





Features

- Industry's lowest internal resistance
- Switches at optimum temperature
- Axial leaded, with flexible design options available
- Fully compatible with current industry standards
- Weldable nickel terminals

- Agency recognition:  
- RoHS compliant*

MF-SVS 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.	Typ.	Max.			Typ.
MF-SVS170	10	100	1.7	4.1	0.018	0.032	0.023	0.064	8.5	5.0	2.1
MF-SVS175	10	100	1.75	4.2	0.017	0.031	0.022	0.063	8.5	5.0	2.1
MF-SVS210	10	100	2.1	5.0	0.010	0.020	0.016	0.040	10.5	5.0	2.4
MF-SVS230	10	100	2.3	5.2	0.010	0.018	0.014	0.036	12.5	5.0	2.6

Environmental Characteristics

Operating Temperature.....	-40 °C to +85 °C
Storage Conditions.....	+40 °C max. 70 % R.H. max.
Maximum Device Surface Temperature in Tripped State	125 °C
Passive Aging.....	+60 °C, 1000 hours..... ±10 % typical resistance change
Humidity Aging.....	+60 °C, 85 % R.H. 1000 hours ±10 % typical resistance change
Thermal Shock	MIL-STD-202F, Method 107G,..... ±5 % typical resistance change
	+85 °C to -40 °C, 10 times
Vibration	MIL-STD-883C,..... No change
	Condition A

Test Procedures And Requirements For Model MF-SVS 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.....	E174545 http://www.ul.com/ Follow link to Certifications, then UL File No., enter E174545	
TÜV Certificate Number	R 02057213 http://www.tuvdotcom.com/ Follow link to "other certificates", enter File No. 2057213	

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-SVS170	3.3	2.8	2.3	1.7	1.3	1.0	0.8	0.5	0.1
MF-SVS175	3.4	2.9	2.3	1.75	1.3	1.1	0.8	0.5	0.1
MF-SVS210	3.8	3.3	2.7	2.1	1.6	1.3	1.1	0.8	0.4
MF-SVS230	4.2	3.6	3.0	2.3	1.8	1.4	1.1	0.8	0.4

*I_{trip} is approximately two times I_{hold}.



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.

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Applications

- Any battery pack application that requires protection with the lowest possible resistance:
 - Rechargeable battery packs; designed for NiMH and Li-Ion chemical characteristics
 - Cellular / cordless phone rechargeable battery packs
 - Laptop computer battery packs

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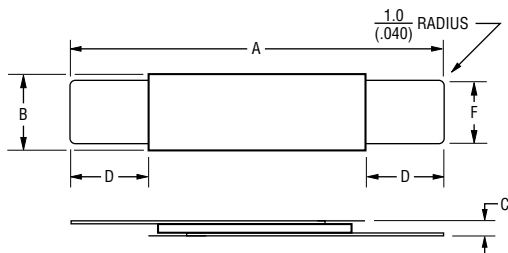
Product Dimensions

Model	A		B		C		D		F	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
MF-SVS170	16.0 (0.630)	18.0 (0.709)	4.9 (0.193)	5.5 (0.216)	0.6 (0.024)	0.9 (0.035)	4.1 (0.161)	5.8 (0.228)	3.9 (0.154)	4.1 (0.161)
MF-SVS170N	22.0 (0.866)	24.0 (0.945)	3.6 (0.142)	3.9 (0.153)	0.6 (0.024)	0.9 (0.035)	4.1 (0.161)	5.8 (0.228)	2.4 (0.094)	2.6 (0.102)
MF-SVS175	16.0 (0.630)	18.0 (0.709)	4.9 (0.193)	5.5 (0.216)	0.6 (0.024)	0.9 (0.035)	4.1 (0.161)	5.8 (0.228)	3.9 (0.154)	4.1 (0.161)
MF-SVS175N	22.0 (0.866)	24.0 (0.945)	3.6 (0.142)	3.9 (0.153)	0.6 (0.024)	0.9 (0.035)	4.1 (0.161)	5.8 (0.228)	2.4 (0.094)	2.6 (0.102)
MF-SVS175NL	26.0 (1.024)	28.0 (1.102)	3.6 (0.142)	3.9 (0.153)	0.6 (0.024)	0.9 (0.035)	6.1 (0.240)	7.8 (0.307)	2.4 (0.094)	2.6 (0.102)
MF-SVS210	20.9 (0.823)	23.1 (0.909)	4.9 (0.193)	5.5 (0.216)	0.6 (0.024)	0.9 (0.035)	4.1 (0.161)	5.8 (0.228)	3.9 (0.154)	4.1 (0.161)
MF-SVS210N	30.0 (1.181)	32.0 (1.260)	3.6 (0.142)	3.9 (0.153)	0.6 (0.024)	0.9 (0.035)	4.1 (0.161)	5.8 (0.228)	2.4 (0.094)	2.6 (0.102)
MF-SVS230	20.9 (0.823)	23.1 (0.909)	4.9 (0.193)	5.5 (0.216)	0.6 (0.024)	0.9 (0.035)	4.1 (0.161)	5.8 (0.228)	3.9 (0.154)	4.1 (0.161)

Packaging: Bulk - 500 pcs. per bag. Tape and Reel - Consult factory.
Leads: 1/4 Hardened Nickel 0.125 mm (.005 ") nom.

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

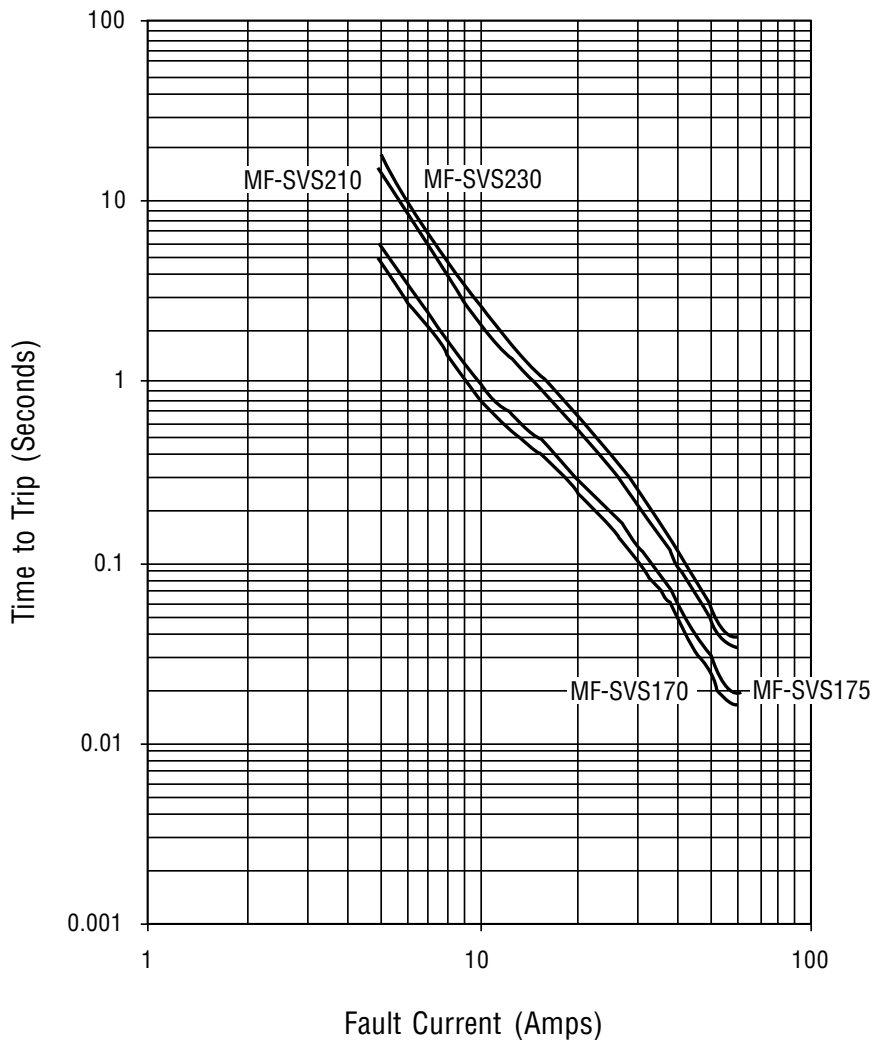
NOTE: The dimensions and shape of the leads can be modified to suit the battery pack design. All models are available without insulation wrapping.



MF-SVS Series - PTC Resettable Fuses

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Typical Time to Trip at 23 °C



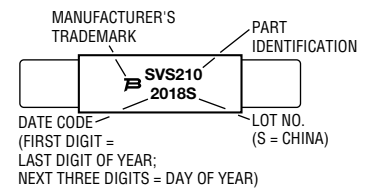
How to Order

MF - SVS 210

Multifuse®
Product Designator _____
Series _____
SVS = Axial Leaded "Strap" Component
Hold Current, I_{hold} _____
170-230 (1.70 - 2.30 Amps)
Narrow Device Option _____
N = Narrow (3.6mm)
Longer Lead Option _____
L = Longer Leads
Insulating Option _____
U = Non-Insulated Option

Typical Part Marking

Represents total content. Layout may vary.



MF-SVS, REV. AD, 08/15

Specifications are subject to change without notice.

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