

POWR-GARD® Fuse

SPXI SERIES IN-LINE SOLAR FUSE

1500 V dc • 1–60 A



Description

The Littelfuse SPXI solar fuse is specifically designed for the protection of photovoltaic (PV) systems. It integrates into an in-line assembly within a wire harness and can be electrically insulated by either overmolding or using heat-shrink.

Littelfuse offers multiple ampere ratings to match specific requirements in a variety of applications.

Features/Benefits

- Offers higher amperage protection in less space for increased design flexibility
- One-piece cap design, without joints, offers easier wire crimping and more streamlined molding
- No fuse holder required helps save space, time, and money
- 50,000 A interrupting rating

Applications

- Photovoltaic high-capacity homerun, trunk harness, and wire harness

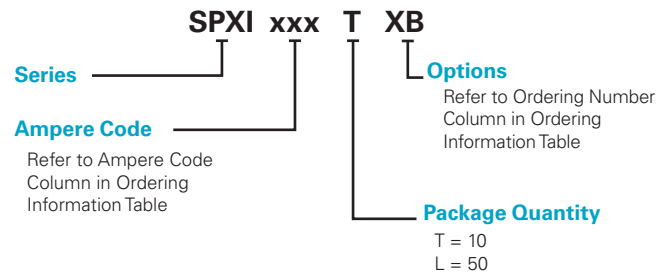
Recommended Crimping Tool

10-12 AWG: T&B Sta-Kon ERG4002
 8 AWG: T&B Sta-Kon ERG4
 6 AWG: Burndy MRC840AL

Specifications

Voltage Rating	1500 V dc
Amperage Rating	1, 2, 2.25, 2.5, 3, 3.5, 4, 4.5, 5, 6, 8, 10, 12, 15, 16, 20, 25, 30, 32, 35, 40, 45, 50, 55, 60 A
Interrupting Ratings	SPXI 1–20 A and SPXI-B 1–20 A: 30 kA SPXI 35–50 A and SPXI-B 35–60 A: 50 kA SPXI-M and SPXI-BM 25–32A: 50 kA
Time Constant	≤ 1ms
Material	Body: melamine Caps: copper alloy (nickel plated)
Approvals	UL Recognized (File: E339112) TUV (Cert: J 50495785)
Applicable Standards	UL 248-1, 248-19 IEC 60269-6 (electrically only)
Environmental	RoHS Compliant REACH
Country of Origin	Mexico
US Patent	9,564,281

Part Numbering System



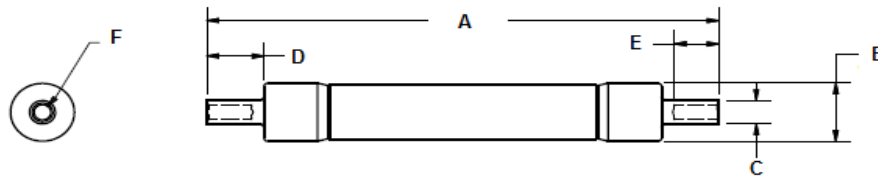
Web Resources

Download additional technical information and view the complete solar portfolio: Littelfuse.com/SPXI

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Dimensions

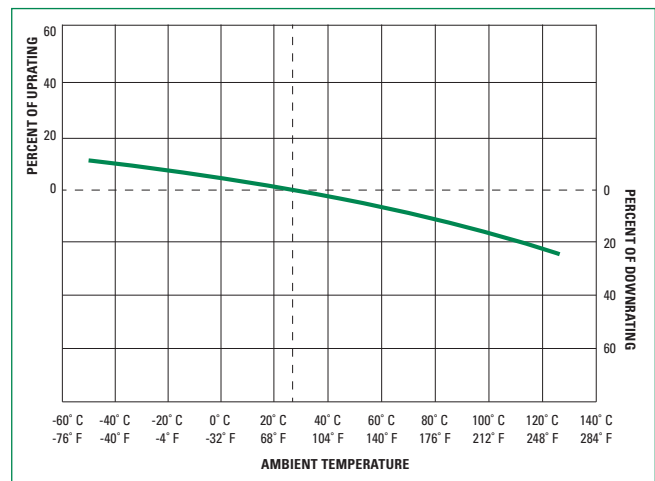


SERIES	AMPS	DIMENSIONS IN MM (INCHES)						WIRE RANGE
		A	B	C	D	E	F	
SPXI	1-4	81.41 (3.205)	10.31 (0.406)	5.59 (0.22)	12.26 (0.483)	9.53 (0.375)	3.56 (0.14)	10-12 AWG (6-4 mm ²)
	4.5-20	110.06 (4.333)	10.31 (0.406)	5.59 (0.22)	12.26 (0.483)	9.53 (0.375)	3.56 (0.014)	10-12 AWG (6-4 mm ²)
	35-50	158.04 (6.222)	20.65 (0.813)	6.7 (0.264)	14.25 (0.561)	10.25 (0.404)	4.7 (0.185)	8 AWG (10 mm ²)
SPXI-B	1-4	85.4 (3.362)	10.31 (0.406)	6.7 (0.264)	14.25 (0.561)	10.25 (0.404)	4.7 (0.185)	8 AWG (10 mm ²)
	4.5-20	114.05 (4.49)	10.31 (0.406)	6.7 (0.264)	14.25 (0.561)	10.25 (0.404)	4.7 (0.185)	8 AWG (10 mm ²)
	35-60	163.58 (6.44)	20.65 (0.813)	8.5 (0.335)	17.02 (0.67)	13.72 (0.54)	5.5 (0.217)	6 AWG
SPXI-M	25-32	110.06 (4.333)	10.31 (0.406)	5.59 (0.22)	12.26 (0.483)	9.53 (0.375)	3.56 (0.014)	10-12 AWG (6-4 mm ²)
SPXI-BM	25-32	114.05 (4.49)	10.31 (0.406)	6.7 (0.264)	14.25 (0.561)	10.25 (0.404)	4.7 (0.185)	8 AWG (10 mm ²)

Electrical Specification — Agency Requirements

AMPERAGE RATING	OPENING TIME (MINUTES)			
	100 % of Amperes Rating per UL	105 % of Amperes Rating per IEC	135 % of Amperes Rating per UL	200 % of Amperes Rating per UL
1-30	Temperature Stabilization	60 Min	60 Max	4 Max
32-60	Temperature Stabilization	60 Min	60 Max	6 Max

Temperature Derating Curve (temperature of air immediately surrounding fuse)



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SPXI and SPXI-M Ordering Information (Standard Crimp Barrel)

SERIES	AMPERAGE	AMPERE CODE	CATALOG NUMBER	PRODUCT MARKING	PACK QUANTITY	ORDERING NUMBER	UPC
SPXI	1	001.	SPXI001	SPXI 1 A	10	SPXI001.T	07945827694
					50	SPXI001.L	07945827686
SPXI	2	002.	SPXI002	SPXI 2 A	10	SPXI002.T	07945827695
					50	SPXI002.L	07945827687
SPXI	2.25	2.25	SPXI2.25	SPXI 2 ¼ A	10	SPXI2.25T	07945827696
					50	SPXI2.25L	07945827688
SPXI	2.5	02.5	SPXI02.5	SPXI 2½ A	10	SPXI02.5T	07945880950
					50	SPXI02.5L	07945880949
SPXI	3	003.	SPXI003	SPXI 3 A	10	SPXI003.T	07945828565
					50	SPXI003.L	07945828566
SPXI	3.5	03.5	SPXI03.5	SPXI 3½ A	10	SPXI03.5T	07945880808
					50	SPXI03.5L	07945880149
SPXI	4	004.	SPXI004	SPXI 4 A	10	SPXI004.T	07945884508
					50	SPXI004.L	07945884509
SPXI	4.5	04.5	SPXI04.5	SPXI 4½ A	10	SPXI04.5T	07945824324
					50	SPXI04.5L	07945824325
SPXI	5	005.	SPXI005	SPXI 5A	10	SPXI005.T	07945823273
					50	SPXI005.L	07945823274
SPXI	6	006.	SPXI006	SPXI 6 A	10	SPXI006.T	07945882658
					50	SPXI006.L	07945882659
SPXI	8	008.	SPXI008	SPXI 8 A	10	SPXI008.T	07945882660
					50	SPXI008.L	07945882661
SPXI	10	010.	SPXI010	SPXI 10 A	10	SPXI010.T	07945882662
					50	SPXI010.L	07945882663
SPXI	12	012.	SPXI012	SPXI 12 A	10	SPXI012.T	07945882664
					50	SPXI012.L	07945882665
SPXI	15	015.	SPXI015	SPXI 15 A	10	SPXI015.T	07945882666
					50	SPXI015.L	07945882667
SPXI	16	016.	SPXI016	SPXI 16 A	10	SPXI016.T	07945827697
					50	SPXI016.L	07945827689
SPXI	20	020.	SPXI020	SPXI 20 A	10	SPXI020.T	07945882556
					50	SPXI020.L	07945882557
SPXI-M	25	025.	SPXI025-M	SPXI 25 A-M	10	SPXI025.TXM	07945826360
					50	SPXI025.LXM	07945826361
SPXI-M	30	030.	SPXI030-M	SPXI 30 A-M	10	SPXI030.TXM	07945826362
					50	SPXI030.LXM	07945826363
SPXI-M	32	032.	SPXI032-M	SPXI 32 A-M	10	SPXI032.TXM	07945826364
					50	SPXI032.LXM	07945826365
SPXI	35	035.	SPXI035	SPXI 35A	10	SPXI035.T	07945826379
SPXI	40	040.	SPXI040	SPXI 40A	10	SPXI040.T	07945826380
SPXI	45	045.	SPXI045	SPXI 45A	10	SPXI045.T	07945826381
SPXI	50	050.	SPXI050	SPXI 50A	10	SPXI050.T	07945826382

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SPXI-B and SPXI-BM Ordering Information (Bigger Crimp Barrel)

SERIES	AMPERAGE	AMPERE CODE	CATALOG NUMBER	PRODUCT MARKING	PACK QUANTITY	ORDERING NUMBER	UPC
SPXI-B	1	001.	SPXI001-B	SPXI 1 A-B	10	SPXI001.TXB	07945827698
					50	SPXI001.LXB	07945827690
SPXI-B	2	002.	SPXI002-B	SPXI 2 A-B	10	SPXI002.TXB	07945827699
					50	SPXI002.LXB	07945827691
SPXI-B	2.25	2.25	SPXI2.25-B	SPXI 2 ¼ A-B	10	SPXI2.25TXB	07945827700
					50	SPXI2.25LXB	07945827692
SPXI-B	2.5	02.5	SPXI02.5-B	SPXI 2½ A-B	10	SPXI02.5TXB	07945824341
					50	SPXI02.5LXB	07945824354
SPXI-B	3	003.	SPXI003-B	SPXI 3 A-B	10	SPXI003.TXB	07945828567
					50	SPXI003.LXB	07945828568
SPXI-B	3.5	03.5	SPXI03.5-B	SPXI 3½ A-B	10	SPXI03.5TXB	07945824342
					50	SPXI03.5LXB	07945824355
SPXI-B	4	004.	SPXI004-B	SPXI 4 A-B	10	SPXI004.TXB	07945824343
					50	SPXI004.LXB	07945824356
SPXI-B	4.5	04.5	SPXI04.5-B	SPXI 4½ A-B	10	SPXI04.5TXB	07945824344
					50	SPXI04.5LXB	07945824357
SPXI-B	5	005.	SPXI005-B	SPXI 5 A-B	10	SPXI005.TXB	07945824345
					50	SPXI005.LXB	07945824358
SPXI-B	6	006.	SPXI006-B	SPXI 6 A-B	10	SPXI006.TXB	07945824346
					50	SPXI006.LXB	07945824359
SPXI-B	8	008.	SPXI008-B	SPXI 8 A-B	10	SPXI008.TXB	07945824347
					50	SPXI008.LXB	07945824360
SPXI-B	10	010.	SPXI010-B	SPXI 10 A-B	10	SPXI010.TXB	07945824348
					50	SPXI010.LXB	07945824361
SPXI-B	12	012.	SPXI012-B	SPXI 12 A-B	10	SPXI012.TXB	07945824349
					50	SPXI012.LXB	07945824362
SPXI-B	15	015.	SPXI015-B	SPXI 15 A-B	10	SPXI015.TXB	07945824350
					50	SPXI015.LXB	07945824363
SPXI-B	16	016.	SPXI016-B	SPXI 16 A-B	10	SPXI016.TXB	07945827706
					50	SPXI016.LXB	07945827693
SPXI-B	20	020.	SPXI020-B	SPXI 20 A-B	10	SPXI020.TXB	07945824351
					50	SPXI020.LXB	07945824364
SPXI-BM	25	025.	SPXI025-BM	SPXI 25 A-BM	10	SPXI025.TXB	07945826366
					50	SPXI025.LXB	07945826367
SPXI-BM	30	030.	SPXI030-BM	SPXI 30 A-BM	10	SPXI030.TXB	07945826368
					50	SPXI030.LXB	07945826369
SPXI-BM	32	032.	SPXI032-BM	SPXI 32 A-BM	10	SPXI032.TXB	07945826370
					50	SPXI032.LXB	07945826371
SPXI-B	35	035.	SPXI035-B	SPXI 35A-B	10	SPXI035.TXB	07945826383
SPXI-B	40	040.	SPXI040-B	SPXI 40A-B	10	SPXI040.TXB	07945826384
SPXI-B	45	045.	SPXI045-B	SPXI 45A-B	10	SPXI045.TXB	07945826385
SPXI-B	50	050.	SPXI050-B	SPXI 50A-B	10	SPXI050.TXB	07945826386
SPXI-B	55	055.	SPXI055-B	SPXI 55A-B	10	SPXI055.TXB	07945826387
SPXI-B	60	060.	SPXI060-B	SPXI 60A-B	10	SPXI060.TXB	07945826388

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SPXI and SPXI-M Electrical Specifications (Standard Crimp Barrel)

ORDERING NUMBER	VOLTAGE	INTERRUPTING RATING	NOM COLD RESISTANCE (ohm)	WATTS LOSS AT 100 % RATED CURRENT (W)	WATTS LOSS AT 80 % RATED CURRENT (W)	MELTING I ² t (A ² s) (1500 V DC)	TOTAL CLEARING I ² t (A ² s) 15 kA (1500 V DC)	AGENCY APPROVALS		
	DC	DC						UL	cUL	TUV
SPXI001.T SPXI001.L	1500	30 kA	0.625	1.07	0.56	0.29	0.53	•	•	•
SPXI002.T SPXI002.L	1500	30 kA	0.191	1.32	0.70	1.55	5.13	•	•	•
SPXI2.25T SPXI2.25L	1500	30 kA	0.125	0.90	0.50	5.00	13	•	•	•
SPXI02.5T SPXI02.5L	1500	30 kA	0.099	0.86	0.48	7	16	•	•	•
SPXI003.T SPXI003.L	1500	30 kA	.0721	.92	.51	14	40	•	•	•
SPXI03.5T SPXI03.5L	1500	30 kA	0.0711	1.56	0.81	25	50	•	•	•
SPXI004.T SPXI004.L	1500	30 kA	0.0438	0.95	0.54	57	95	•	•	•
SPXI04.5T SPXI04.5L	1500	30 kA	0.0899	2.84	1.54	34	55	•	•	•
SPXI005.T SPXI005.L	1500	30kA	0.0644	3.04	1.59	48	71	•	•	•
SPXI006.T SPXI006.L	1500	30 kA	0.0576	3.05	1.71	49	75	•	•	•
SPXI008.T SPXI008.L	1500	30 kA	0.0349	3.26	1.84	121	214	•	•	•
SPXI010.T SPXI010.L	1500	30 kA	0.0223	3.25	1.82	407	509	•	•	•
SPXI012.T SPXI012.L	1500	30 kA	0.0163	3.34	1.89	798	951	•	•	•
SPXI015.T SPXI015.L	1500	30 kA	0.0131	5.27	3.05	299	637	•	•	•
SPXI016.T SPXI016.L	1500	30 kA	0.013	5.32	3.08	404	666	•	•	•
SPXI020.T SPXI020.L	1500	30 kA	0.0085	5.38	3.14	701	1464	•	•	•
SPXI025.TXM SPXI025.LXM	1500	50 kA	0.00665	5.8	3.2	2304	3255*	•	•	•
SPXI030.TXM SPXI030.LXM	1500	50 kA	0.00526	6.8	3.8	3792	5543*	•	•	•
SPXI032.TXM SPXI032.LXM	1500	50 kA	0.00459	6.9	3.8	4350	6654*	•	•	•
SPXI035.T	1500	50 kA	0.00712	14.02	7.85	257	1794*	•	•	
SPXI040.T	1500	50 kA	0.00548	14.10	7.90	362	5726*	•	•	
SPXI045.T	1500	50 kA	0.00464	14.75	8.26	588	5521*	•	•	
SPXI050.T	1500	50 kA	0.00415	17.83	9.99	657	7058*	•	•	

*Total Clearing I²t (A²s) 50 kA

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SPXI-B and SPXI-BM Electrical Specifications (Bigger Crimp Barrel)

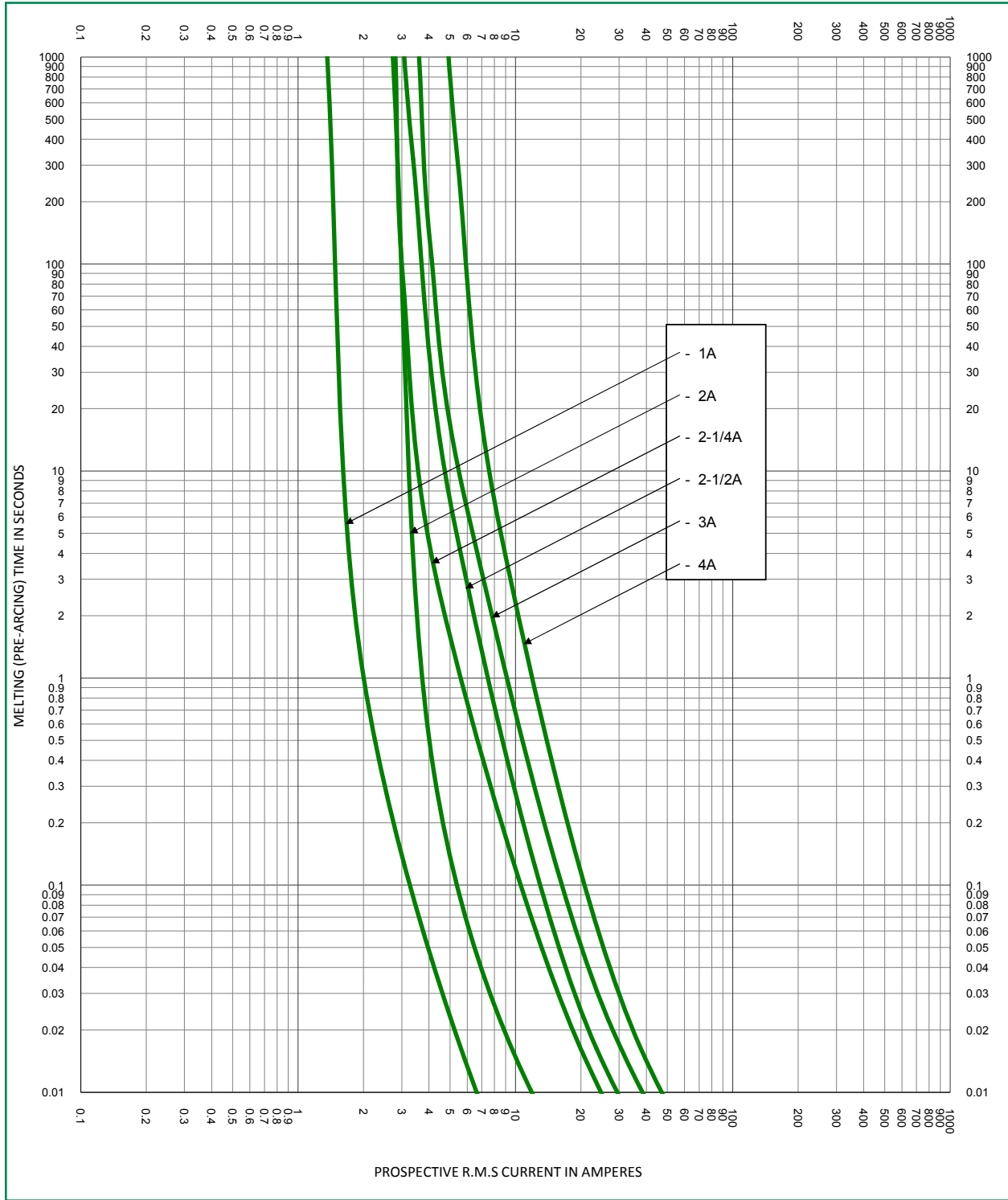
ORDERING NUMBER	VOLTAGE	INTERRUPTING RATING	NOM COLD RESISTANCE (ohm)	WATTS LOSS AT 100 % RATED CURRENT (W)	WATTS LOSS AT 80 % RATED CURRENT (W)	MELTING I ² t (A ² s) (1500 V DC)	TOTAL CLEARING I ² t (A ² s) 15 kA (1500 V DC)	AGENCY APPROVALS	
	DC	DC						UL	TUV
SPXI001.TXB SPXI001.LXB	1500	30 kA	0.625	1.07	0.56	0.29	0.53	•	•
SPXI002.TXB SPXI002.LXB	1500	30 kA	0.191	1.32	0.70	1.55	5.13	•	•
SPXI2.25TXB SPXI2.25LXB	1500	30 kA	0.125	0.90	0.50	5	13	•	•
SPXI02.5TXB SPXI02.5LXB	1500	30 kA	0.099	0.86	0.48	7	16	•	•
SPXI003.TXB SPXI003.LXB	1500	30 kA	.0721	.92	.51	14	40	•	•
SPXI03.5TXB SPXI03.5LXB	1500	30 kA	0.0711	1.56	0.81	25	50	•	•
SPXI004.TXB SPXI004.LXB	1500	30 kA	0.0438	0.95	0.56	57	95	•	•
SPXI04.5TXB SPXI04.5LXB	1500	30 kA	0.0899	2.84	1.54	34	55	•	•
SPXI005.TXB SPXI005.LXB	1500	30kA	0.0644	3.04	1.59	48	71	•	•
SPXI006.TXB SPXI006.LXB	1500	30 kA	0.0576	3.05	1.71	49	75	•	•
SPXI008.TXB SPXI008.LXB	1500	30 kA	0.0349	3.26	1.84	121	214	•	•
SPXI010.TXB SPXI010.LXB	1500	30 kA	0.0223	3.25	1.82	407	509	•	•
SPXI012.TXB SPXI012.LXB	1500	30 kA	0.0163	3.34	1.89	798	951	•	•
SPXI015.TXB SPXI015.LXB	1500	30 kA	0.0131	5.27	3.05	299	637	•	•
SPXI016.TXB SPXI016.LXB	1500	30 kA	0.013	5.32	3.08	404	666	•	•
SPXI020.TXB SPXI020.LXB	1500	30 kA	0.0085	5.38	3.14	701	1464	•	•
SPXI025.TXBM SPXI025.LXBM	1500	50 kA	0.00665	5.9	3.3	2304	3256*	•	•
SPXI030.TXBM SPXI030.LXBM	1500	50 kA	0.00526	6.7	3.8	3792	5543*	•	•
SPXI032.TXBM SPXI032.LXBM	1500	50 kA	0.00459	7.0	3.9	4350	6655*	•	•
SPXI035.TXB	1500	50 kA	0.00735	12.58	7.04	257	1794*	•	•
SPXI040.TXB	1500	50 kA	0.00548	13.50	7.56	362	5726*	•	•
SPXI045.TXB	1500	50 kA	0.00458	15.02	8.41	588	5521*	•	•
SPXI050.TXB	1500	50 kA	0.00412	16.75	9.38	657	7058*	•	•
SPXI055.TXB	1500	50 kA	0.00365	17.82	9.98	853	8783*	•	•
SPXI060.TXB	1500	50 kA	0.00326	21.02	11.77	1030	11682*	•	•

*Total Clearing I²t (A²s) 50 kA

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Time Current Curve SPXI and SPXI-B 1-4 A

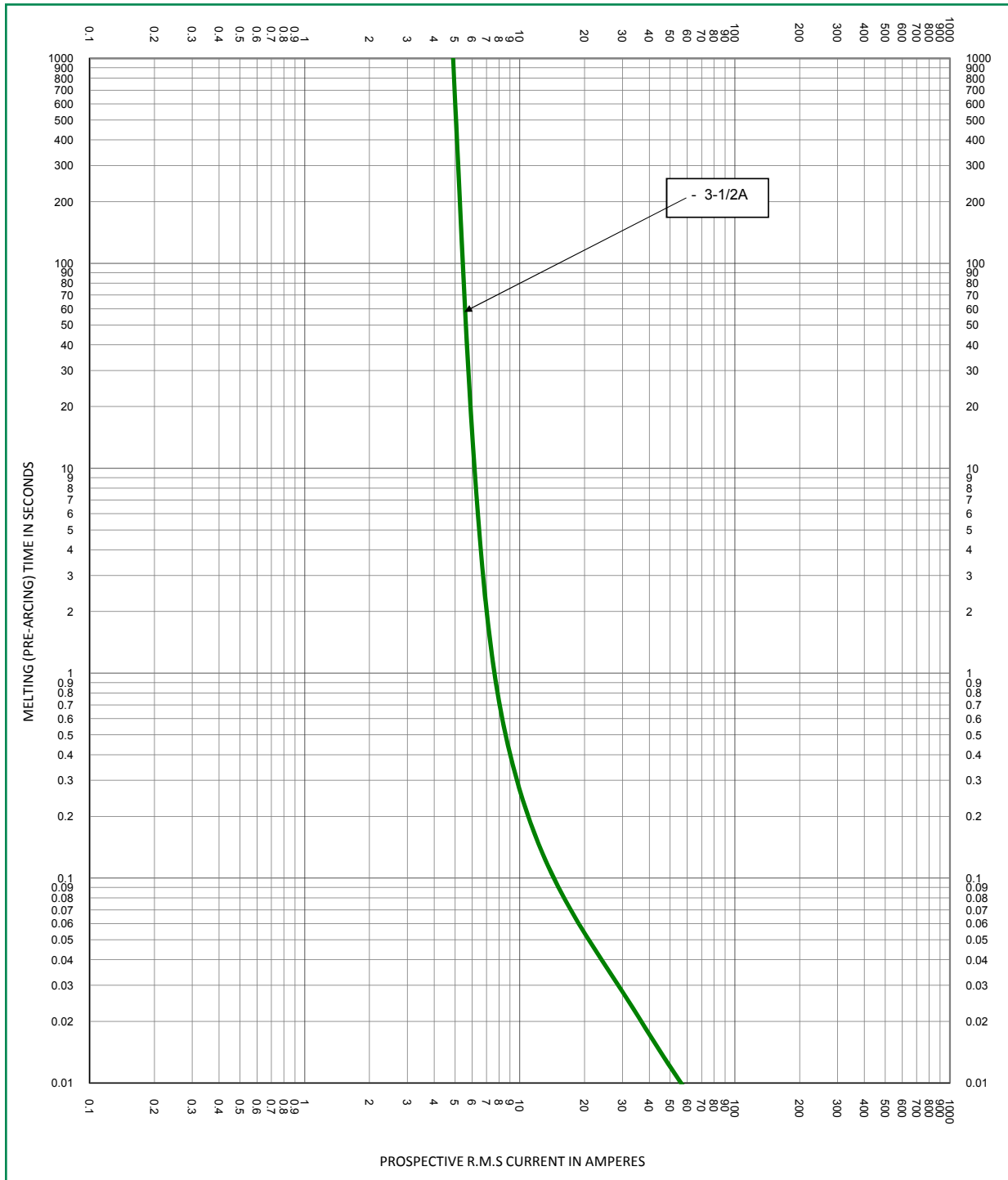


POWR-GARD® Fuse

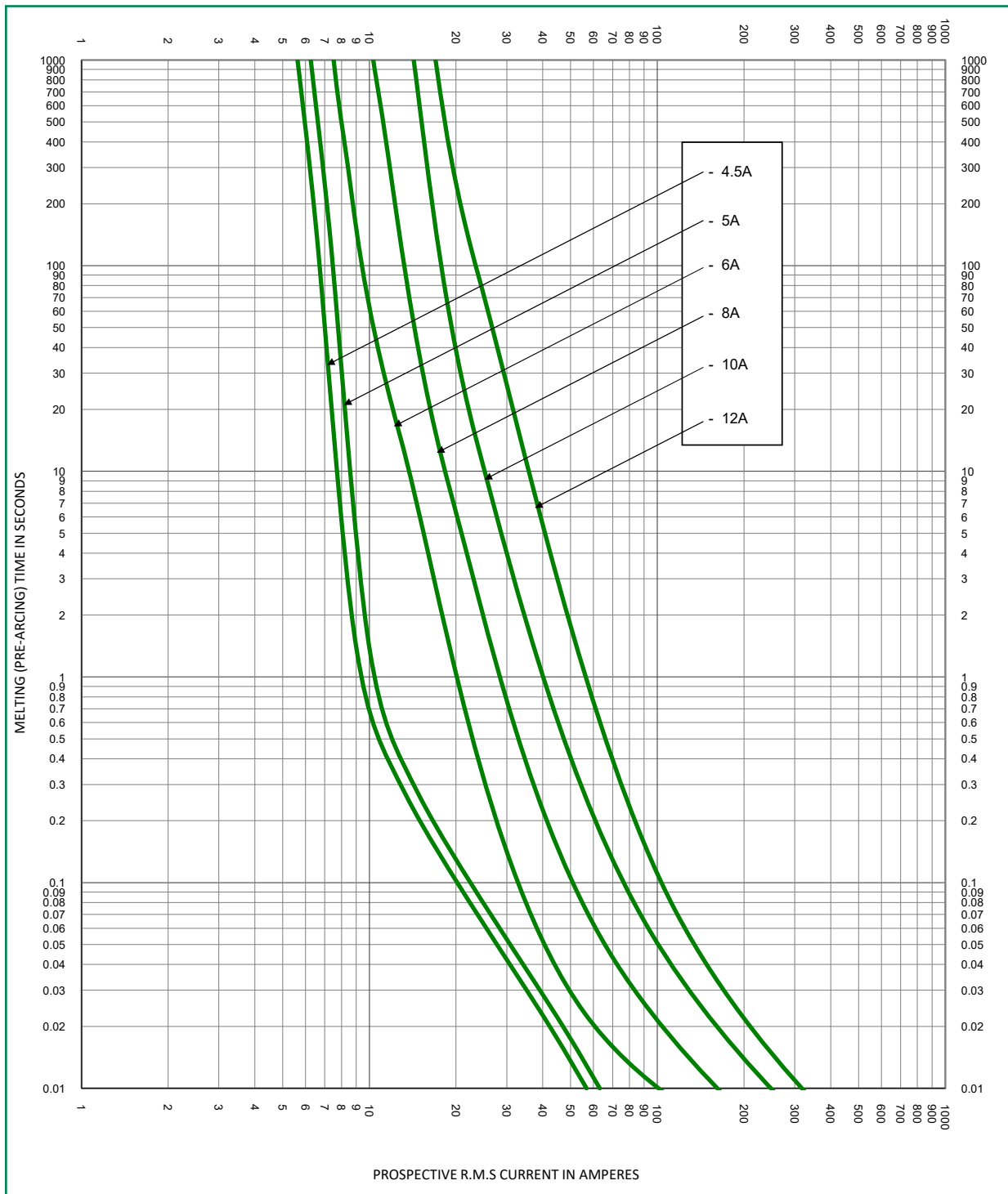
SPXI SERIES IN-LINE SOLAR FUSE

Time Current Curve

SPXI and SPXI-B 3 1/2 A



Time Current Curve
SPXI and SPXI-B 4.5–12 A

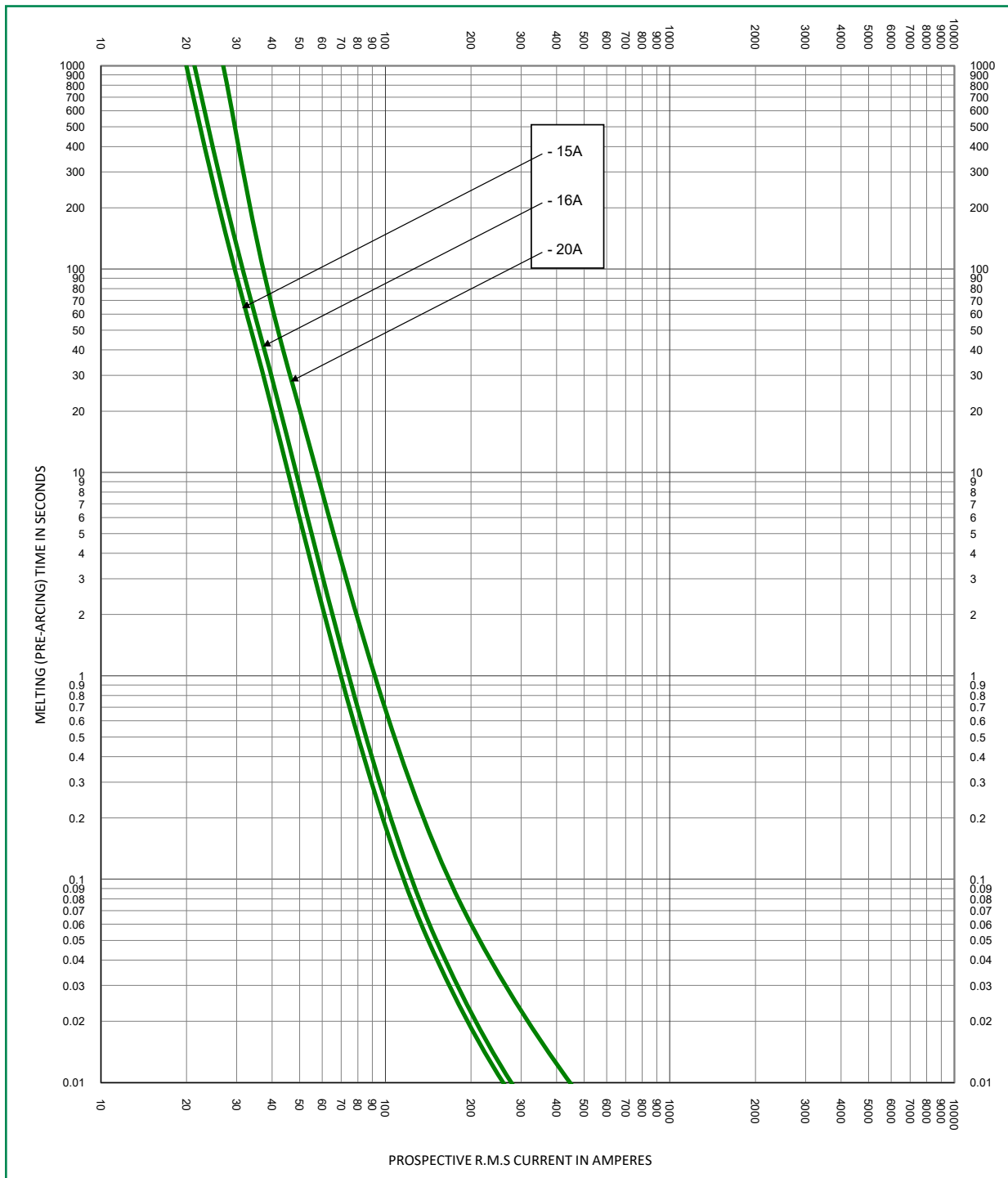


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SPXI SERIES IN-LINE SOLAR FUSE

Time Current Curve

SPXI and SPXI-B 15-20 A

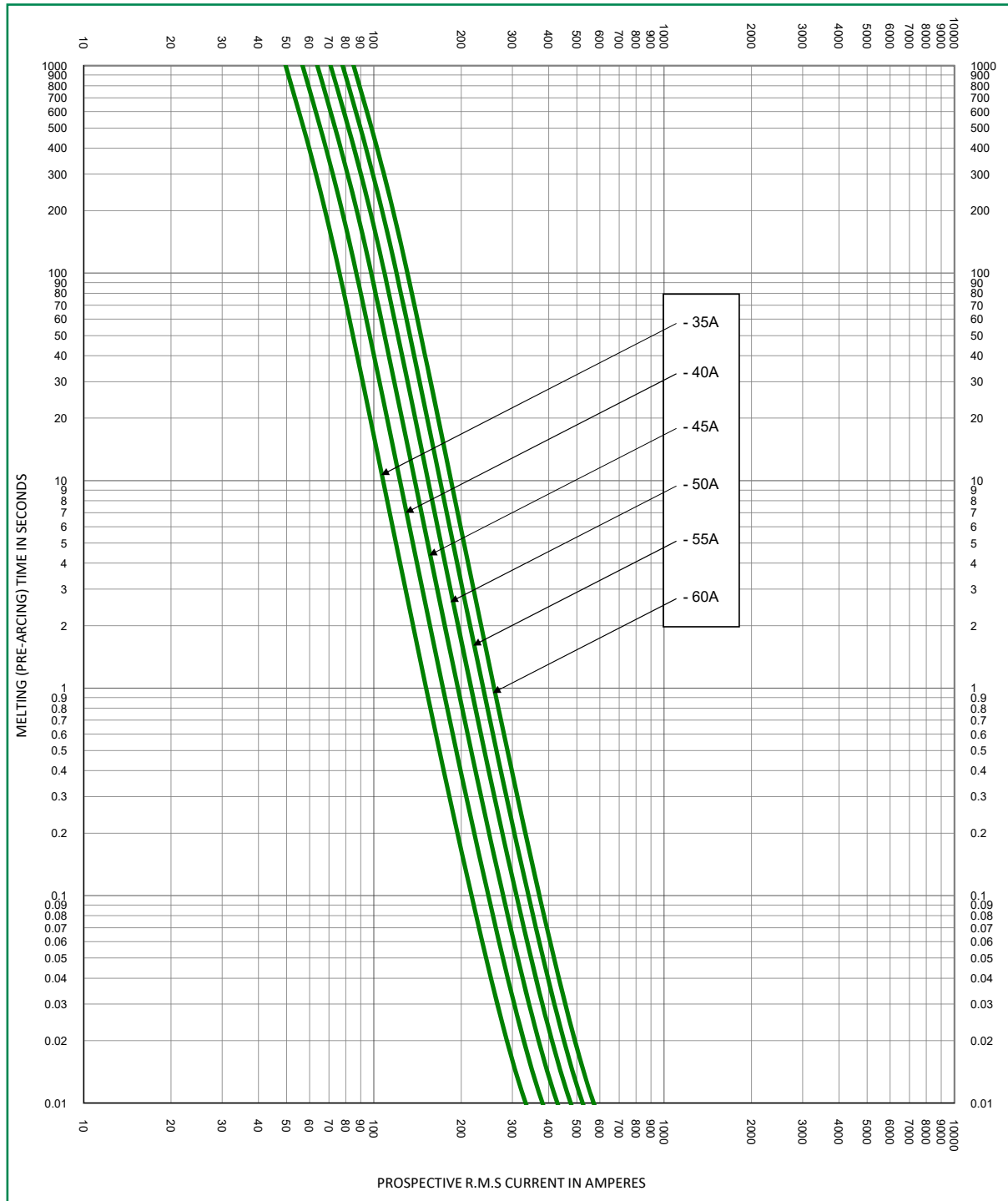


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SPXI SERIES IN-LINE SOLAR FUSE

Time Current Curve

SPXI and SPXI-B 35–60 A

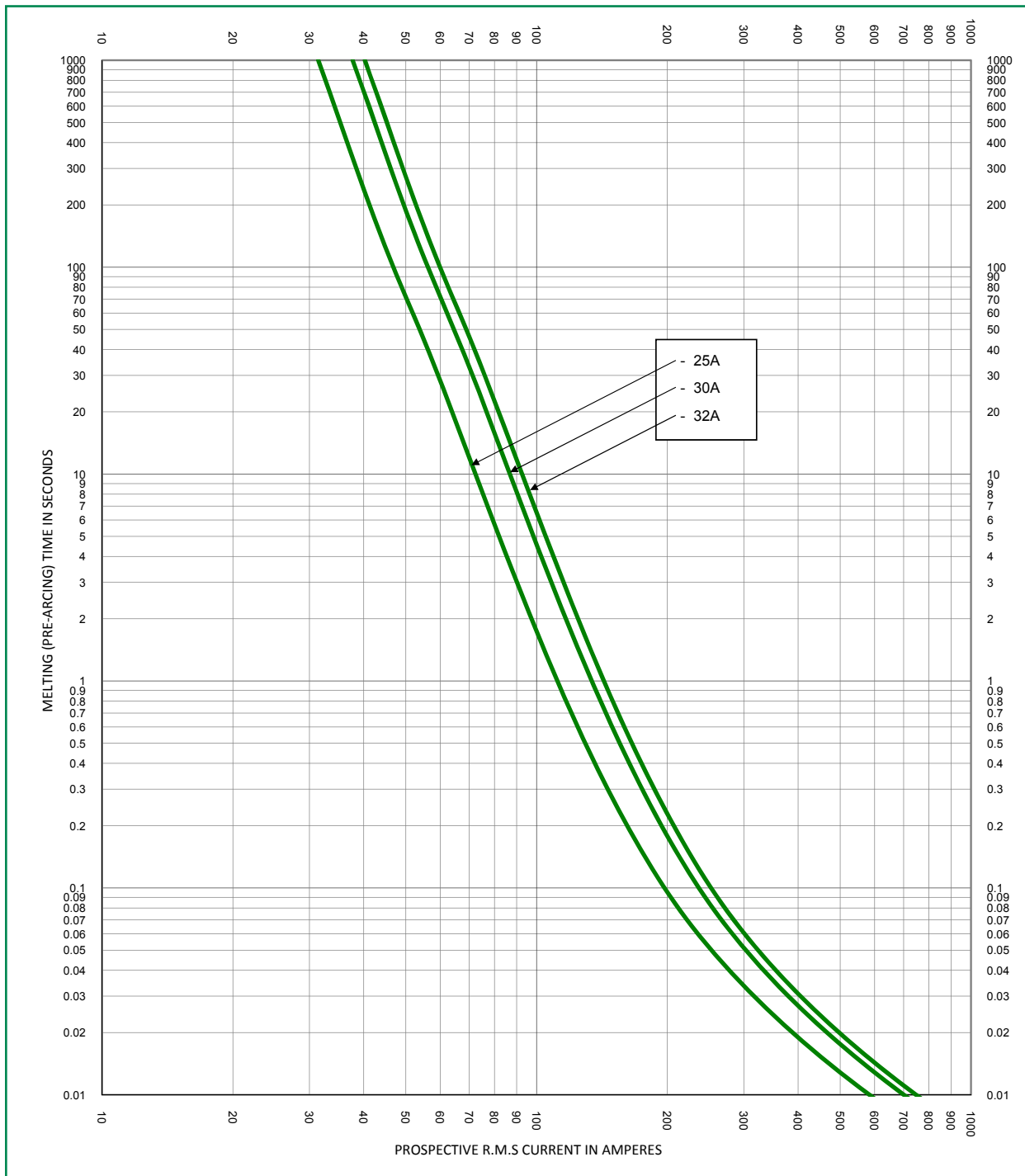


POWR-GARD® Fuse

SPXI SERIES IN-LINE SOLAR FUSE

Time Current Curve

SPXI-M and SPXI-BM 25–32 A



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