

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

MF-SVS Series - PTC Resettable Fuses

BOURNS®

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	80 °C
MF-SVS170	3.3	2.8	2.3	1.7	1.3	1.0	0.8	0.5	0.1
MF-SVS170N	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-SVS175N	3.4	2.9	2.3	1.75	1.3	1.1	0.8	0.5	0.1
MF-SVS175NL	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-SVS210N	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
MF-SVS270	5.6	4.7	4.0	2.7	2.2	1.7	1.4	0.9	0.5

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

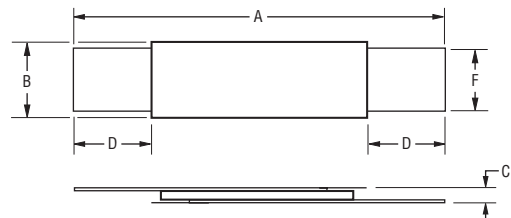
Product Dimensions

Model	A		B		C		D		F	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
MF-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)
MF-SVS270	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)

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

Leads: 1/4 Hardened Nickel 0.127 mm (.005 inch) nom.

NOTE: The dimensions and shape of the leads can be modified to suit the battery pack design.



Packaging Specifications

MF-SVS170 ~ MF-SVS270: Bulk, 500 pcs. per bag.

Tape and reel packaging may be available for high-volume requirements.

Specifications are subject to change without notice.

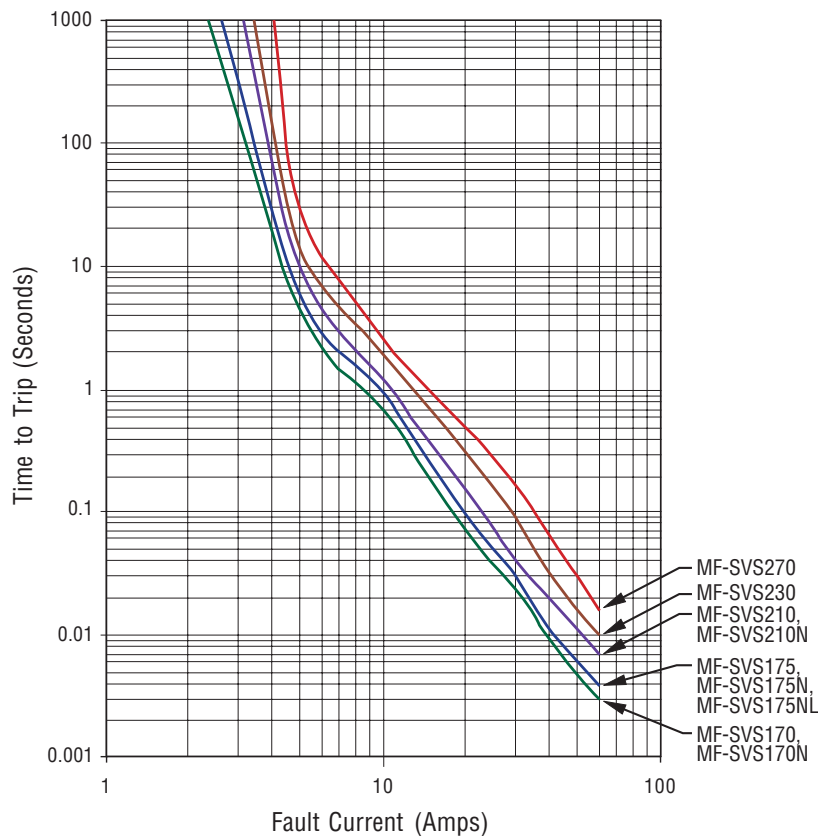
Users should verify actual device performance in their specific applications.

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MF-SVS Series - PTC Resettable Fuses

BOURNS®

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}
170-270 (1.70 - 2.70 Amps)

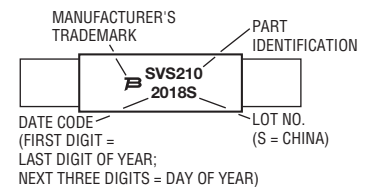
Narrow Device Option
N = Narrow (3.6 mm)

Longer Lead Option
L = Longer Leads

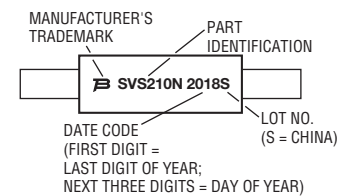
Typical Part Marking

Represents total content. Layout may vary.

Standard Width Models



Narrow Width Models



MF-SVS, REV. AF, 07/20

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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

MFAN 12/18

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