{(0.217)}$	$\frac{7.5}{(0.295)}$	$\frac{3.8}{(0.150)}$	$\frac{4.1}{(0.161)}$
MF-S150	$\frac{21.3}{(0.839)}$	$\frac{23.4}{(0.921)}$	$\frac{10.2}{(0.402)}$	$\frac{11.0}{(0.433)}$	$\frac{0.5}{(0.020)}$	$\frac{1.1}{(0.043)}$	$\frac{4.1}{(0.161)}$	$\frac{5.5}{(0.217)}$	$\frac{4.8}{(0.189)}$	$\frac{5.4}{(0.213)}$
MF-S175	$\frac{20.9}{(0.823)}$	$\frac{23.1}{(0.909)}$	$\frac{4.9}{(0.193)}$	$\frac{5.2}{(0.205)}$	$\frac{0.6}{(0.024)}$	$\frac{1.0}{(0.039)}$	$\frac{4.1}{(0.161)}$	$\frac{5.5}{(0.217)}$	$\frac{3.8}{(0.150)}$	$\frac{4.1}{(0.161)}$
MF-S175S	$\frac{20.9}{(0.823)}$	$\frac{23.1}{(0.909)}$	$\frac{4.9}{(0.193)}$	$\frac{5.2}{(0.205)}$	$\frac{0.6}{(0.024)}$	$\frac{1.0}{(0.039)}$	$\frac{4.1}{(0.161)}$	$\frac{5.5}{(0.217)}$	$\frac{3.8}{(0.150)}$	$\frac{4.1}{(0.161)}$
MF-S200	$\frac{21.3}{(0.839)}$	$\frac{23.4}{(0.921)}$	$\frac{10.2}{(0.402)}$	$\frac{11.0}{(0.433)}$	$\frac{0.5}{(0.020)}$	$\frac{1.1}{(0.043)}$	$\frac{5.0}{(0.197)}$	$\frac{7.6}{(0.217)}$	$\frac{4.8}{(0.189)}$	$\frac{5.4}{(0.213)}$
MF-S350	$\frac{28.4}{(1.119)}$	$\frac{31.8}{(1.252)}$	$\frac{13.0}{(0.512)}$	$\frac{13.5}{(0.531)}$	$\frac{0.5}{(0.020)}$	$\frac{1.1}{(0.043)}$	$\frac{6.3}{(0.248)}$	$\frac{8.9}{(0.350)}$	$\frac{6.0}{(0.236)}$	$\frac{6.6}{(0.260)}$
MF-S420	$\frac{30.6}{(1.205)}$	$\frac{32.4}{(1.276)}$	$\frac{12.9}{(0.508)}$	$\frac{13.6}{(0.535)}$	$\frac{0.5}{(0.020)}$	$\frac{1.1}{(0.043)}$	$\frac{5.0}{(0.197)}$	$\frac{7.5}{(0.295)}$	$\frac{6.0}{(0.236)}$	$\frac{6.6}{(0.260)}$

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

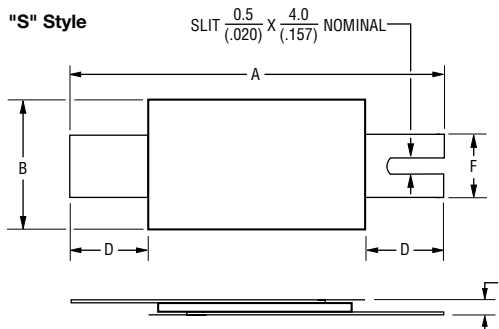
DIMENSIONS = $\frac{\text{MM}}{(\text{INCHES})}$

Standard Style



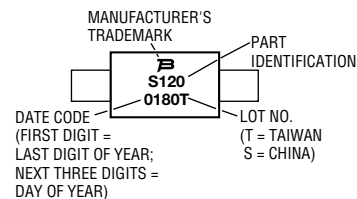
Terminal material: quarter-hard nickel

"S" Style



Typical Part Marking

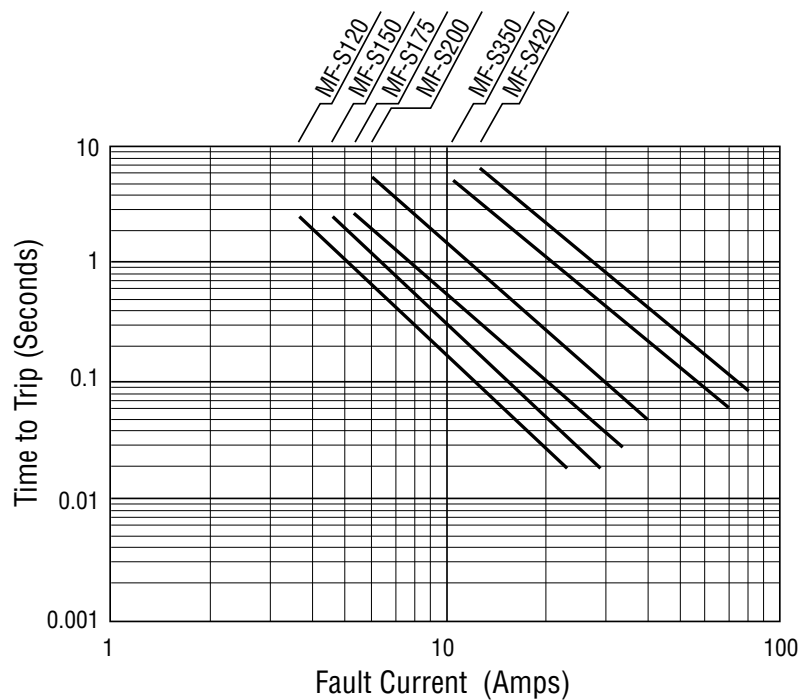
Represents total content. Layout may vary.



MF-S Series - PTC Resettable Fuses

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Typical Time to Trip at 23 °C



How To Order

MF - S 120 S -

Multifuse® Product Designator _____

Series _____
S = Axial Leaded "Strap" Component

Hold Current, I_{hold} _____
120-420 (1.20 Amps - 4.20 Amps)

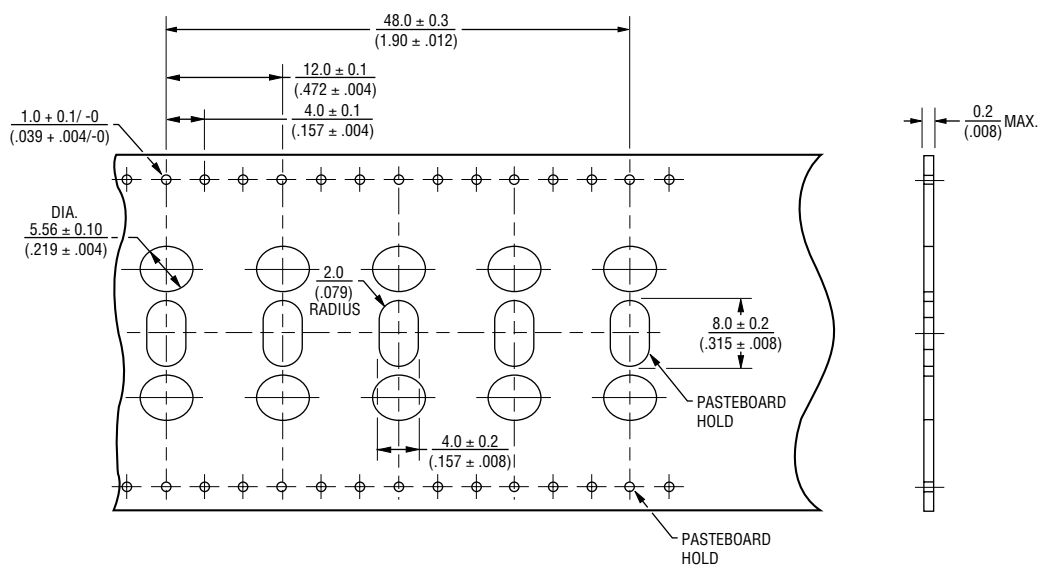
Slotted Lead Option _____

Packaging Options _____
- = Bulk Packaging
- 2 = Tape and Reel*

*Packaged per EIA486-B

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

Taped Component Dimensions



Reel Dimensions

