

# POWR-GARD® Fuse Datasheet

## SPXI SERIES IN-LINE SOLAR FUSE

1500 V dc • 2.5–32 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
- Meets IEC 60269-6 electrical performance requirements
- 50,000 A interrupting rating
- No fuse holder required

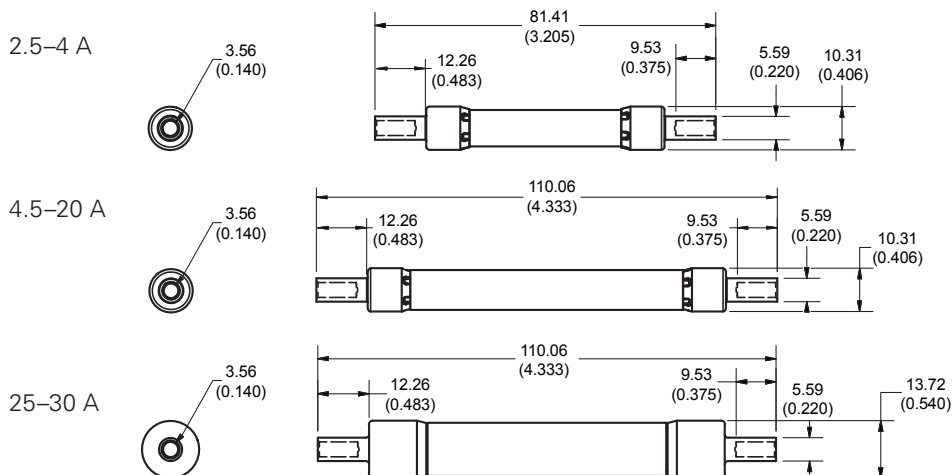
### Applications

- Photovoltaic wire harness

### Recommended Crimping Tool

SPXI and SPXI-M: T&B Sta-Kon ERG4002  
 SPXI-B and SPXI-BM: T&B Sta-Kon ERG4

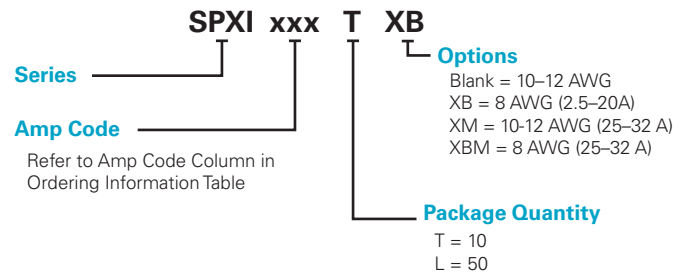
### SPXI Dimensions mm (in)



### Specifications

<b>Voltage Rating</b>	1500 V dc
<b>Amperage Rating</b>	2.5, 3.5, 4, 4.5, 5, 6, 8, 10, 12, 15, 20, 25, 30, 32 A
<b>Interrupting Ratings</b>	SPXI and SPXI-B: 30 kA SPXI-M and SPXI-BM: 50 kA
<b>Time Constant</b>	≤ 1ms
<b>Material</b>	Body: Melamine Caps: copper alloy (nickel plated)
<b>Approvals</b>	SPXI and SPXI-B: UL 248-19 Recognized SPXI-M and SPXI-BM: UL Pending (File: E339112)
<b>Environmental</b>	RoHS Compliant REACH
<b>Country of Origin</b>	Mexico
<b>US Patent</b>	9,564,281

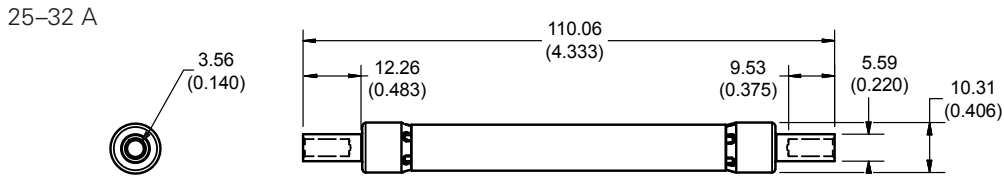
### Part Numbering System



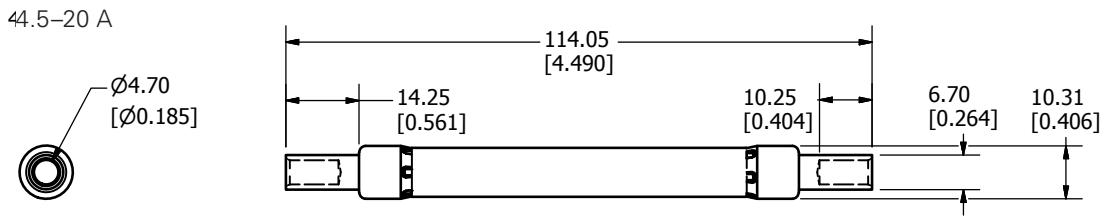
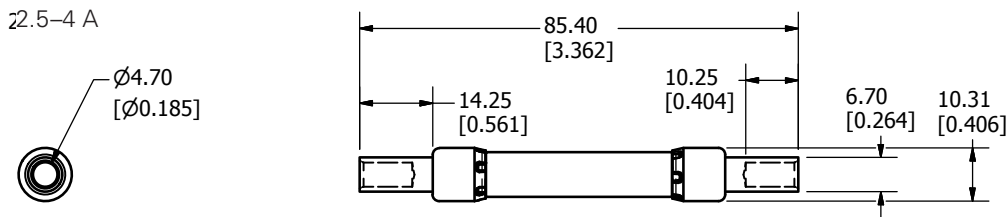
### Web Resources

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

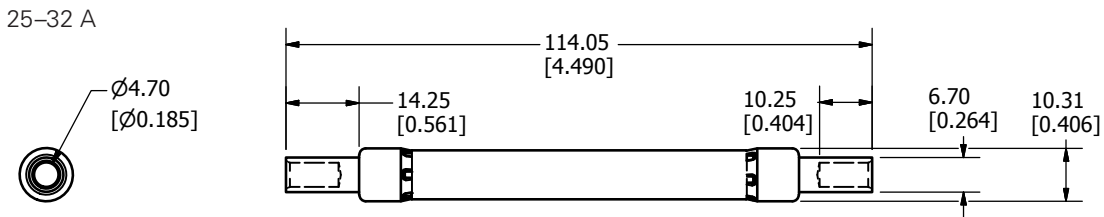
**SPXI-M Dimensions mm (in)**



**SPXI-B Dimensions mm (in)**



**SPXI-BM Dimensions mm (in)**



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### 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-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

# POWR-GARD® Fuse Datasheet

## SPXI SERIES IN-LINE SOLAR FUSE

### 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	25	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-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

# POWR-GARD® Fuse Datasheet

## SPXI SERIES IN-LINE SOLAR FUSE

### 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 <sup>2</sup> t (A <sup>2</sup> s) (1500 V DC)	TOTAL CLEARING I <sup>2</sup> t (A <sup>2</sup> s) 15 kA (1500 V DC)
			DC	AC						
SPXI	2.5	1500	–	30 kA	10–12 AWG (6–4 mm <sup>2</sup> )	0.099	0.86	0.48	7	16
SPXI	3.5	1500	–	30 kA	10–12 AWG (6–4 mm <sup>2</sup> )	0.0711	1.56	0.81	25	50
SPXI	4	1500	–	30 kA	10–12 AWG (6–4 mm <sup>2</sup> )	0.0438	0.95	0.54	57	95
SPXI	4.5	1500	–	30 kA	10–12 AWG (6–4 mm <sup>2</sup> )	0.1023	2.81	1.61	34	55
SPXI	5	1500	–	30kA	10–12 AWG (6–4 mm <sup>2</sup> )	0.0760	3.01	1.66	48	71
SPXI	6	1500	–	30 kA	10–12 AWG (6–4 mm <sup>2</sup> )	0.0576	3.05	1.71	49	75
SPXI	8	1500	–	30 kA	10–12 AWG (6–4 mm <sup>2</sup> )	0.0349	3.26	1.84	121	214
SPXI	10	1500	–	30 kA	10–12 AWG (6–4 mm <sup>2</sup> )	0.0223	3.25	1.82	407	509
SPXI	12	1500	–	30 kA	10–12 AWG (6–4 mm <sup>2</sup> )	0.0163	3.34	1.89	798	951
SPXI	15	1500	–	30 kA	10–12 AWG (6–4 mm <sup>2</sup> )	0.0131	5.27	3.05	299	637
SPXI	20	1500	–	30 kA	10–12 AWG (6–4 mm <sup>2</sup> )	0.0085	5.38	3.14	701	1464
SPXI	25	1500	–	30 kA	10–12 AWG (6–4 mm <sup>2</sup> )	0.0066	6.28	3.55	2209	2548
SPXI	30	1500	–	30 kA	10–12 AWG (6–4 mm <sup>2</sup> )	0.0055	7.60	4.25	3561	4010
SPXI-M	25	1500	–	50 kA	10–12 AWG (6–4 mm <sup>2</sup> )	0.00665	5.8	3.2	2304	3255*
SPXI-M	30	1500	–	50 kA	10–12 AWG (6–4 mm <sup>2</sup> )	0.00526	6.8	3.8	3792	5543*
SPXI-M	32	1500	–	50 kA	10–12 AWG (6–4 mm <sup>2</sup> )	0.00459	6.9	3.8	4350	6654*

\*Total Clearing I<sup>2</sup>t (A<sup>2</sup>s) 50 kA

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## SPXI SERIES IN-LINE SOLAR FUSE

### SPXI-B and SPXI-BM Electrical Specifications

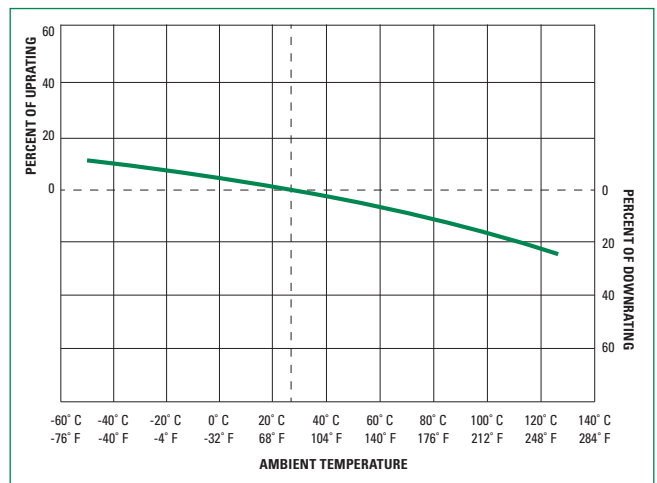
SERIES	AMPERAGE	VOLTAGE		INTERRUPTING RATING		WIRE RANGE CU Only (Solid/Stranded)	NOM COLD RESISTANCE (ohm)	WATTS LOSS AT 100 % RATED CURRENT (W)	WATTS LOSS AT 80 % RATED CURRENT (W)	MELTING I <sup>2</sup> t (A <sup>2</sup> s) (1500 V DC)	TOTAL CLEARING I <sup>2</sup> t (A <sup>2</sup> s) 15 kA (1500 V DC)
		DC	AC	DC	AC						
SPXI	2.5	1500	—	30 kA	—	8 AWG (10 mm <sup>2</sup> )	0.099	0.86	0.48	7	16
SPXI	3.5	1500	—	30 kA	—	8 AWG (10 mm <sup>2</sup> )	0.0711	1.56	0.81	25	50
SPXI	4	1500	—	30 kA	—	8 AWG (10 mm <sup>2</sup> )	0.0438	0.95	0.56	57	95
SPXI	4.5	1500	—	30 kA	—	8 AWG (10 mm <sup>2</sup> )	0.1023	2.81	1.61	34	55
SPXI	5	1500	—	30kA	—	8 AWG (10 mm <sup>2</sup> )	0.0760	3.01	1.66	48	71
SPXI	6	1500	—	30 kA	—	8 AWG (10 mm <sup>2</sup> )	0.0576	3.05	1.71	49	75
SPXI	8	1500	—	30 kA	—	8 AWG (10 mm <sup>2</sup> )	0.0349	3.26	1.84	121	214
SPXI	10	1500	—	30 kA	—	8 AWG (10 mm <sup>2</sup> )	0.0223	3.25	1.82	407	509
SPXI	12	1500	—	30 kA	—	8 AWG (10 mm <sup>2</sup> )	0.0163	3.34	1.89	798	951
SPXI	15	1500	—	30 kA	—	8 AWG (10 mm <sup>2</sup> )	0.0131	5.27	3.05	299	637
SPXI	20	1500	—	30 kA	—	8 AWG (10 mm <sup>2</sup> )	0.0085	5.38	3.14	701	1464
SPXI-BM	25	1500	—	50 kA	—	8 AWG (10 mm <sup>2</sup> )	0.00665	5.9	3.3	2304	3256*
SPXI-BM	30	1500	—	50 kA	—	8 AWG (10 mm <sup>2</sup> )	0.00526	6.7	3.8	3792	5543*
SPXI-BM	32	1500	—	50 kA	—	8 AWG (10 mm <sup>2</sup> )	0.00459	7.0	3.9	4350	6655*

\*Total Clearing I<sup>2</sup>t (A<sup>2</sup>s) 50 kA

### 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
2.5–32	Temperature Stabilization	60 Min	60 Max	60 Max	4 Max

### Temperature Derating Curve (temperature of air immediately surrounding fuse)

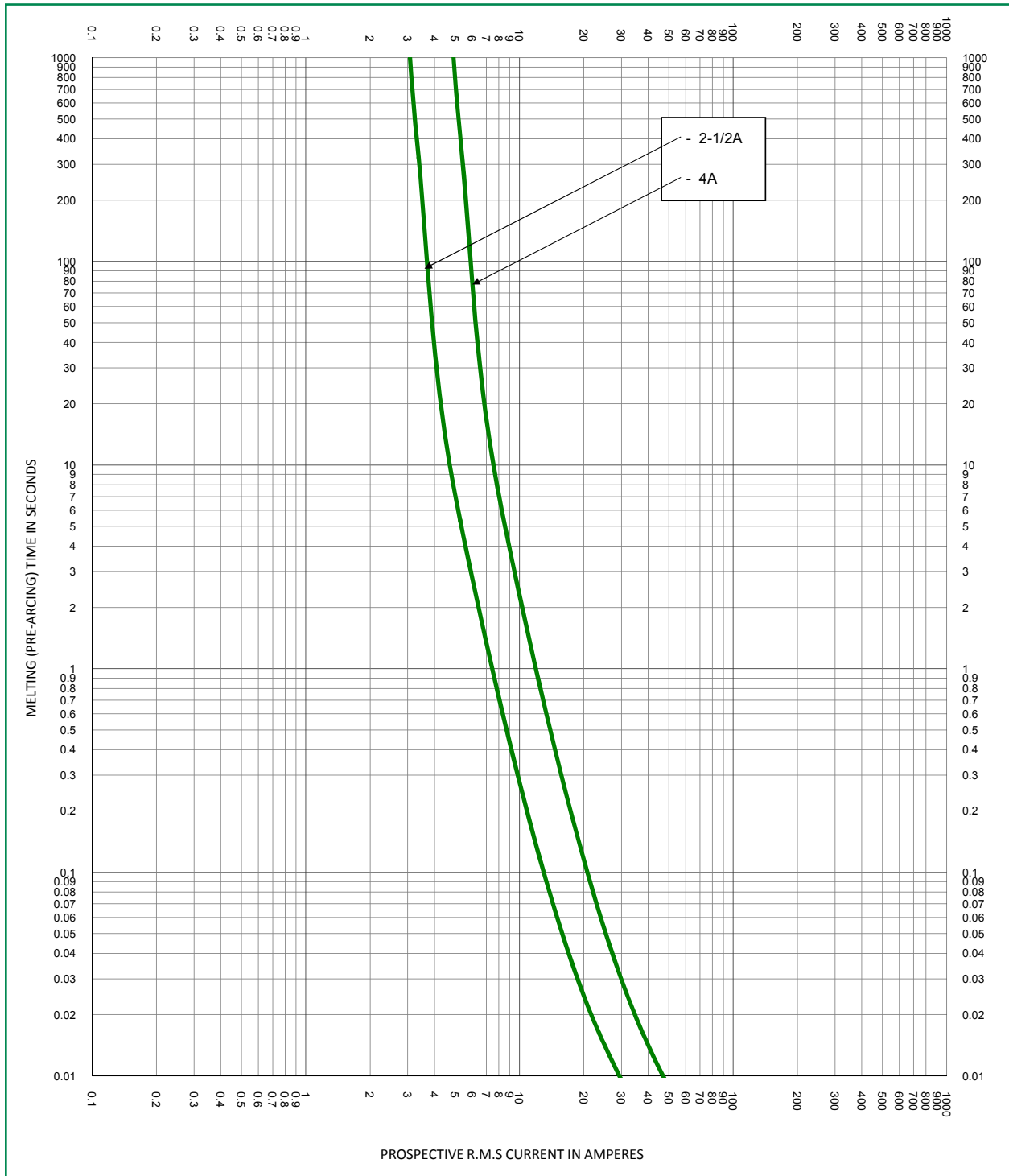


# POWR-GARD® Fuse Datasheet

## SPXI SERIES IN-LINE SOLAR FUSE

### Time Current Curve

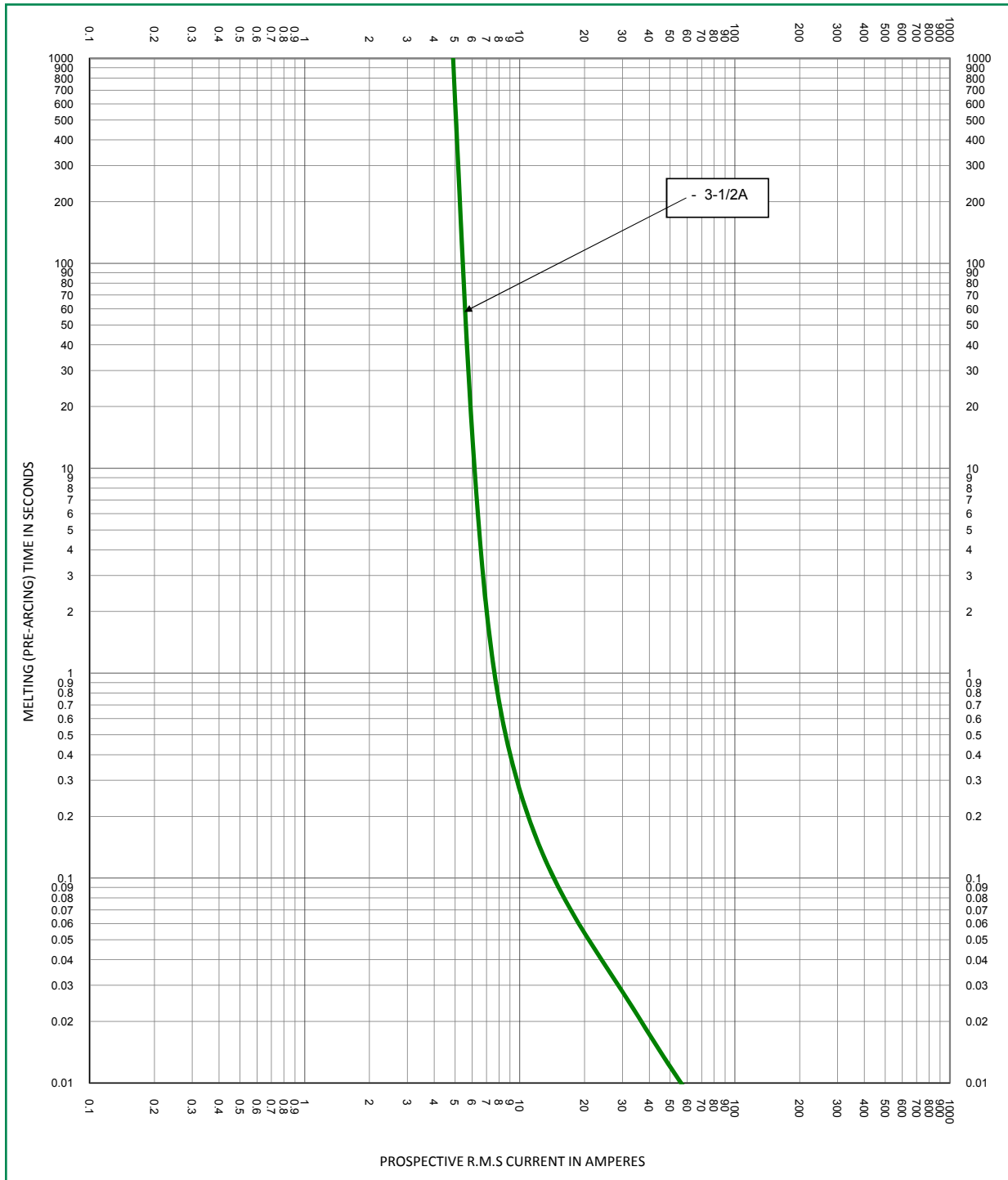
SPXI and SPXI-B 2 1/2-4 A



# POWR-GARD® Fuse Datasheet

## SPXI SERIES IN-LINE SOLAR FUSE

### Time Current Curve SPXI and SPXI-B 3 1/2 A

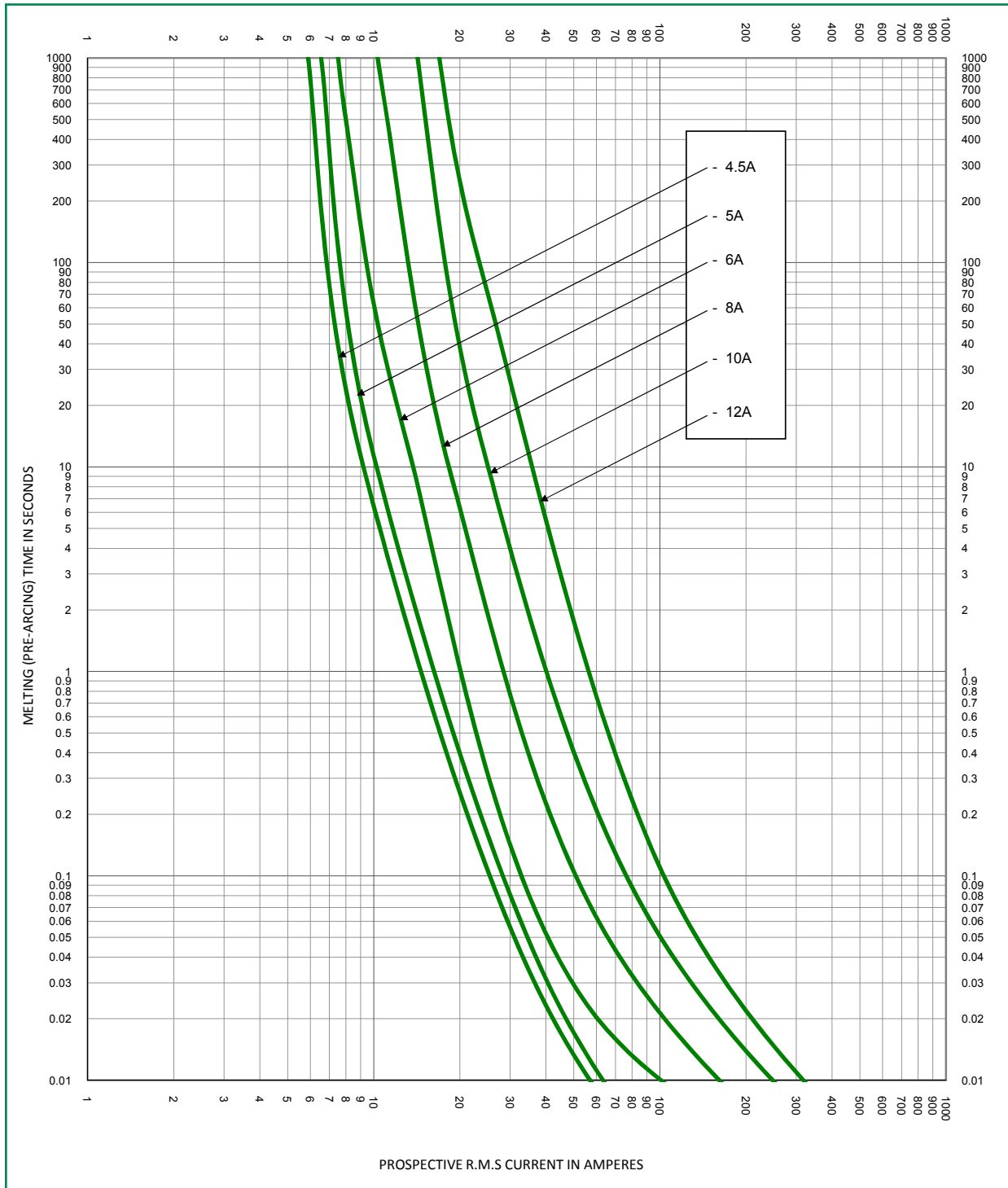




# POWR-GARD® Fuse Datasheet

## SPXI SERIES IN-LINE SOLAR FUSE

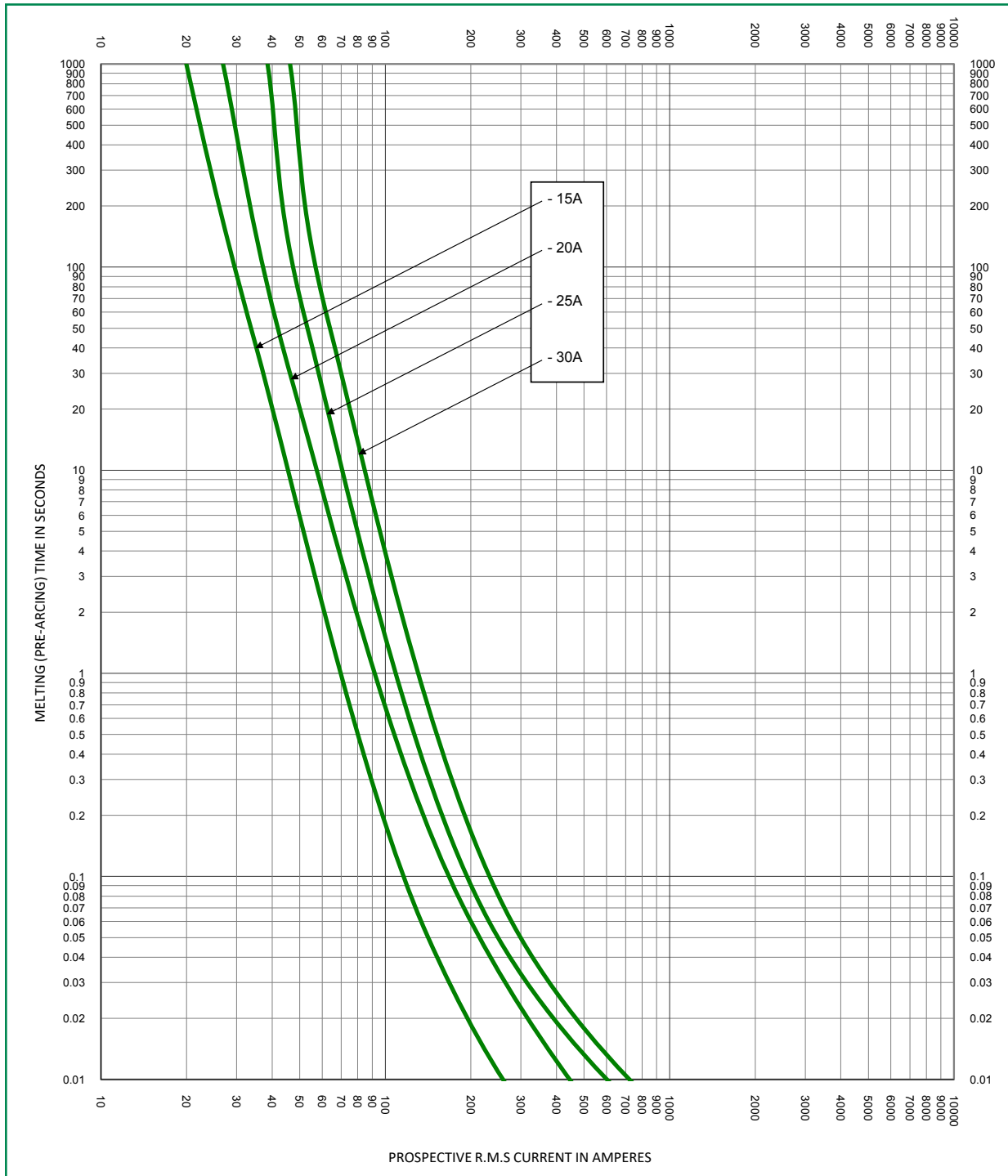
### Time Current Curve SPXI and SPXI-B 4.5–12 A



# POWR-GARD® Fuse Datasheet

## SPXI SERIES IN-LINE SOLAR FUSE

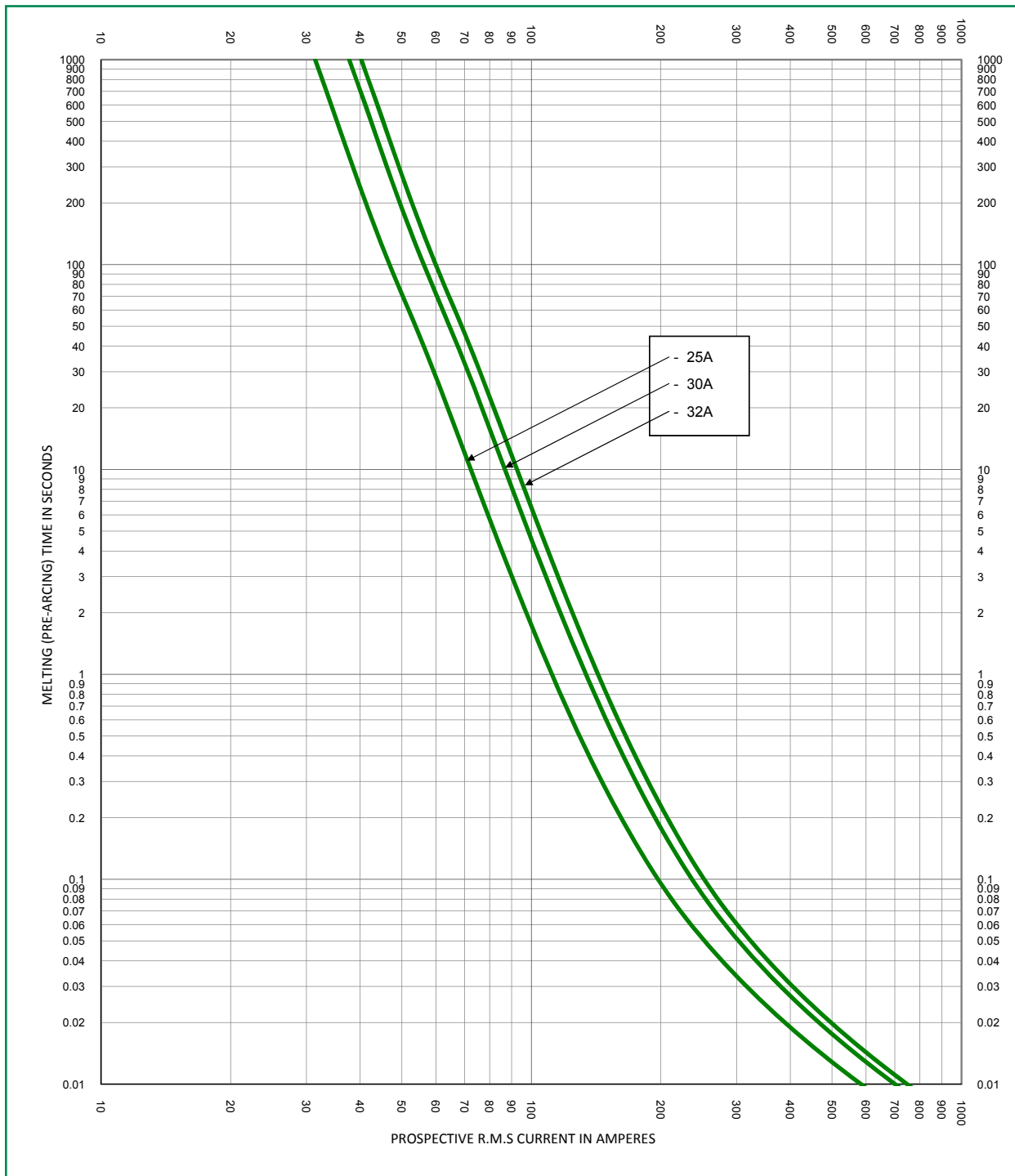
### Time Current Curve SPXI and SPXI-B 15-30 A



# POWR-GARD® Fuse Datasheet

## SPXI SERIES IN-LINE SOLAR FUSE

### Time Current Curve SPXI-M and SPXI-BM 25–32 A



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