



## 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: <sup>®</sup>
- 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      |  |      | 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.....   | $R_{min} \leq R \leq R_{1max}$       |
| Time to Trip.....            | At specified current, $V_{max}$ , 23 °C.....  | $T \leq$ 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<br><a href="http://www.ul.com/">http://www.ul.com/</a> Follow link to Certifications, then UL File No., enter E174545   |                                      |
| CSA File Number.....         | CA110338<br><a href="http://directories.csa-international.org/">http://directories.csa-international.org/</a> Under "Certification Record" and "File Number" enter 110338-0-000 |                                      |
| TÜV Certificate Number ..... | R 02057213<br><a href="http://www.tuvdotcom.com/">http://www.tuvdotcom.com/</a> 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  $I_{hold}$ .

\*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.

The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time. Users should verify actual device performance in their specific applications.

## 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®**

### Product Dimensions

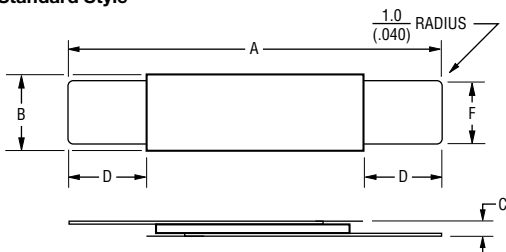
| Model       | A               |                 | B              |                | C              |                | D              |                | F              |                |
|-------------|-----------------|-----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
|             | Min.            | Max.            | Min.           | Max.           | Min.           | Max.           | Min.           | Max.           | Min.           | Max.           |
| MF-SVS170   | 16.0<br>(0.630) | 18.0<br>(0.709) | 4.9<br>(0.193) | 5.5<br>(0.216) | 0.6<br>(0.024) | 0.9<br>(0.035) | 4.1<br>(0.161) | 5.8<br>(0.228) | 3.9<br>(0.154) | 4.1<br>(0.161) |
| MF-SVS170N  | 22.0<br>(0.866) | 24.0<br>(0.945) | 3.6<br>(0.142) | 3.9<br>(0.153) | 0.6<br>(0.024) | 0.9<br>(0.035) | 4.1<br>(0.161) | 5.8<br>(0.228) | 2.4<br>(0.094) | 2.6<br>(0.102) |
| MF-SVS175   | 16.0<br>(0.630) | 18.0<br>(0.709) | 4.9<br>(0.193) | 5.5<br>(0.216) | 0.6<br>(0.024) | 0.9<br>(0.035) | 4.1<br>(0.161) | 5.8<br>(0.228) | 3.9<br>(0.154) | 4.1<br>(0.161) |
| MF-SVS175N  | 22.0<br>(0.866) | 24.0<br>(0.945) | 3.6<br>(0.142) | 3.9<br>(0.153) | 0.6<br>(0.024) | 0.9<br>(0.035) | 4.1<br>(0.161) | 5.8<br>(0.228) | 2.4<br>(0.094) | 2.6<br>(0.102) |
| MF-SVS175NL | 26.0<br>(1.024) | 28.0<br>(1.102) | 3.6<br>(0.142) | 3.9<br>(0.153) | 0.6<br>(0.024) | 0.9<br>(0.035) | 6.1<br>(0.240) | 7.8<br>(0.307) | 2.4<br>(0.094) | 2.6<br>(0.102) |
| MF-SVS210   | 20.9<br>(0.823) | 23.1<br>(0.909) | 4.9<br>(0.193) | 5.5<br>(0.216) | 0.6<br>(0.024) | 0.9<br>(0.035) | 4.1<br>(0.161) | 5.8<br>(0.228) | 3.9<br>(0.154) | 4.1<br>(0.161) |
| MF-SVS210N  | 30.0<br>(1.181) | 32.0<br>(1.260) | 3.6<br>(0.142) | 3.9<br>(0.153) | 0.6<br>(0.024) | 0.9<br>(0.035) | 4.1<br>(0.161) | 5.8<br>(0.228) | 2.4<br>(0.094) | 2.6<br>(0.102) |
| MF-SVS230   | 20.9<br>(0.823) | 23.1<br>(0.909) | 4.9<br>(0.193) | 5.5<br>(0.216) | 0.6<br>(0.024) | 0.9<br>(0.035) | 4.1<br>(0.161) | 5.8<br>(0.228) | 3.9<br>(0.154) | 4.1<br>(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: All "S" style models available with 1 or 2 slots. The dimensions and shape of the leads can be modified to suit the battery pack design. All models are available without insulation wrapping.

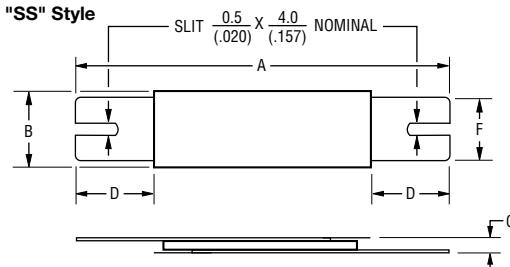
### Standard Style



### "S" Style



### "SS" Style

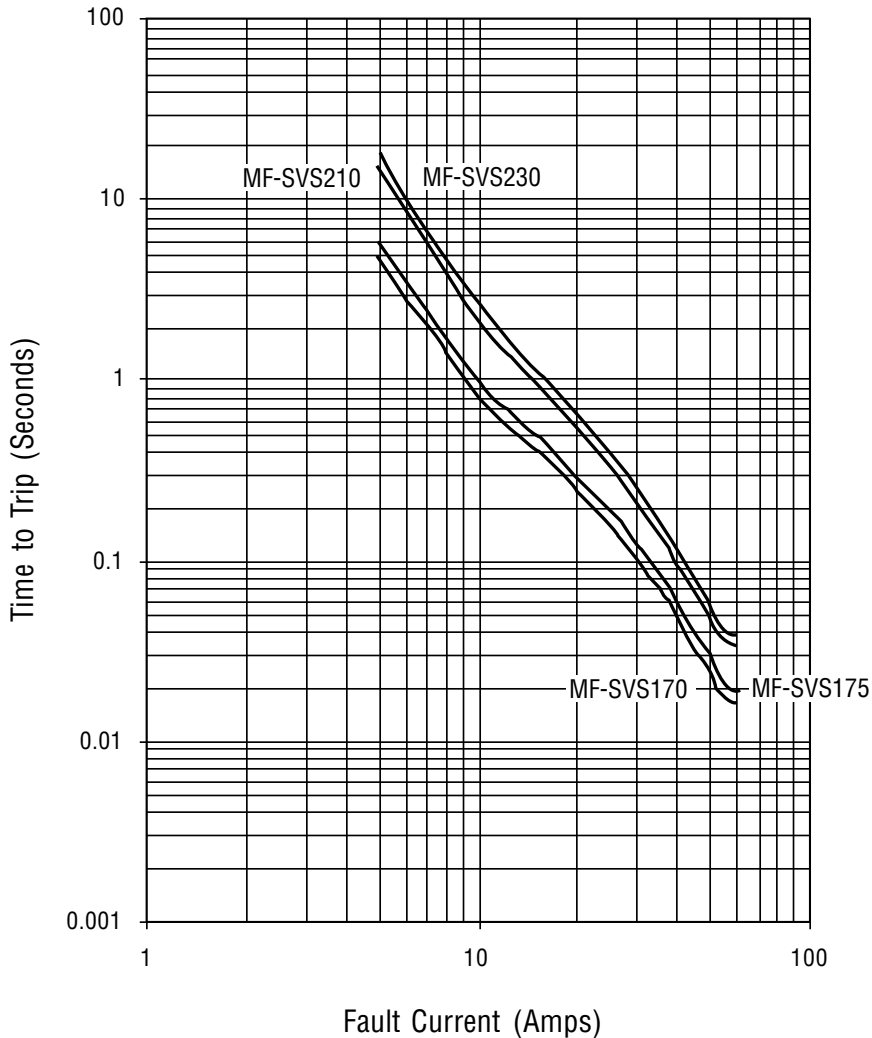


Specifications are subject to change without notice.  
The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.  
Users should verify actual device performance in their specific applications.

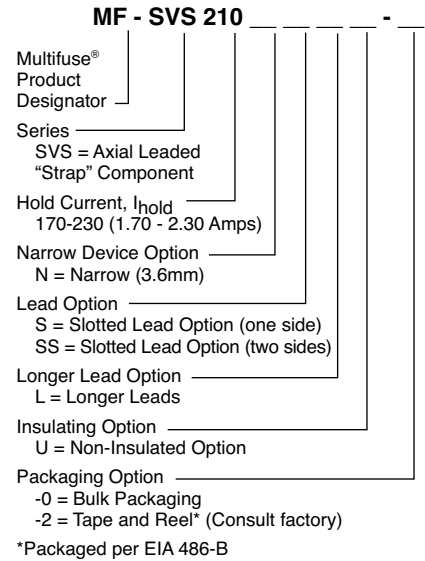
# MF-SVS Series - PTC Resettable Fuses



## Typical Time to Trip at 23 °C



## How to Order



## Typical Part Marking

Represents total content. Layout may vary.



MF-SVS, REV. Z, 03/13

Specifications are subject to change without notice. The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time. Users should verify actual device performance in their specific applications.

Компания «Life Electronics» занимается поставками электронных компонентов импортного и отечественного производства от производителей и со складов крупных дистрибьюторов Европы, Америки и Азии.

С конца 2013 года компания активно расширяет линейку поставок компонентов по направлению коаксиальный кабель, кварцевые генераторы и конденсаторы (керамические, пленочные, электролитические), за счёт заключения дистрибьюторских договоров

Мы предлагаем:

- Конкурентоспособные цены и скидки постоянным клиентам.
- Специальные условия для постоянных клиентов.
- Подбор аналогов.
- Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.
- Приемлемые сроки поставки, возможна ускоренная поставка.
- Доставку товара в любую точку России и стран СНГ.
- Комплексную поставку.
- Работу по проектам и поставку образцов.
- Формирование склада под заказчика.
- Сертификаты соответствия на поставляемую продукцию (по желанию клиента).
- Тестирование поставляемой продукции.
- Поставку компонентов, требующих военную и космическую приемку.
- Входной контроль качества.
- Наличие сертификата ISO.

В составе нашей компании организован Конструкторский отдел, призванный помогать разработчикам, и инженерам.

Конструкторский отдел помогает осуществить:

- Регистрацию проекта у производителя компонентов.
- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
- Изготовление тестовой платы монтаж и пусконаладочные работы.



Тел: +7 (812) 336 43 04 (многоканальный)  
Email: [org@lifeelectronics.ru](mailto:org@lifeelectronics.ru)