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SPFI SERIES IN-LINE SOLAR FUSE

1000 Vdc • 2-30 A (Patent Pending)



Description

The Littelfuse SPFI solar fuse is designed to integrate into an in-line assembly within a wire harness. The fuse provides photovoltaic (PV) protection that meets UL 248-19 for photovoltaic applications. The SPFI can be electrically insulated by either overmolding or using heat-shrink.

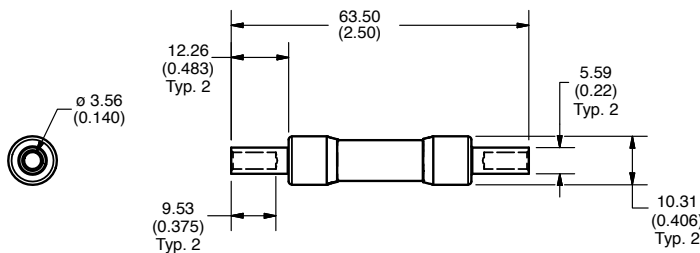
Features/Benefits

- UL 248-19 Recognized
- Meets IEC 60269-6 electrical performance requirements
- 20,000 A Interrupting Rating
- No fuse holder required

Applications

- Photovoltaic wire harness

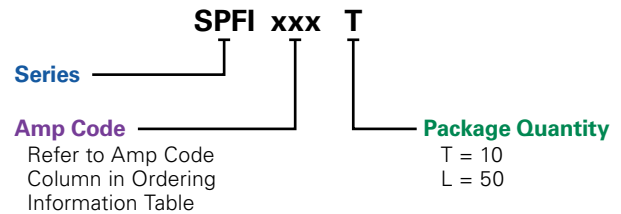
Dimensions mm (in)



Specifications

| | |
|----------------------------|--|
| Voltage Rating | 1000 Vdc |
| Amperage Rating | 2, 2.5, 3, 3.5, 4, 5, 6, 8, 10, 12, 15, 20, 25, 30 A |
| Interrupting Rating | 20 kA |
| Time Constant | ≤ 1ms |
| Material | Body: Melamine Caps: Copper Alloy (Nickel Plated) |
| Approvals | UL 248-19 Recognized (File: E339112) |
| Environmental | RoHS Compliant REACH |
| Country of Origin | Mexico |

Part Numbering System



| SERIES | AMP | PACKAGE QUANTITY | CATALOG NUMBER | ORDERING NUMBER |
|--------|-----|------------------|----------------|-----------------|
| SPFI | 2 | 10 | SPFI002 | SPFI002.T |
| SPFI | 3.5 | 10 | SPFI03.5 | SPFI03.5T |
| SPFI | 20 | 50 | SPFI020 | SPFI020.L |

Web Resources

Downloadable CAD drawings and other technical information: littelfuse.com/spfi

Recommended Crimping Tool

T&B Sta-Kon ERG4002

SPFI SERIES IN-LINE SOLAR FUSE

Ordering Information

| SERIES | AMPERAGE | AMP CODE | CATALOG NUMBER | PRODUCT MARKING | PACK QUANTITY | ORDERING NUMBER | UPC |
|--------|----------|----------|----------------|-----------------|---------------|-----------------|-------------|
| SPFI | 2 | 002. | SPFI002 | SPFI 2A | 10 | SPFI002.T | 07945880898 |
| | | | | | 50 | SPFI002.L | 07945880899 |
| SPFI | 2.5 | 02.5 | SPFI02.5 | SPFI 2 ½A | 10 | SPFI02.5T | 07945882604 |
| | | | | | 50 | SPFI02.5L | 07945882605 |
| SPFI | 3 | 003. | SPFI003 | SPFI 3A | 10 | SPFI003.T | 07945880853 |
| | | | | | 50 | SPFI003.L | 07945880854 |
| SPFI | 3.5 | 03.5 | SPFI03.5 | SPFI 3 ½A | 10 | SPFI03.5T | 07945879544 |
| | | | | | 50 | SPFI03.5L | 07945879545 |
| SPFI | 4 | 004. | SPFI004 | SPFI 4A | 10 | SPFI004.T | 07945880900 |
| | | | | | 50 | SPFI004.L | 07945880901 |
| SPFI | 5 | 005. | SPFI005 | SPFI 5A | 10 | SPFI005.T | 07945880902 |
| | | | | | 50 | SPFI005.L | 07945880903 |
| SPFI | 6 | 006. | SPFI006 | SPFI 6A | 10 | SPFI006.T | 07945880855 |
| | | | | | 50 | SPFI006.L | 07945880856 |
| SPFI | 8 | 008. | SPFI008 | SPFI 8A | 10 | SPFI008.T | 07945880857 |
| | | | | | 50 | SPFI008.L | 07945880858 |
| SPFI | 10 | 010. | SPFI010 | SPFI 10A | 10 | SPFI010.T | 07945880859 |
| | | | | | 50 | SPFI010.L | 07945880860 |
| SPFI | 12 | 012. | SPFI012 | SPFI 12A | 10 | SPFI012.T | 07945880861 |
| | | | | | 50 | SPFI012.L | 07945880862 |
| SPFI | 15 | 015. | SPFI015 | SPFI 15A | 10 | SPFI015.T | 07945880863 |
| | | | | | 50 | SPFI015.L | 07945880864 |
| SPFI | 20 | 020. | SPFI020 | SPFI 20A | 10 | SPFI020.T | 07945880865 |
| | | | | | 50 | SPFI020.L | 07945880866 |
| SPFI | 25 | 025 | SPFI025 | SPFI 25A | 10 | SPFI025.T | 07945882668 |
| | | | | | 50 | SPFI025.L | 07945882669 |
| SPFI | 30 | 030 | SPFI030 | SPFI 30A | 10 | SPFI030.T | 07945882670 |
| | | | | | 50 | SPFI030.L | 07945882671 |

Electrical Specifications

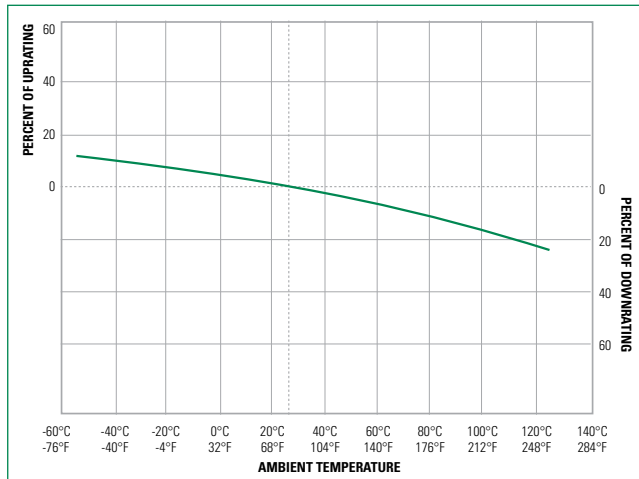
| AMPERAGE | VOLTAGE | INTERRUPTING RATING | | WIRE RANGE CU Only (Solid/Stranded) | NOM COLD RESISTANCE (ohm) | WATTS LOSS AT 100% RATED CURRENT (W) | WATTS LOSS AT 80% RATED CURRENT (W) | TOTAL CLEARING I ² t (A ² s) 20 kA |
|----------|---------|---------------------|-------|---|------------------------------|---|--|---|
| | | AC | DC | | | | | |
| 2 | 1000 | – | 20 kA | 10-12 AWG (6-4 mm ²) | 0.237 | 1.59 | 0.85 | 5 |
| 2.5 | 1000 | – | 20 kA | 10-12 AWG (6-4 mm ²) | 0.185 | 1.84 | 1.24 | 7.5 |
| 3 | 1000 | – | 20 kA | 10-12 AWG (6-4 mm ²) | 0.11 | 1.50 | 0.82 | 7.9 |
| 3.5 | 1000 | – | 20 kA | 10-12 AWG (6-4 mm ²) | 0.581 | 1.17 | 0.61 | 26 |
| 4 | 1000 | – | 20 kA | 10-12 AWG (6-4 mm ²) | 0.0519 | 1.49 | 0.84 | 23 |
| 5 | 1000 | – | 20 kA | 10-12 AWG (6-4 mm ²) | 0.04086 | 1.47 | 0.86 | 43 |
| 6 | 1000 | – | 20 kA | 10-12 AWG (6-4 mm ²) | 0.0281 | 1.35 | 0.77 | 80 |
| 8 | 1000 | – | 20 kA | 10-12 AWG (6-4 mm ²) | 0.0178 | 1.61 | 0.91 | 199 |
| 10 | 1000 | – | 20 kA | 10-12 AWG (6-4 mm ²) | 0.0125 | 1.76 | 1.00 | 401 |
| 12 | 1000 | – | 20 kA | 10-12 AWG (6-4 mm ²) | 0.00993 | 1.97 | 1.11 | 642 |
| 15 | 1000 | – | 20 kA | 10-12 AWG (6-4 mm ²) | 0.00799 | 2.28 | 1.38 | 505 |
| 20 | 1000 | – | 20 kA | 10-12 AWG (6-4 mm ²) | 0.0045 | 2.81 | 1.57 | 1313 |
| 25 | 1000 | – | 20 kA | 10-12 AWG (6-4 mm ²) | 0.00353 | 2.98 | 1.75 | 2371 |
| 30 | 1000 | – | 20 kA | 10-12 AWG (6-4 mm ²) | 0.00284 | 3.92 | 2.13 | 2679 |

SPFI SERIES IN-LINE SOLAR FUSE

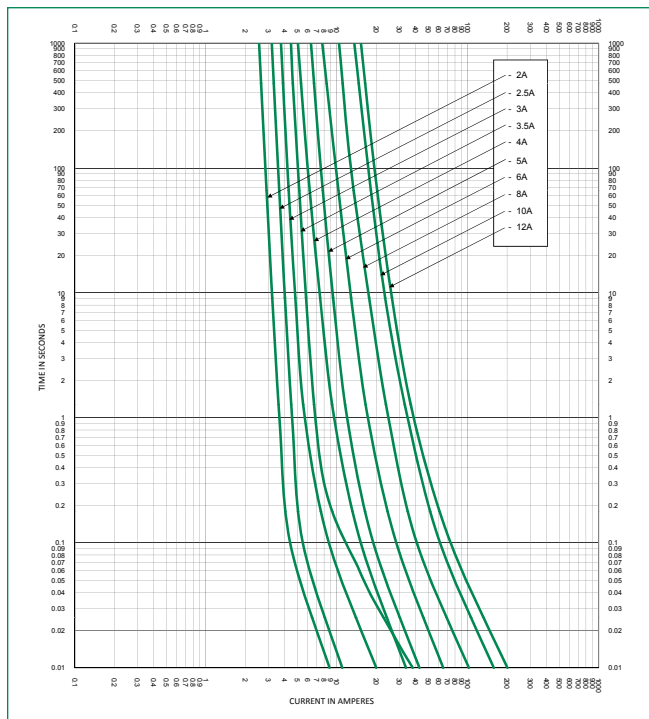
Electrical Specification – Agency Requirements

| AMPERAGE RATING | OPENING TIME (MINUTES) | | | | |
|-----------------|---------------------------|----------------------------|---------------------------|----------------------------|---------------------------|
| | 100% of Amp Rating per UL | 113% of Amp Rating per IEC | 135% of Amp Rating per UL | 145% of Amp Rating per IEC | 200% of Amp Rating per UL |
| 2-30 | Temperature Stabilization | 60 Min | 60 Max | 60 Max | 4 Max |

Temperature Derating Curve (Temperature of Air Immediately Surrounding Fuse)



Time Current Curve (2-12 A)



Time Current Curve (15-30 A)

