

SPFJ SERIES DC FUSE

1000 V dc • 70–450 A • Full Range • Solar-Rated



Description

The SPFJ series is the smallest 1000 V dc 70–450 A dc full range fuse available in the market. The SPFJ series is manufactured in Class J case sizes and is suitable for photovoltaic, dc cable protection, EV off-board charging and other dc applications that allow for both fuse holder and busbar mounting configurations. The SPFJ meets both UL and IEC requirements.

Features & Benefits

- Higher amperage capacity in standard sizes for more protection in a smaller space
- Full range over-current protection capability, suitable for dc cable protection
- Small footprint offers design flexibility and reduces panel size requirements
- Fuse holder or bus bar mountings available for added versatility

Applications

- Inverters
- Re-combiner boxes
- Dc cable protection
- EV off-board (dc fast) chargers

Recommended Fuse Holder

LFJ1000 Solar Series

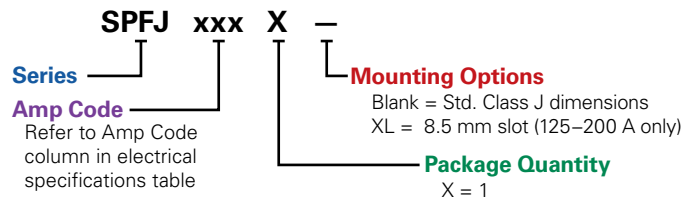
Web Resources

Download technical documents: Littelfuse.com/SPFJ

Specifications

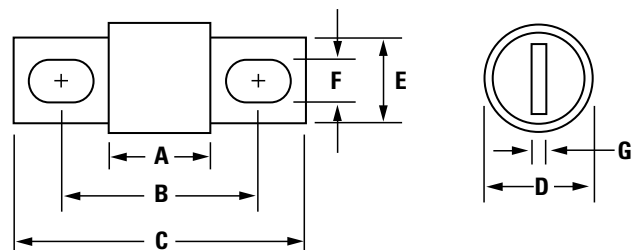
| | |
|-----------------------------|---|
| Voltage Rating | 1000 V dc 600 V ac (125–450 A) |
| Amperage Rating | 70–450 A |
| Interrupting Rating | Ac: 200 kAIC (125–450 A) Dc: 70–200 A: 20 kAIC 250–400 A: 10 kAIC 450 A: 20 kAIC |
| Time Constant | ≤ 1ms |
| Material | Body: Melamine End Bells: Copper Alloy |
| Approvals | cULus (File:E339112), VDE (Cert No. 40033659)** |
| Applicable Standards | UL 248-1, UL 248-8, UL 248-19, IEC 60269-6 |
| Environmental | RoHS Compliant |
| Country of Origin | Mexico |

Part Numbering System



| SERIES | AMP | PACKAGE QUANTITY | CATALOG NUMBER | ORDERING NUMBER |
|--------|-----|------------------|----------------|-----------------|
| SPFJ | 70 | 1 | SPFJ070 | SPFJ070.X |
| SPFJ | 200 | 1 | SPFJ200 | SPFJ200.XXL |

Dimensions Inches (mm)



| AMPERAGE | DIMENSIONS IN INCHES (MM) | | | | | | |
|----------|---------------------------|--------------|---------------|------------|--------------|-------------|------------|
| | A | B | C | D | E | F | G |
| 70–100 | 3.02 (76.5) | 4.38 (111.3) | 5.75 (146.1) | 1.5 (38.1) | 1.125 (28.3) | .335 (8.5) | .189 (4.8) |
| 125–200 | 3.02 (76.5) | 4.38 (111.3) | 5.75 (146.1) | 1.5 (38.1) | 1.125 (28.3) | .281 (7.1)* | .189 (4.8) |
| 250–400 | 3.37 (85.7) | 5.25 (133.4) | 7.125 (181.0) | 2.0 (50.8) | 1.63 (41.3) | .406 (10.3) | .252 (6.4) |
| 450 | 3.75 (95.3) | 5.98 (152.0) | 8.0 (203.2) | 2.5 (63.5) | 2.0 (50.8) | .531 (13.5) | .374 (9.5) |

* SPFJ L option = .330 (8.5)
** Refer to Ordering Information table



Look for this logo to indicate products that are used in solar applications. Visit our website Littelfuse.com/Solar for the latest updates on approvals, certifications, and new products.

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Ordering Information

| SERIES | AMPERAGE RATING | AMP CODE | CATALOG NUMBER | FUSE LABEL ID | ORDERING NUMBER | UPC CODE | cULus APPROVAL | | VDE APPROVAL |
|--------|-----------------|----------|----------------|---------------|-----------------|-------------|----------------|-----------|--------------|
| | | | | | | | 600 V AC | 1000 V DC | |
| SPFJ | 70 | 070. | SPFJ070 | SPFJ 70 | SPFJ070.X | 07945879326 | – | • | – |
| SPFJ | 80 | 080. | SPFJ080 | SPFJ 80 | SPFJ080.X | 07945879327 | – | • | – |
| SPFJ | 90 | 090. | SPFJ090 | SPFJ 90 | SPFJ090.X | 07945879328 | – | • | – |
| SPFJ | 100 | 100. | SPFJ100 | SPFJ 100 | SPFJ100.X | 07945879329 | – | • | – |
| SPFJ | 125 | 125. | SPFJ125 | SPFJ 125 | SPFJ125.X | 07945894924 | • | • | • |
| SPFJ L | 125 | 125. | SPFJ125L | SPFJ 125 L | SPFJ125.XXL | 07945879546 | – | • | – |
| SPFJ | 160 | 160. | SPFJ160 | SPFJ 160 | SPFJ160.X | 07945894925 | • | • | • |
| SPFJ L | 160 | 160. | SPFJ160L | SPFJ 160 L | SPFJ160.XXL | 07945879547 | – | • | – |
| SPFJ | 200 | 200. | SPFJ200 | SPFJ 200 | SPFJ200.X | 07945894926 | • | • | • |
| SPFJ L | 200 | 200. | SPFJ200L | SPFJ 200 L | SPFJ200.XXL | 07945879548 | – | • | – |
| SPFJ | 250 | 250. | SPFJ250 | SPFJ 250 | SPFJ250.X | 07945894927 | • | • | – |
| SPFJ | 300 | 300. | SPFJ300 | SPFJ 300 | SPFJ300.X | 07945894928 | • | • | – |
| SPFJ | 350 | 350. | SPFJ350 | SPFJ 350 | SPFJ350.X | 07945894929 | • | • | – |
| SPFJ | 400 | 400. | SPFJ400 | SPFJ 400 | SPFJ400.X | 07945894930 | • | • | – |
| SPFJ | 450 | 450. | SPFJ450 | SPFJ 450 | SPFJ450.X | 07945894931 | • | • | – |

Electrical Specifications

| CATALOG NUMBER | VOLTAGE RATING | | INTERRUPTING RATING | | NOM COLD RESISTANCE (OHM) | WATTS LOSS AT 100 % RATED CURRENT (W) | WATTS LOSS AT 80 % RATED CURRENT (W) | WATTS LOSS AT 70 % RATED CURRENT (W) | TOTAL CLEARING I ² T (A ² S) 100 KA (600 V AC) | TOTAL CLEARING I ² T (A ² S) 10 KA (1000 V DC) | TOTAL CLEARING I ² T (A ² S) 20 KA (1000 V DC) |
|----------------|----------------|------|---------------------|-------|---------------------------|---------------------------------------|--------------------------------------|--------------------------------------|--|--|--|
| | AC | DC | AC | DC | | | | | | | |
| SPFJ070 | – | 1000 | – | 20 kA | 1.930 | 12.56 | 7.17 | 5.30 | – | – | 5212.9 |
| SPFJ080 | – | 1000 | – | 20 kA | 1.700 | 15.32 | 8.62 | 6.18 | – | – | 6971.4 |
| SPFJ090 | – | 1000 | – | 20 kA | 1.436 | 14.83 | 8.31 | 6.10 | – | – | 10487.2 |
| SPFJ100 | – | 1000 | – | 20 kA | 1.243 | 18.01 | 9.98 | 7.19 | – | – | 12244 |
| SPFJ125 | 600 | 1000 | 200 kA | 20 kA | 0.964 | 23.00 | 12.60 | 9.04 | 24750 | 17391 | 23529 |
| SPFJ125L | – | 1000 | – | 20 kA | 0.964 | 23.00 | 12.60 | 9.04 | – | 17391 | 23529 |
| SPFJ160 | 600 | 1000 | 200 kA | 20 kA | 0.613 | 22.77 | 12.67 | 9.15 | 60100 | 38771 | 47465 |
| SPFJ160L | – | 1000 | – | 20 kA | 0.613 | 22.77 | 12.67 | 9.15 | – | 38771 | 47465 |
| SPFJ200 | 600 | 1000 | 200 kA | 20 kA | 0.460 | 27.40 | 15.09 | 10.87 | 108000 | 66151 | 79642 |
| SPFJ200L | – | 1000 | – | 20 kA | 0.460 | 27.40 | 15.09 | 10.87 | – | 66151 | 79642 |
| SPFJ250 | 600 | 1000 | 200 kA | 10 kA | 0.485 | 49.17 | 26.20 | 20.59 | 85900 | 55897 | – |
| SPFJ300 | 600 | 1000 | 200 kA | 10 kA | 0.367 | 52.90 | 28.32 | 20.02 | 143000 | 91129 | – |
| SPFJ350 | 600 | 1000 | 200 kA | 10 kA | 0.285 | 54.48 | 29.31 | 20.99 | 232000 | 170863 | – |
| SPFJ400 | 600 | 1000 | 200 kA | 10 kA | 0.236 | 58.40 | 31.47 | 22.21 | 400500 | 287094 | – |
| SPFJ450 | 600 | 1000 | 200 kA | 20 kA | 0.187 | 50.55 | 28.68 | 20.79 | 565333 | 401687 | 400916 |

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Electrical Specification – Agency Requirements

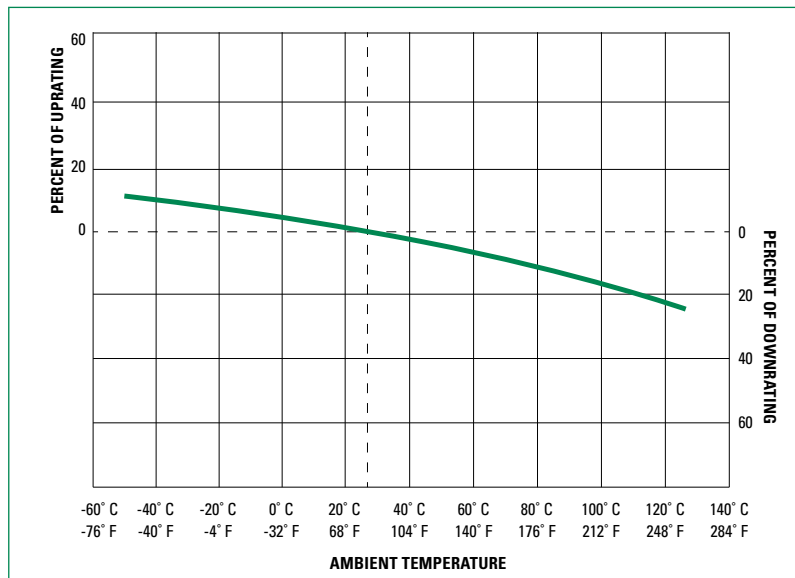
| CATALOG NUMBER | AMPERAGE | OPENING TIME (MINUTES) | | | | | | | | |
|----------------|----------|----------------------------|-----------------------------|----------------------------|-----------------------------|----------------------------|---------|---------|---------|---------|
| | | 100 % OF 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 | | | | |
| SPFJ070 | 70 | Temperature Stabilization | — | 120 Max | — | 8 Max | | | | |
| SPFJ080 | 80 | | | | | | | | | |
| SPFJ090 | 90 | | | | | | | | | |
| SPFJ100 | 100 | | | | | | | | | |
| SPFJ125 | 125 | | | | | | 120 Min | 120 Max | 10 Max | |
| SPFJ160 | 160 | | | | | | 180 Min | 180 Max | | 180 Max |
| SPFJ200 | 200 | | | | | | | | | |
| SPFJ250 | 250 | | | | | | | | | |
| SPFJ300 | 300 | | | | | | 240 Min | 240 Max | 240 Max | 14 Max |
| SPFJ350 | 350 | | | | | | | | | |
| SPFJ400 | 400 | | | | | | | | | |
| SPFJ450 | 450 | | | | | | | | | |

Recommended Torque Values for Bus Bar Mounting Fuse

| CATALOG NUMBER | FUSE TORQUE—METRIC (STANDARD) | HARDWARE SIZE—METRIC (STANDARD)* |
|----------------|-------------------------------|----------------------------------|
| SPFJ070 | 7.3 N•m (65 in-lb) | 6mm (1/4 -20) / 8mm (5/16 -18) |
| SPFJ080 | 7.3 N•m (65 in-lb) | 6mm (1/4 -20) / 8mm (5/16 -18) |
| SPFJ090 | 7.3 N•m (65 in-lb) | 6mm (1/4 -20) / 8mm (5/16 -18) |
| SPFJ100 | 7.3 N•m (65 in-lb) | 6mm (1/4 -20) / 8mm (5/16 -18) |
| SPFJ125 | 7.3 N•m (65 in-lb) | 6mm (1/4 -20) [†] |
| SPFJ160 | 7.3 N•m (65 in-lb) | 6mm (1/4 -20) [†] |
| SPFJ200 | 7.3 N•m (65 in-lb) | 6mm (1/4 -20) [†] |
| SPFJ250 | 19.2 N•m (170 in-lb) | 10mm (3/8 -16) |
| SPFJ300 | 19.2 N•m (170 in-lb) | 10mm (3/8 -16) |
| SPFJ350 | 19.2 N•m (170 in-lb) | 10mm (3/8 -16) |
| SPFJ400 | 19.2 N•m (170 in-lb) | 10mm (3/8 -16) |
| SPFJ450 | 19.2 N•m (170 in-lb) | 12mm (7/16 -14) |

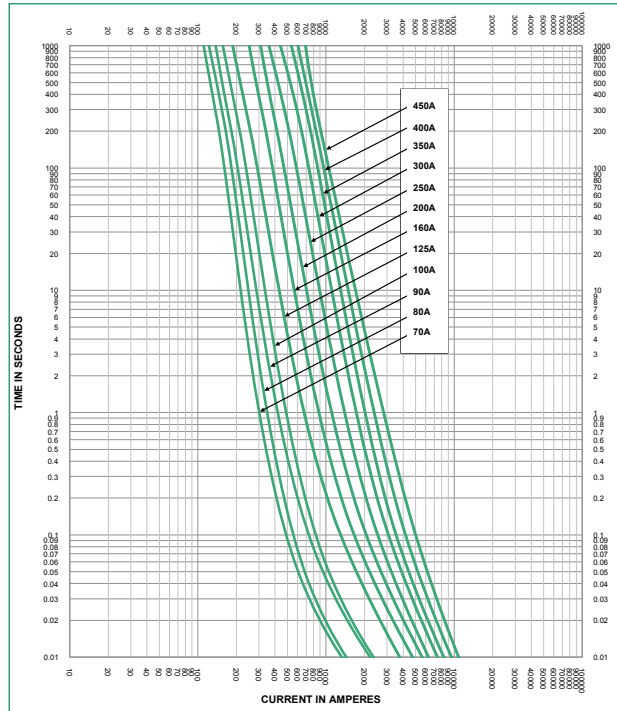
* Recommended minimum hardware grade 2 or class 5.8
[†] 8 mm (5/16-18) for SPFJ L dimension option

Temperature Derating Curve (Temperature of Air Immediately Surrounding Fuse)

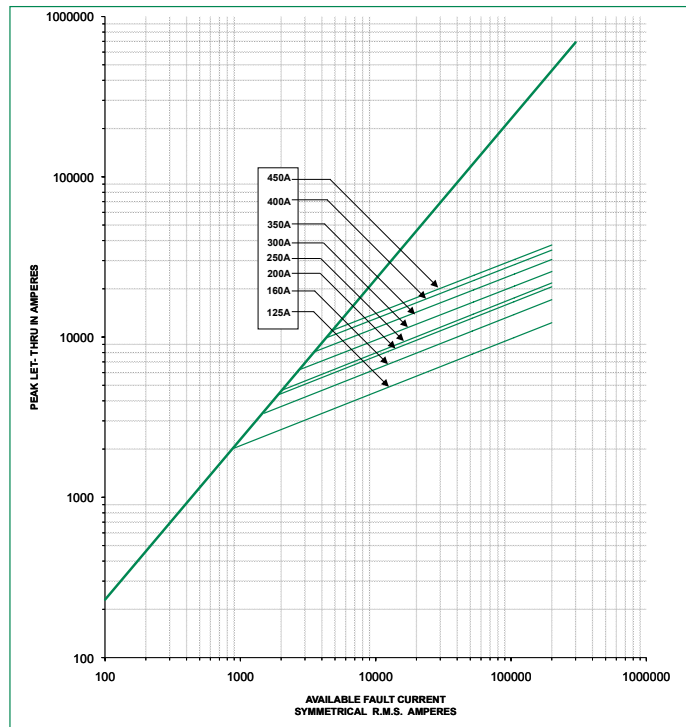


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Time Current Curve



Peak Let-Thru Curve (125–450 A)*



*Tested at 600 V ac

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