

POWR-GARD® Fuse Datasheet

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

Applicable Standards

cULus (File:E339112),
UL 248-1, UL 248-8, UL 248-19,
IEC 60269-6

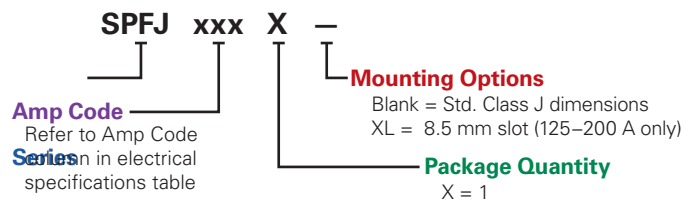
Environmental

RoHS Compliant

Country of Origin

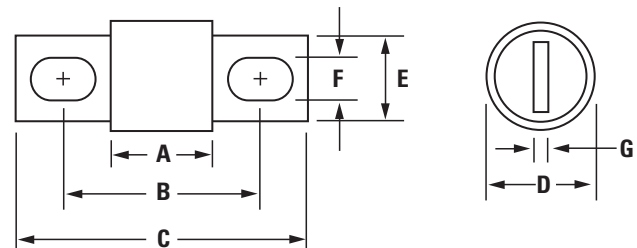
Mexico

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 (76.6)	4.38 (111.2)	5.75 (146.1)	1.5 (38.1)	1.12 (28.3)	.33 (8.5)	.19 (4.8)
125–200	3.02 (76.6)	4.38 (111.2)	5.75 (146.1)	1.5 (38.1)	1.12 (28.3)	.28 (7.1)*	.19 (4.8)
250–400	3.38 (85.7)	5.25 (133.4)	7.12 (180.9)	2.0 (50.8)	1.63 (41.3)	.41 (10.3)	.25 (6.4)
450	3.75 (95.3)	5.98 (152.0)	8.0 (203.2)	2.5 (63.5)	2.0 (50.8)	.53 (13.5)	.38 (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	
							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 (mOHMS)	WATTS LOSS AT 100 % RATED CURRENT (W)	WATTS LOSS AT 80 % RATED CURRENT (W)	WATTS LOSS AT 70 % RATED CURRENT (W)	TOTAL CLEARING I²T (A²S) 100 KA (600 V AC)	TOTAL CLEARING I²T (A²S) 10 KA (1000 V DC)	TOTAL CLEARING I²T (A²S) 20 KA (1000 V DC)
	AC	DC	AC	DC							
SPFJ070	—	1000	—	20 kA	2.018	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	1.299	18.01	9.98	7.19	—	—	12244
SPFJ125	600	1000	200 kA	20 kA	1.020	23.00	12.60	9.04	24750	17391	23529
SPFJ125L	—	1000	—	20 kA	1.020	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	0.494	27.40	15.09	10.87	108000	66151	79642
SPFJ200L	—	1000	—	20 kA	0.494	27.40	15.09	10.87	—	66151	79642
SPFJ250	600	1000	200 kA	10 kA	0.513	49.17	26.20	20.59	85900	55897	—
SPFJ300	600	1000	200 kA	10 kA	0.385	52.90	28.32	20.02	143000	91129	—
SPFJ350	600	1000	200 kA	10 kA	0.302	54.48	29.31	20.99	232000	170863	—
SPFJ400	600	1000	200 kA	10 kA	0.248	58.40	31.47	22.21	400500	287094	—
SPFJ450	600	1000	200 kA	20 kA	0.195	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	105 % OF AMP RATING PER IEC	135 % OF AMP RATING PER UL	200 % OF AMP RATING PER UL	
SPFJ070	70	Temperature Stabilization	—	120 Max	8 Max	
SPFJ080	80					
SPFJ090	90		120 Min		10 Max	
SPFJ100	100					
SPFJ125	125					
SPFJ160	160					
SPFJ200	200					
SPFJ250	250		180 Min		12 Max	
SPFJ300	300					
SPFJ350	350					
SPFJ400	400		240 Min		14 Max	
SPFJ450	450					

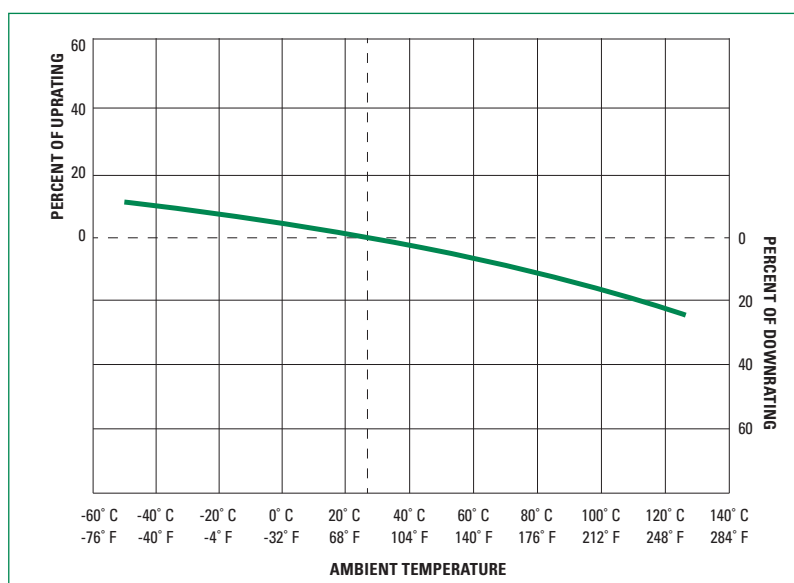
Recommended Torque Values for Bus Bar Mounting Fuse

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)

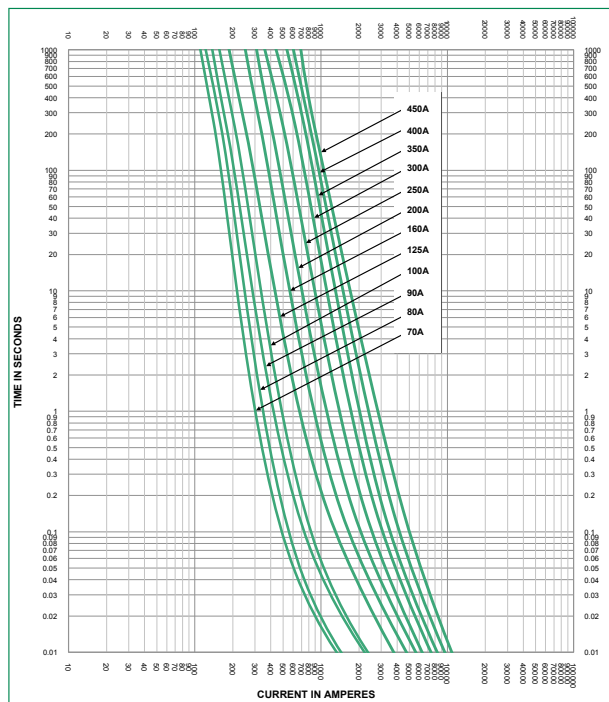


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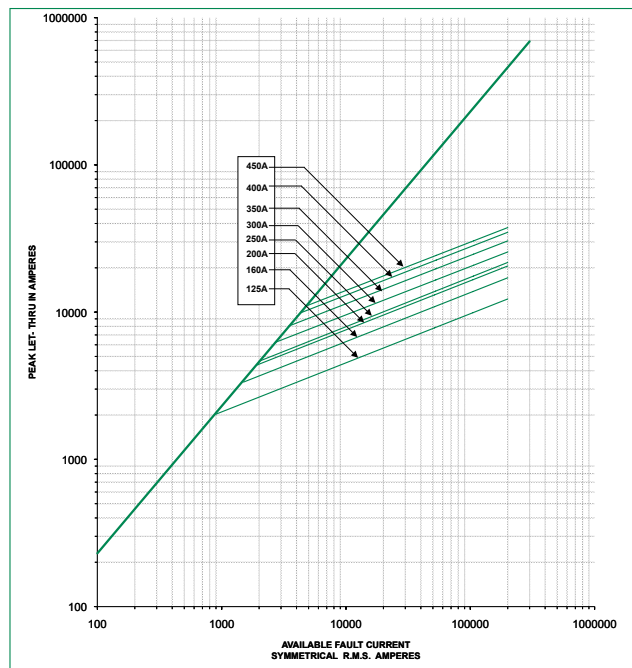
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Time Current Curve



Peak Let-Thru Curve (125–450 A)*



*Tested at 600 V ac

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