

POWR-GARD® Fuse

SPXI SERIES IN-LINE SOLAR FUSE

1500 V dc • 2.5–60 A



Description

The Littelfuse SPXI 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 SPXI can be electrically insulated by either overmolding or using heat-shrink.

Features/Benefits

- UL 248-19 Recognized
- 50,000 A interrupting rating
- No fuse holder required

Applications

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

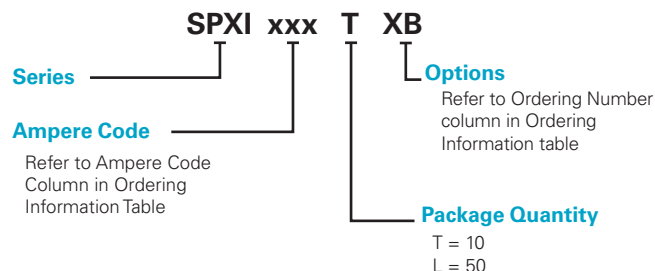
Recommended Crimping Tool

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	2.5, 3.5, 4, 4.5, 5, 6, 8, 10, 12, 15, 20, 25, 30, 32, 35, 40, 45, 50, 55, 60 A
Interrupting Ratings	SPXI and SPXI-B 2.5-30 A: 30 kA SPXI 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 248-19 Recognized (File: E339112)
Environmental	RoHS Compliant REACH
Country of Origin	Mexico
US Patent	9,564,281

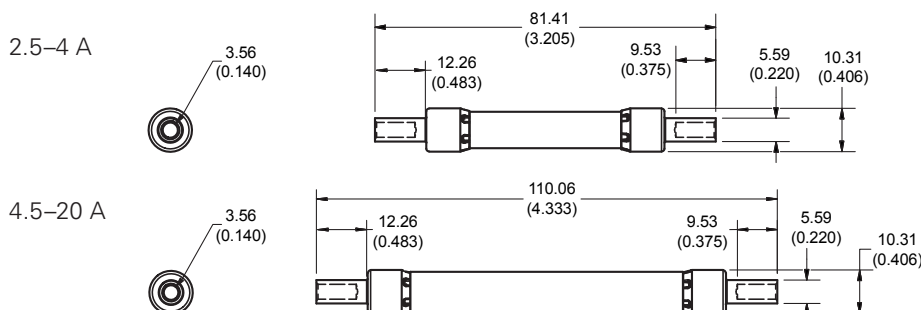
Part Numbering System



Web Resources

Download additional technical information and view the complete solar portfolio: [Littelfuse.com/spxi](https://www.littelfuse.com/spxi)

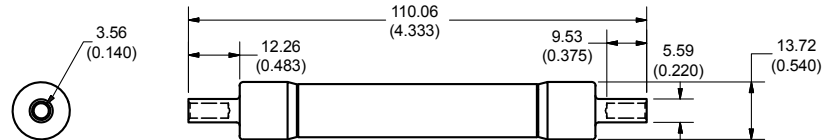
SPXI Dimensions mm (in)



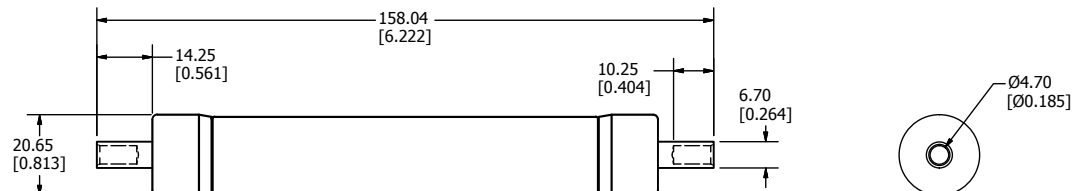
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25–30 A

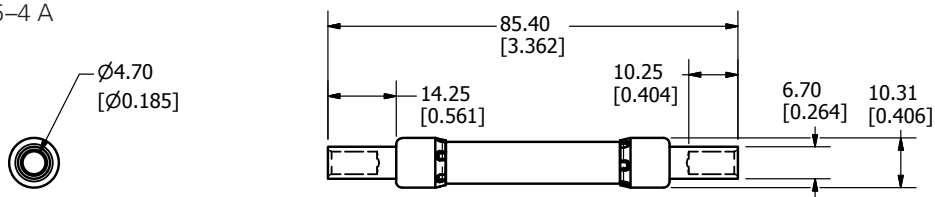


35–60 A

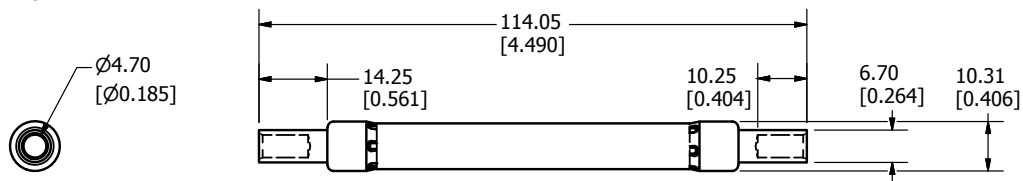


SPXI-B Dimensions mm (in)

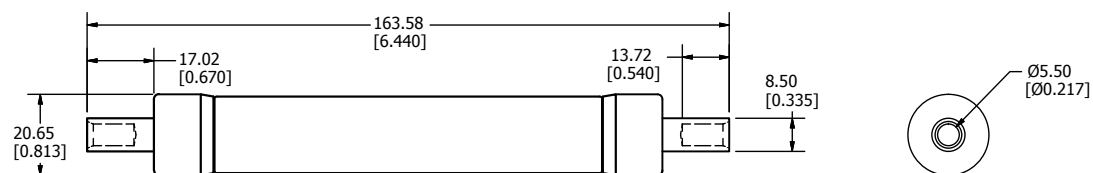
2.5–4 A



4.5–20 A

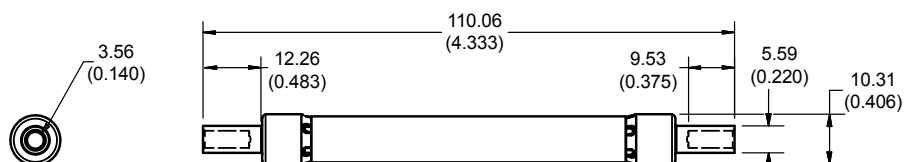


35–60 A



SPXI-M Dimensions mm (in)

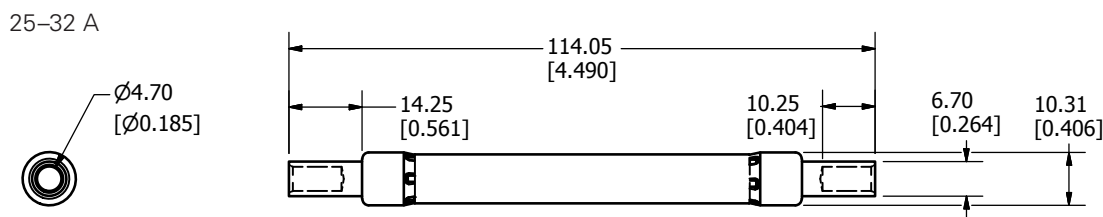
25–32 A



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SPXI-BM Dimensions mm (in)



SPXI and SPXI-M Ordering Information

SERIES	AMPERAGE	AMPERE CODE	CATALOG NUMBER	PRODUCT MARKING	PACK QUANTITY	ORDERING NUMBER	UPC
SPXI	2.5	02.5	SPXI02.5	SPXI 2½ A	10	SPXI02.5T	07945880950
					50	SPXI02.5L	07945880949
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	20	020.	SPXI020	SPXI 20 A	10	SPXI020.T	07945882556
					50	SPXI020.L	07945882557
SPXI	25	025.	SPXI025	SPXI 25 A	10	SPXI025.T	07945883059
					50	SPXI025.L	07945883060
SPXI	30	030.	SPXI030	SPXI 30 A	10	SPXI030.T	07945883061
					50	SPXI030.L	07945883062
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
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

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SPXI-B and SPXI-BM Ordering Information

SERIES	AMPERAGE	AMPERE CODE	CATALOG NUMBER	PRODUCT MARKING	PACK QUANTITY	ORDERING NUMBER	UPC
SPXI-B	2.5	02.5	SPXI02.5-B	SPXI 2½ A-B	10	SPXI02.5TXB	07945824341
					50	SPXI02.5LXB	07945824354
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	20	020.	SPXI020-B	SPXI 20 A-B	10	SPXI020.TXB	07945824351
					50	SPXI020.LXB	07945824364
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
SPXI-BM	25	025.	SPXI025-BM	SPXI 25 A-BM	10	SPXI025.TXBM	07945826366
					50	SPXI025.LXBM	07945826367
SPXI-BM	30	030.	SPXI030-BM	SPXI 30 A-BM	10	SPXI030.TXBM	07945826368
					50	SPXI030.LXBM	07945826369
SPXI-BM	32	032.	SPXI032-BM	SPXI 32 A-BM	10	SPXI032.TXBM	07945826370
					50	SPXI032.LXBM	07945826371

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SPXI and SPXI-M Electrical Specifications

SERIES	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)	MELTING I ² t (A ² s) (1500 V DC)	TOTAL CLEARING I ² t (A ² s) 15 kA (1500 V DC)
		DC	AC	DC						
SPXI	2.5	1500	—	30 kA	10–12 AWG (6–4 mm ²)	0.099	0.86	0.48	7	16
SPXI	3.5	1500	—	30 kA	10–12 AWG (6–4 mm ²)	0.0711	1.56	0.81	25	50
SPXI	4	1500	—	30 kA	10–12 AWG (6–4 mm ²)	0.0438	0.95	0.54	57	95
SPXI	4.5	1500	—	30 kA	10–12 AWG (6–4 mm ²)	0.1023	2.81	1.61	34	55
SPXI	5	1500	—	30kA	10–12 AWG (6–4 mm ²)	0.0760	3.01	1.66	48	71
SPXI	6	1500	—	30 kA	10–12 AWG (6–4 mm ²)	0.0576	3.05	1.71	49	75
SPXI	8	1500	—	30 kA	10–12 AWG (6–4 mm ²)	0.0349	3.26	1.84	121	214
SPXI	10	1500	—	30 kA	10–12 AWG (6–4 mm ²)	0.0223	3.25	1.82	407	509
SPXI	12	1500	—	30 kA	10–12 AWG (6–4 mm ²)	0.0163	3.34	1.89	798	951
SPXI	15	1500	—	30 kA	10–12 AWG (6–4 mm ²)	0.0131	5.27	3.05	299	637
SPXI	20	1500	—	30 kA	10–12 AWG (6–4 mm ²)	0.0085	5.38	3.14	701	1464
SPXI	25	1500	—	30 kA	10–12 AWG (6–4 mm ²)	0.0066	6.28	3.55	2209	2548
SPXI	30	1500	—	30 kA	10–12 AWG (6–4 mm ²)	0.0055	7.60	4.25	3561	4010
SPXI	35	1500	—	50 kA	8 AWG (10 mm ²)	0.00712	14.02	7.85	257	1794*
SPXI	40	1500	—	50 kA	8 AWG (10 mm ²)	0.00548	14.10	7.90	362	5726*
SPXI	45	1500	—	50 kA	8 AWG (10 mm ²)	0.00464	14.75	8.26	588	5521*
SPXI	50	1500	—	50 kA	8 AWG (10 mm ²)	0.00415	17.83	9.99	657	7058*
SPXI-M	25	1500	—	50 kA	10–12 AWG (6–4 mm ²)	0.00665	5.8	3.2	2304	3255*
SPXI-M	30	1500	—	50 kA	10–12 AWG (6–4 mm ²)	0.00526	6.8	3.8	3792	5543*
SPXI-M	32	1500	—	50 kA	10–12 AWG (6–4 mm ²)	0.00459	6.9	3.8	4350	6654*

*Total Clearing I²t (A²s) 50 kA

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SPXI-B and SPXI-BM Electrical Specifications

SERIES	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)	MELTING I ² t (A ² s) (1500 V DC)	TOTAL CLEARING I ² t (A ² s) 15 kA (1500 V DC)
		DC	AC	DC						
SPXI-B	2.5	1500	—	30 kA	8 AWG (10 mm ²)	0.099	0.86	0.48	7	16
SPXI-B	3.5	1500	—	30 kA	8 AWG (10 mm ²)	0.0711	1.56	0.81	25	50
SPXI-B	4	1500	—	30 kA	8 AWG (10 mm ²)	0.0438	0.95	0.56	57	95
SPXI-B	4.5	1500	—	30 kA	8 AWG (10 mm ²)	0.1023	2.81	1.61	34	55
SPXI-B	5	1500	—	30kA	8 AWG (10 mm ²)	0.0760	3.01	1.66	48	71
SPXI-B	6	1500	—	30 kA	8 AWG (10 mm ²)	0.0576	3.05	1.71	49	75
SPXI-B	8	1500	—	30 kA	8 AWG (10 mm ²)	0.0349	3.26	1.84	121	214
SPXI-B	10	1500	—	30 kA	8 AWG (10 mm ²)	0.0223	3.25	1.82	407	509
SPXI-B	12	1500	—	30 kA	8 AWG (10 mm ²)	0.0163	3.34	1.89	798	951
SPXI-B	15	1500	—	30 kA	8 AWG (10 mm ²)	0.0131	5.27	3.05	299	637
SPXI-B	20	1500	—	30 kA	8 AWG (10 mm ²)	0.0085	5.38	3.14	701	1464
SPXI-B	35	1500	—	50 kA	6 AWG	0.00735	12.58	7.04	257	1794*
SPXI-B	40	1500	—	50 kA	6 AWG	0.00548	13.50	7.56	362	5726*
SPXI-B	45	1500	—	50 kA	6 AWG	0.00458	15.02	8.41	588	5521*
SPXI-B	50	1500	—	50 kA	6 AWG	0.00412	16.75	9.38	657	7058*
SPXI-B	55	1500	—	50 kA	6 AWG	0.00365	17.82	9.98	853	8783*
SPXI-B	60	1500	—	50 kA	6 AWG	0.00326	21.02	11.77	1030	11682*
SPXI-BM	25	1500	—	50 kA	8 AWG (10 mm ²)	0.00665	5.9	3.3	2304	3256*
SPXI-BM	30	1500	—	50 kA	8 AWG (10 mm ²)	0.00526	6.7	3.8	3792	5543*
SPXI-BM	32	1500	—	50 kA	8 AWG (10 mm ²)	0.00459	7.0	3.9	4350	6655*

*Total Clearing I²t (A²s) 50 kA

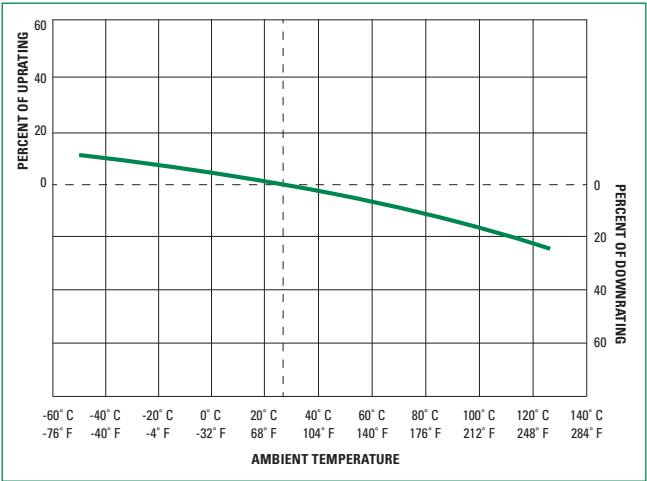
POWR-GARD® Fuse

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Electrical Specification — Agency Requirements

AMPERAGE RATING	OPENING TIME (MINUTES)				
	100 % of Amperes Rating per UL	113 % of Amperes Rating per IEC	135 % of Amperes Rating per UL	145 % of Amperes Rating per IEC	200 % of Amperes Rating per UL
2.5–60	Temperature Stabilization	60 Min	60 Max	60 Max	4 Max

Temperature Rerating Curve (temperature of air immediately surrounding fuse)

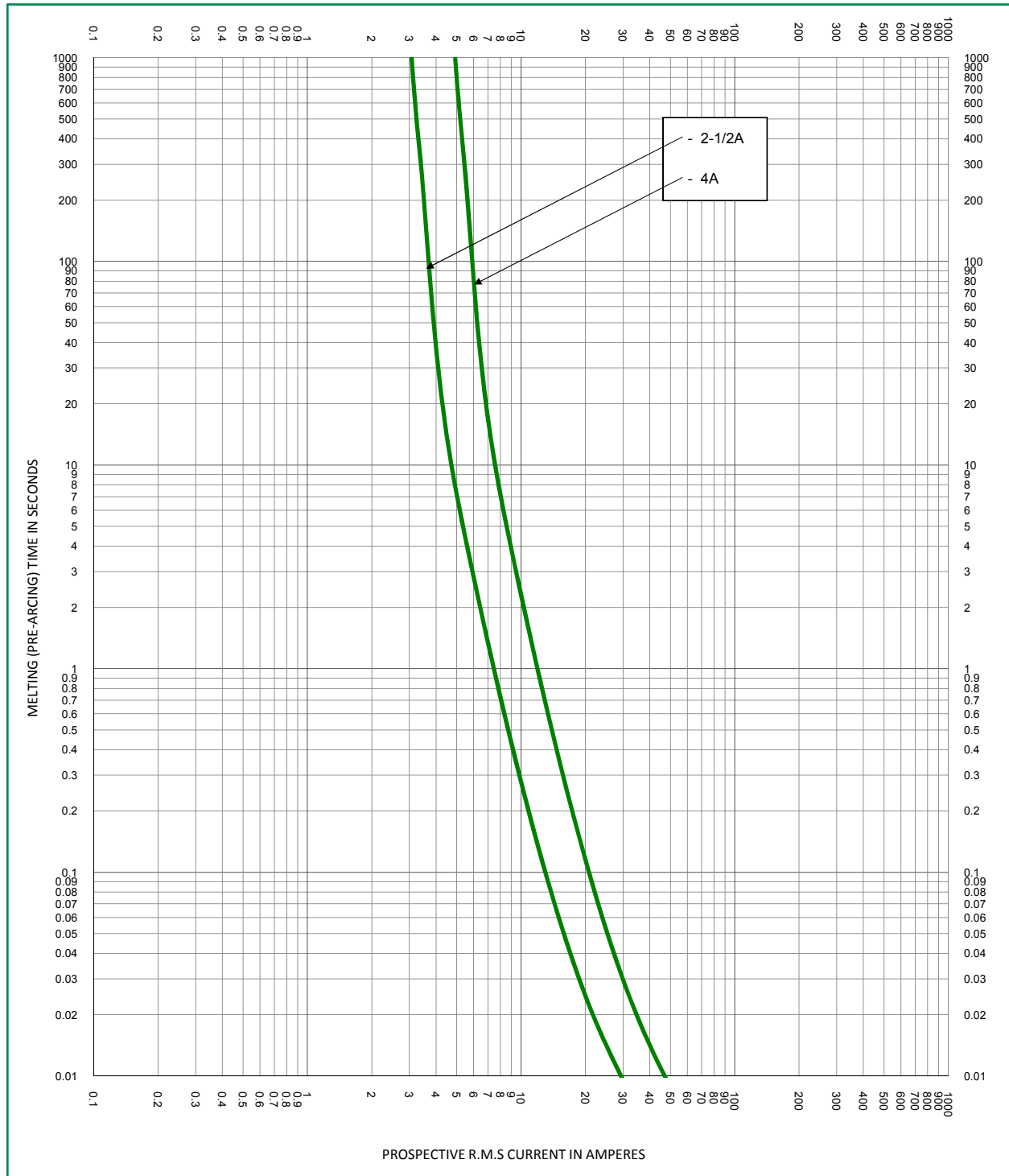


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SPXI SERIES IN-LINE SOLAR FUSE

Time Current Curve

SPXI and SPXI-B 2 1/2-4 A

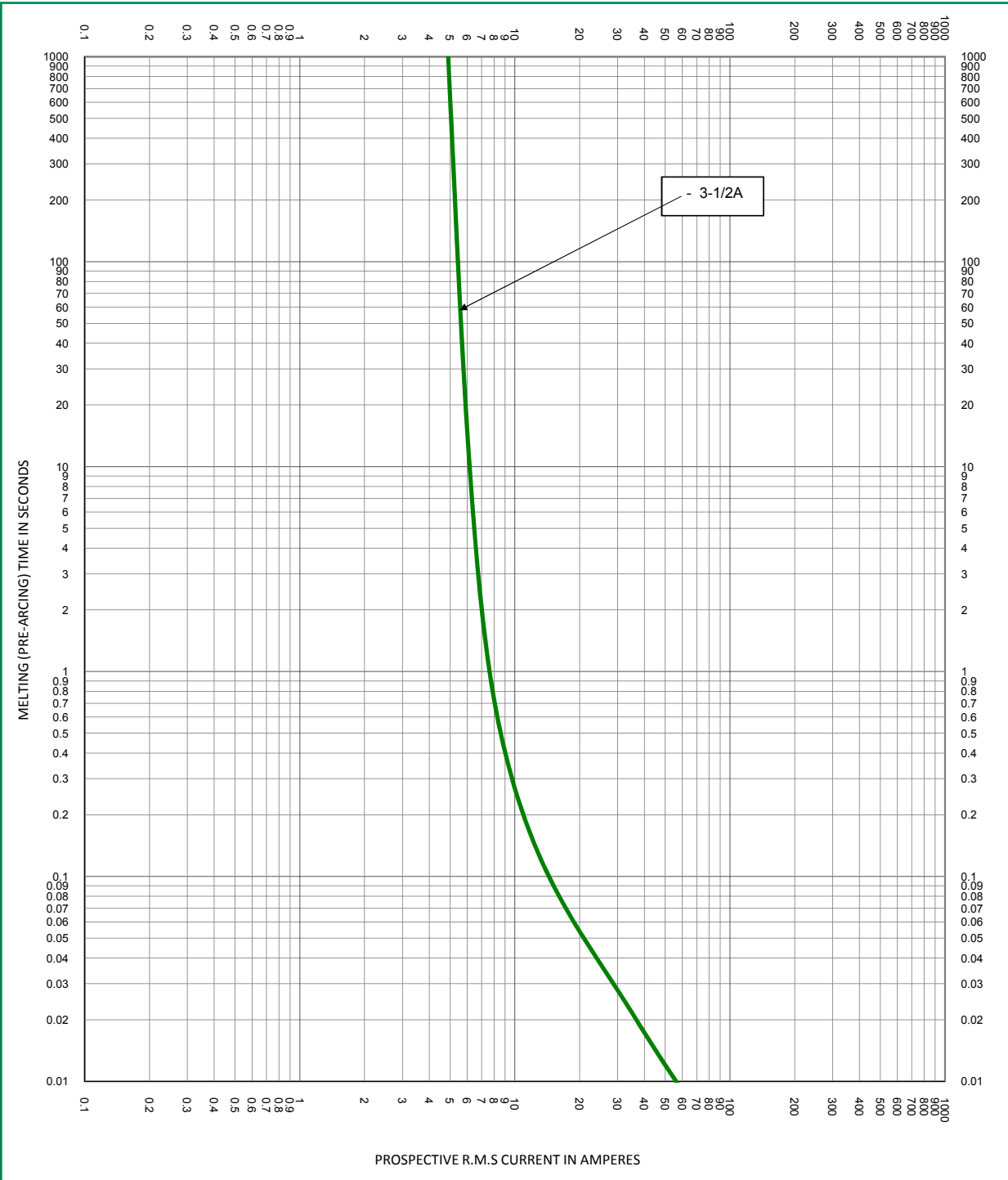


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SPXI SERIES IN-LINE SOLAR FUSE

Time Current Curve

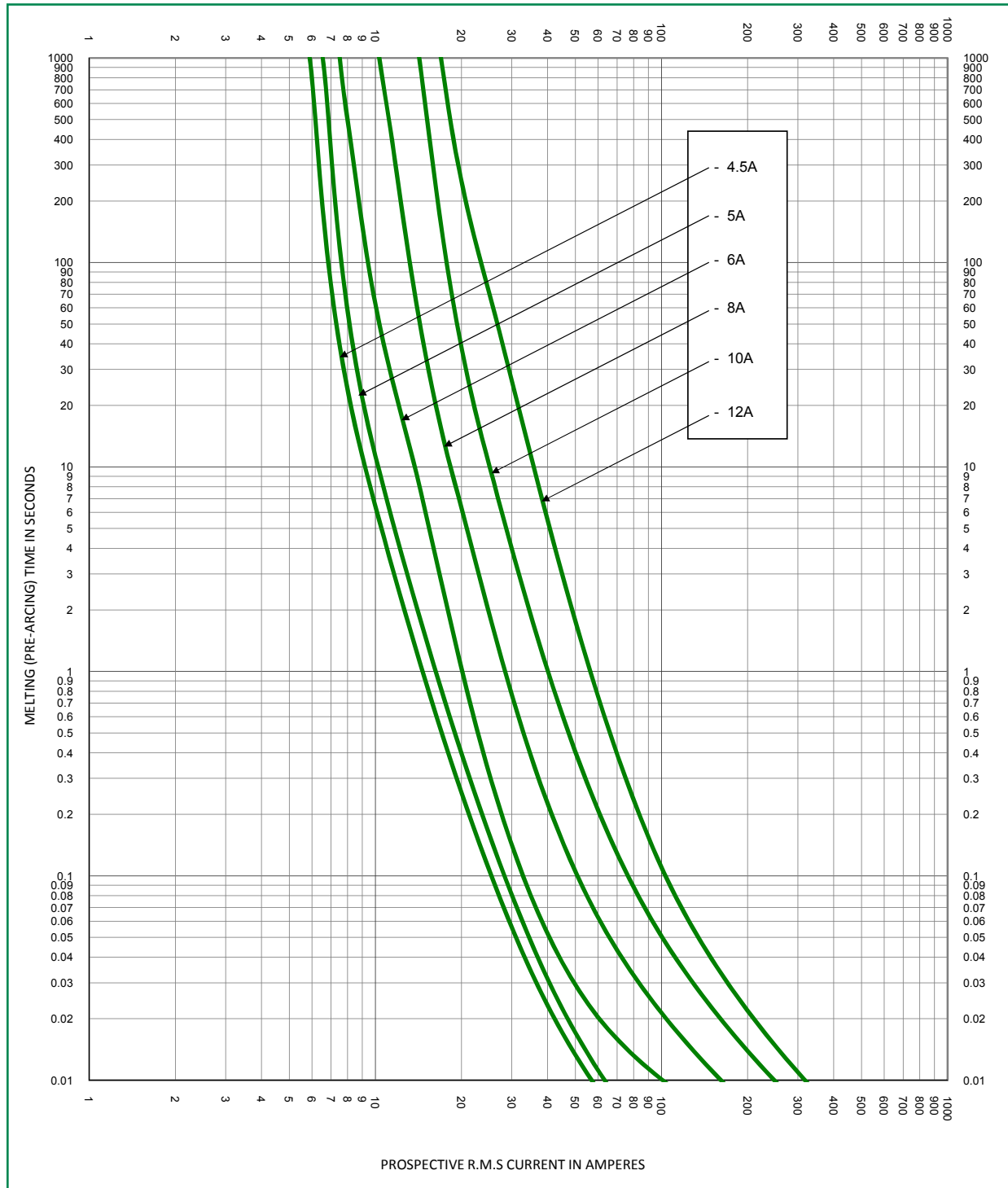
SPXI and SPXI-B 3 1/2 A



POWR-GARD® Fuse

SPXI SERIES IN-LINE SOLAR FUSE

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

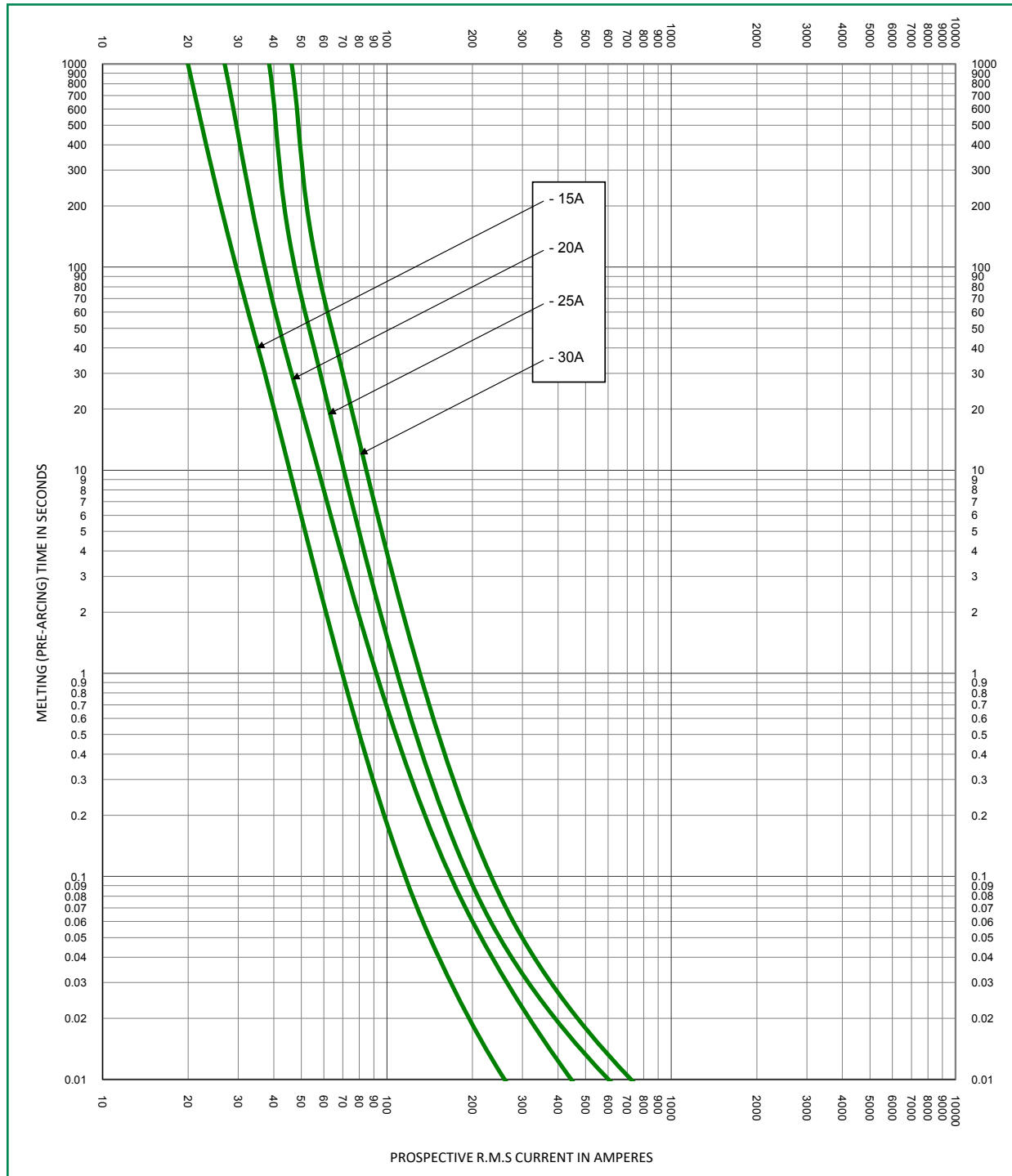


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SPXI SERIES IN-LINE SOLAR FUSE

Time Current Curve

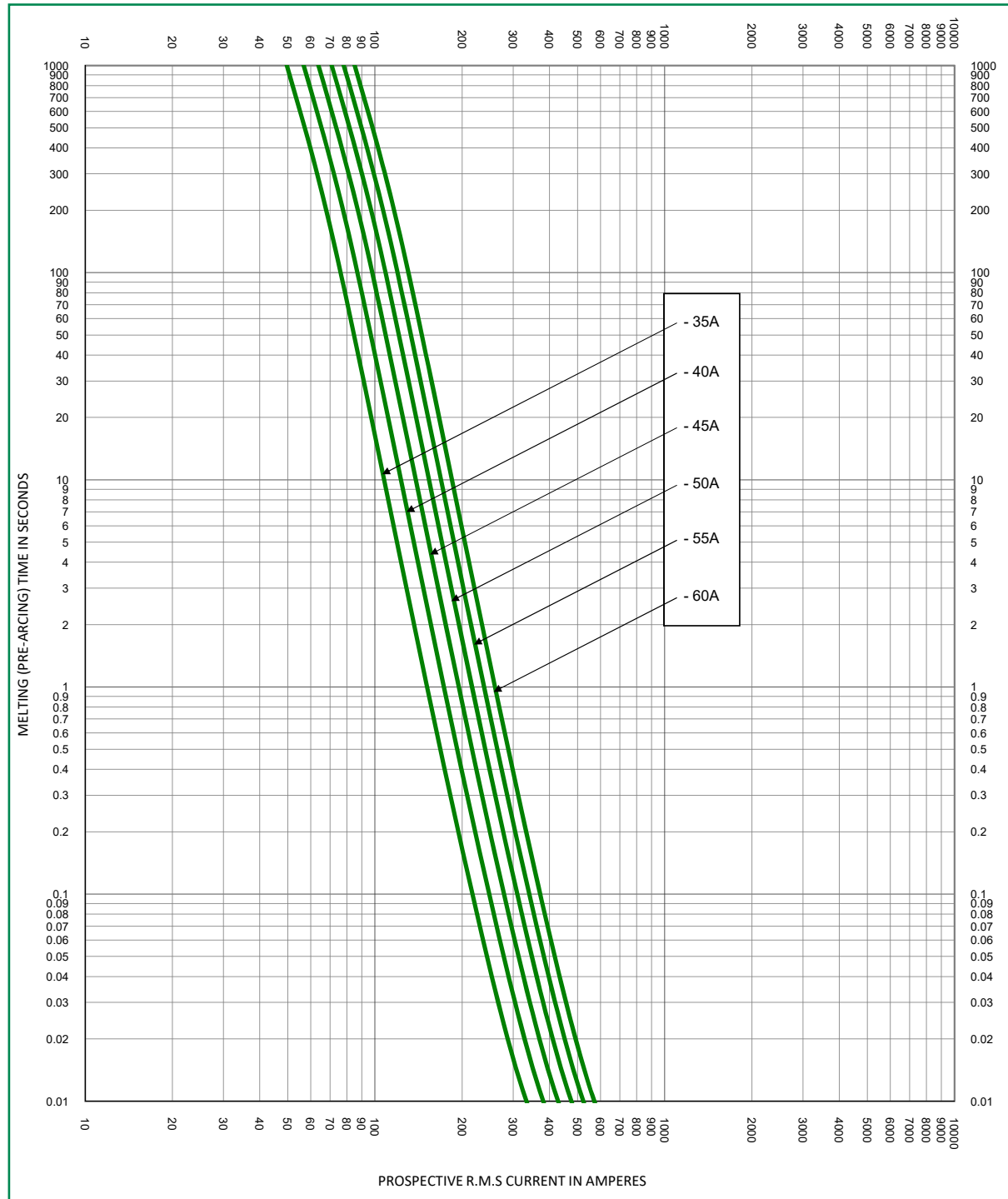
SPXI and SPXI-B 15–30 A



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SPXI SERIES IN-LINE SOLAR FUSE

Time Current Curve SPXI and SPXI-B 35–60 A

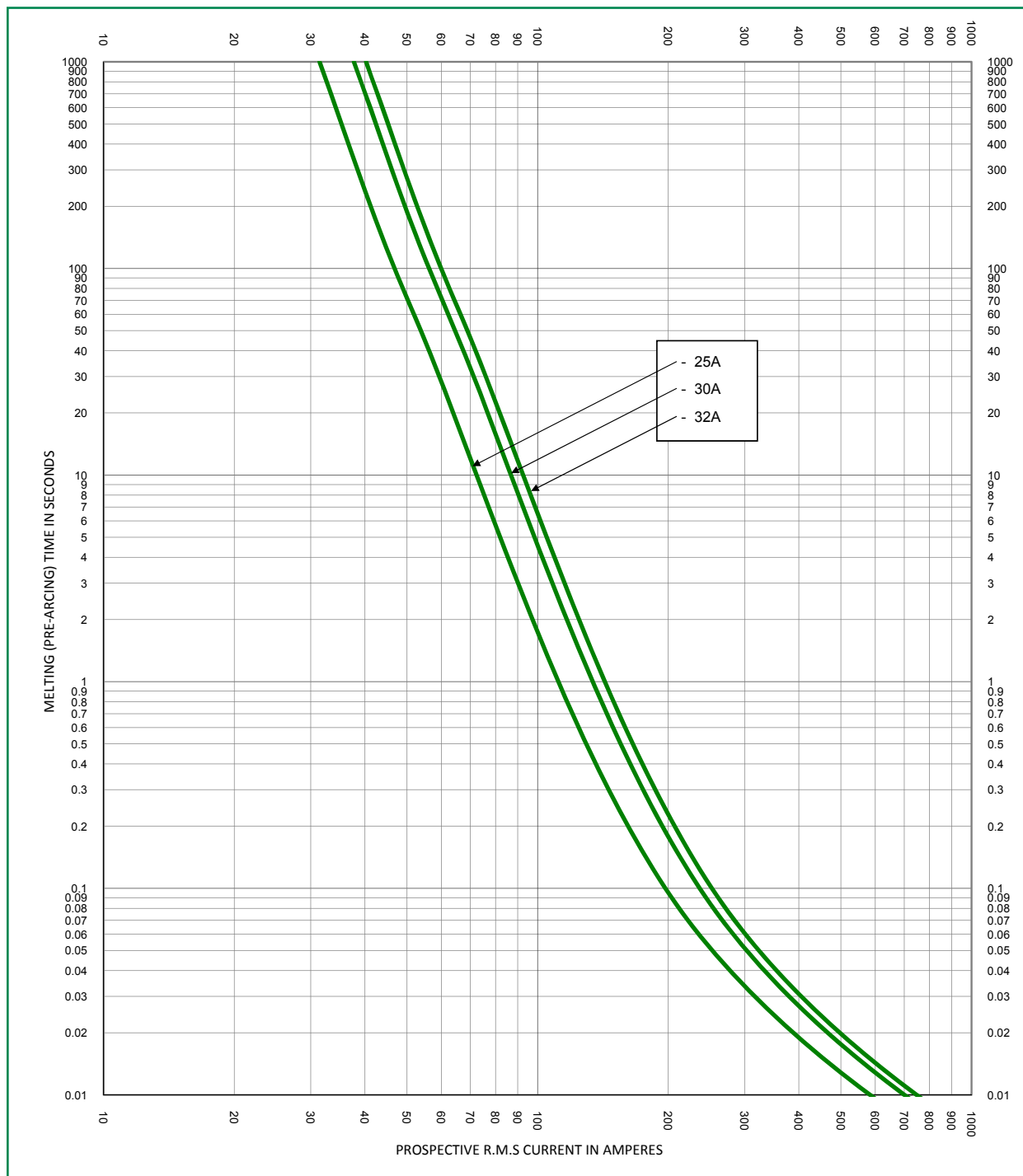


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SPXI SERIES IN-LINE SOLAR FUSE

Time Current Curve

SPXI-M and SPXI-BM 25–32 A



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