

POWR-GARD® Fuse Datasheet



Expertise Applied | Answers Delivered

SPFJ SERIES SOLAR FUSE

1000 Vdc • 70-450 A



Description

The SPFJ series is the smallest 1000 Vdc 70-450 A photovoltaic fuse available in the market. The SPFJ series is manufactured in Class J case sizes that allows for both fuse holder and busbar mounting configuration. The SPFJ meets both UL and IEC requirements.

Features/Benefits

- Meets UL and IEC photovoltaic standards
- Small footprint reduces panel size
- Flexibility of fuse holder or busbar mounting
- Higher amperage solar fuses in standard sizes
- UL Listed branch and feeder circuit rated
- Class J case sizes for the 125-450 A ratings

Applications

- Inverters
- Re-combiner boxes

Recommended Fuse Holder

LFJ1000 Solar Series

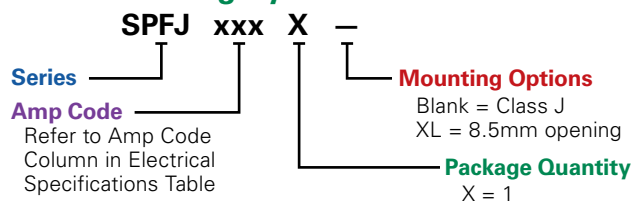
Web Resources

Download technical documents: Littelfuse.com/spfj

Specifications

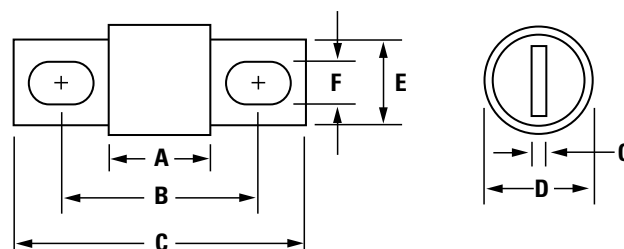
Voltage Rating	1000 Vdc 600 Vac (125-450 A)
Amperage Rating	70, 80, 90, 100, 125, 160, 200, 250, 300, 350, 400, 450
Interrupting Rating	AC: 200 kAIC (125-450 A) DC: 70-200 A: 20 kAIC 250-400 A: 10 kAIC 450 A: 20 kAIC
Time Constant	≤ 1ms
Material	Body: Melamine End Bells: Copper Alloy
Approvals	UL 248-19 Listed (File: E339112) UL 248-8, Class J (125-450 A) cULus (125-450 A) IEC 60269-6 (125-450 A)
Environmental	RoHS Compliant
Country of Origin	Mexico

Part Numbering System



SERIES	AMP	PACKAGE QUANTITY	MOUNTING METHOD	CATALOG NUMBER	ORDERING NUMBER
SPFJ	70	1	CLASS J	SPFJ070	SPFJ070.X
SPFJ	200	1	LARGE	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 = 8.5 mm (UL 248-19 approval only)



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	ORDERING NUMBER	UPC	AGENCY APPROVALS	
						UL	cULus*
SPFJ	70	070	SPFJ070	SPFJ070.X	07945879326	•	—
SPFJ	80	080	SPFJ080	SPFJ080.X	07945879327	•	—
SPFJ	90	090	SPFJ090	SPFJ090.X	07945879328	•	—
SPFJ	100	100	SPFJ100	SPFJ100.X	07945879329	•	—
SPFJ	125	125	SPFJ125	SPFJ125.X	07945894924	•	•
SPFJ	125	125	SPFJ125L	SPFJ125.XXL	07945879546	•	—
SPFJ	160	160	SPFJ160	SPFJ160.X	07945894925	•	•
SPFJ	160	160	SPFJ160L	SPFJ160.XXL	07945879547	•	—
SPFJ	200	200	SPFJ200	SPFJ200.X	07945894926	•	•
SPFJ	200	200	SPFJ200L	SPFJ200.XXL	07945879548	•	—
SPFJ	250	250	SPFJ250	SPFJ250.X	07945894927	•	•
SPFJ	300	300	SPFJ300	SPFJ300.X	07945894928	•	•
SPFJ	350	350	SPFJ350	SPFJ350.X	07945894929	•	•
SPFJ	400	400	SPFJ400	SPFJ400.X	07945894930	•	•
SPFJ	450	450	SPFJ450	SPFJ450.X	07945894931	•	•

* cULus approval on Class J fuse
(no CSA PV standard exists)

Electrical Specifications

CATALOG NUMBER	AMPERAGE RATING	VOLTAGE RATING		INTERRUPTING RATING		TOTAL CLEARING I ² T (A ² s) 100 kA (600 Vac)	TOTAL CLEARING I ² T (A ² s) 10 kA (1000 Vdc)	TOTAL CLEARING I ² T (A ² s) 20 kA (1000 Vdc)
		AC	DC	AC	DC			
SPFJ070	70	—	1000	—	20 kA	—	—	5212.93
SPFJ080	80	—	1000	—	20 kA	—	—	6971.37
SPFJ090	90	—	1000	—	20 kA	—	—	10487.20
SPFJ100	100	—	1000	—	20 kA	—	—	12243.51
SPFJ125	125	600	1000	200 kA	20 kA	24750	17391	23529
SPFJ160	160	600	1000	200 kA	20 kA	60100	38771	47465
SPFJ200	200	600	1000	200 kA	20 kA	108000	66151	79642
SPFJ250	250	600	1000	200 kA	10 kA	85900	55897	—
SPFJ300	300	600	1000	200 kA	10 kA	143000	91129	—
SPFJ350	350	600	1000	200 kA	10 kA	232000	170863	—
SPFJ400	400	600	1000	200 kA	10 kA	400500	287094	—
SPFJ450	450	600	1000	200 kA	20 kA	565333	401687	400916

CATALOG NUMBER	AMPERAGE RATING	NOM COLD RESISTANCE (mΩ)	MELTING I ² t (10 kA) (1000 Vdc)	MELTING I ² t (20 kA) (1000 Vdc)	WATTS LOSS AT 100% RATED CURRENT (W)	WATTS LOSS AT 80% RATED CURRENT (W)	WATTS LOSS AT 70% RATED CURRENT (W)
SPFJ070	70	1.930	—	1772.73	12.56	7.17	5.30
SPFJ080	80	1.700	—	2345.80	15.32	8.62	6.18
SPFJ090	90	1.436	—	3837.24	14.83	8.31	6.10
SPFJ100	100	1.243	—	4693.13	18.01	9.98	7.19
SPFJ125	125	0.964	6863	5824	23.00	12.60	9.04
SPFJ160	160	0.613	19053	19368	22.77	12.67	9.15
SPFJ200	200	0.460	34053	32502	27.40	15.09	10.87
SPFJ250	250	0.485	31022	N/A	49.17	26.20	20.59
SPFJ300	300	0.367	59201	N/A	52.90	28.32	20.02
SPFJ350	350	0.285	109799	N/A	54.48	29.31	20.99
SPFJ400	400	0.236	198654	N/A	58.40	31.47	22.21
SPFJ450	450	0.187	317627	201877	50.55	28.68	20.79

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Electrical Specification – Agency Requirements

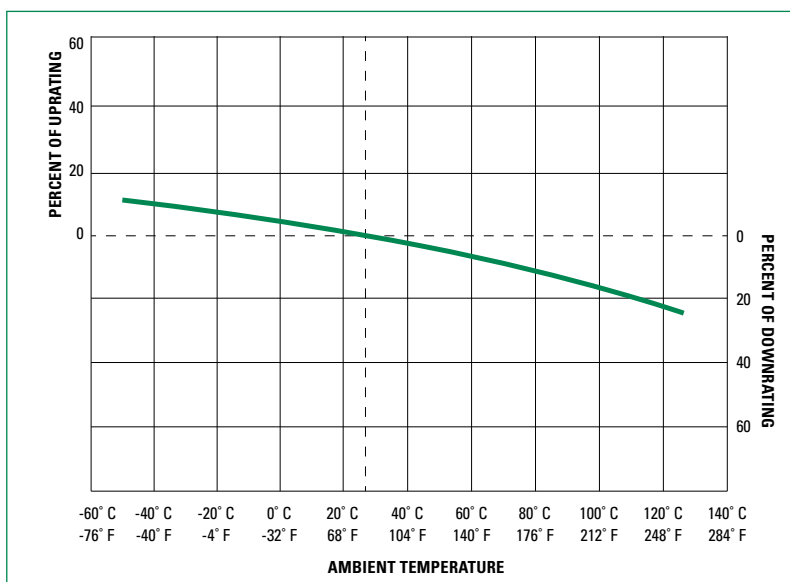
CATALOG NUMBER	AMPERAGE	OPENING TIME (MINUTES)				
		100% of Amp Rating per UL	113% of Amp Rating per IEC	135% of Amp Rating per UL	145% of Amp Rating per IEC	200% of Amp Rating per UL
SPFJ070	70	Temperature Stabilization	—	120 Max	—	8 Max
SPFJ080	80					
SPFJ090	90					
SPFJ100	100		120 Min		120 Max	10 Max
SPFJ125	125					
SPFJ160	160		180 Min		180 Max	12 Max
SPFJ200	200					
SPFJ250	250					
SPFJ300	300		240 Min		240 Max	14 Max
SPFJ350	350					
SPFJ400	400					
SPFJ450	450					

Recommended Torque Values For Buss Bar Mounting

RECOMMENDED TORQUE VALUES FOR BUSS 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
[†] 8mm (5/16 -18) for L dimension option

Temperature Derating Curve (Temperature of Air Immediately Surrounding Fuse)

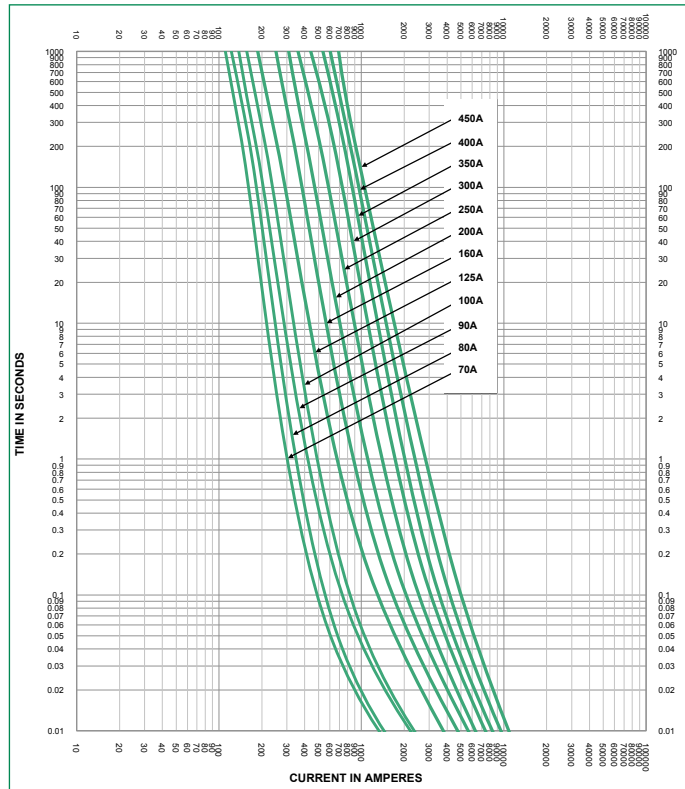


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Time Current Curve



Peak Let-Thru Curve (125-450 A)

