

# POWR-GARD® Fuse

## SPXV SERIES SOLAR FUSE

1500 V dc • 1–60 A



### Description

The Littelfuse SPXV solar string fuse has been specifically designed for the protection of photovoltaic (PV) systems.

It is available in multiple ampere ratings to match various requirements in a range of applications.

### Features/Benefits

- Offers higher amperage protection in less space for increased design flexibility
- Full range, fast-acting fuse helps eliminate common low-overload faults
- Up to 50,000 A interrupting rating

### Applications

- Inverters
- Combiner boxes

### Recommended Accessories

#### 1–32 Amperes

**Fuse Holder:** LFPXV001

**Fuse Clips:** 125003

#### 35–60 Amperes

**Fuse Block and Cover:** LFXV15060-BC

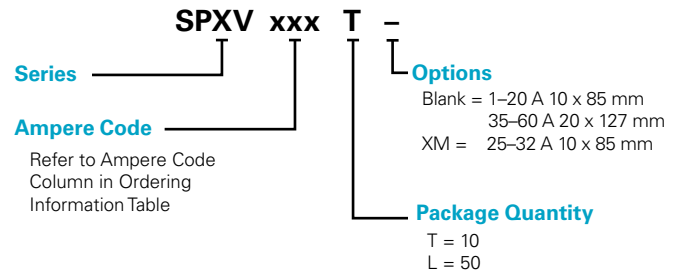
### Web Resources

Download technical resources at: [Littelfuse.com/SPXV](http://Littelfuse.com/SPXV)

### Specifications

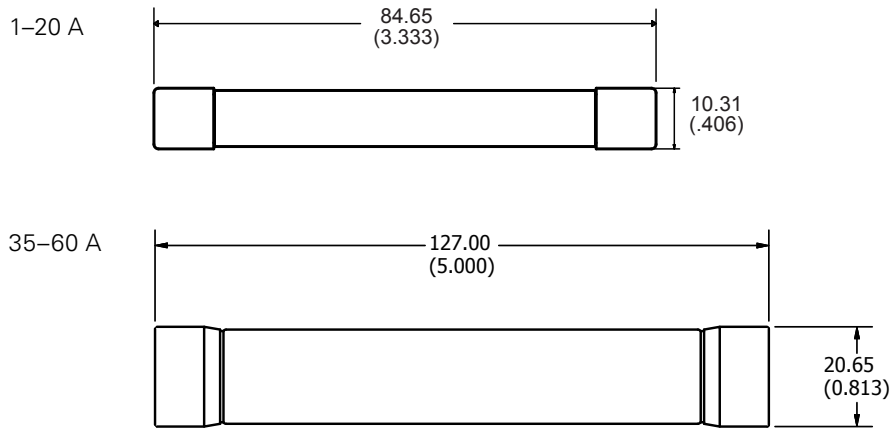
<b>Voltage Rating</b>	1500 V dc
<b>Amperage Rating</b>	1, 2, 2.25, 2.5, 3, 3.5, 4, 4.5, 5, 6, 8, 10, 12, 15, 16, 20, 25, 30, 32, 35, 40, 45, 50, 55, 60 A
<b>Interrupting Rating</b>	SPXV 1 A–20 A: 30 kA (50 kA Self-Certified) SPXV 35 A–60 A: 50 kA SPXV-M 25 A–32 A: 50 kA
<b>Time Constant</b>	≤ 1ms
<b>Material</b>	Body: melamine Caps: copper alloy (nickel plated)
<b>Approvals</b>	cULus (File: E339112) TUV (Cert: J 50506219)
<b>Applicable Standards</b>	UL 248-1, 248-19 IEC 60269-6
<b>Environmental</b>	RoHS Compliant REACH
<b>Country of Origin</b>	Mexico

### Part Numbering System

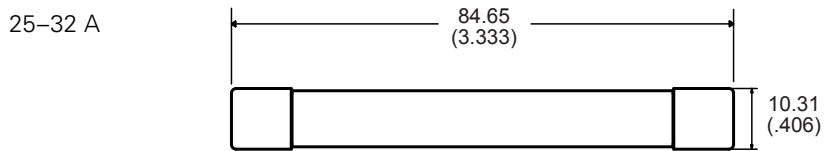


SERIES	AMPERAGE	PACKAGE QUANTITY	CATALOG NUMBER	ORDERING NUMBER
SPXV	6	10	SPXV006	SPXV006.T
SPXV	20	50	SPXV020	SPXV020.L
SPXV	32	10	SPXV032-M	SPXV032.TXM
SPXV	60	10	SPXV060	SPXV060.T

**SPXV Dimensions mm (in)**



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



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### SPXV and SPXV-M Ordering Information

SERIES	AMPERAGE	AMPERE CODE	CATALOG NUMBER	FUSE LABEL ID	PACK QUANTITY	ORDERING NUMBER	UPC
SPXV	1	001.	SPXV001	SPXV 1	10	SPXV001.T	07945822117
					50	SPXV001.L	07945822118
SPXV	2	002.	SPXV002	SPXV 2	10	SPXV002.T	07945822119
					50	SPXV002.L	07945822120
SPXV	2.25	2.25	SPXV2.25	SPXV 2 ¼	10	SPXV2.25T	07945822121
					50	SPXV2.25L	07945822122
SPXV	2.5	02.5	SPXV02.5	SPXV 2 ½	10	SPXV02.5T	07945822123
					50	SPXV02.5L	07945822124
SPXV	3	003.	SPXV003	SPXV 3	10	SPXV003.T	07945822125
					50	SPXV003.L	07945822126
SPXV	3.5	03.5	SPXV03.5	SPXV 3 ½	10	SPXV03.5T	07945822127
					50	SPXV03.5L	07945822128
SPXV	4	004.	SPXV004	SPXV 4	10	SPXV004.T	07945819881
					50	SPXV004.L	07945819883
SPXV	4.5	04.5	SPXV04.5	SPXV 4 ½	10	SPXV04.5T	07945828569
					50	SPXV04.5L	07945828570
SPXV	5	005.	SPXV005	SPXV 5	10	SPXV005.T	07945819885
					50	SPXV005.L	07945819887
SPXV	6	006.	SPXV006	SPXV 6	10	SPXV006.T	07945880812
					50	SPXV006.L	07945880811
SPXV	8	008.	SPXV008	SPXV 8	10	SPXV008.T	07945880814
					50	SPXV008.L	07945880813
SPXV	10	010.	SPXV010	SPXV 10	10	SPXV010.T	07945880816
					50	SPXV010.L	07945880815
SPXV	12	012.	SPXV012	SPXV 12	10	SPXV012.T	07945880818
					50	SPXV012.L	07945880817
SPXV	15	015.	SPXV015	SPXV 15	10	SPXV015.T	07945880820
					50	SPXV015.L	07945880819
SPXV	16	016.	SPXV016	SPXV 16	10	SPXV016.T	07945827709
					50	SPXV016.L	07945827707
SPXV	20	020.	SPXV020	SPXV 20	10	SPXV020.T	07945880822
					50	SPXV020.L	07945880821
SPXV-M	25	025.	SPXV025-M	SPXV 25A-M	10	SPXV025.TXM	07945826354
					50	SPXV025.LXM	07945826355
SPXV-M	30	030.	SPXV030-M	SPXV 30A-M	10	SPXV030.TXM	07945826356
					50	SPXV030.LXM	07945826357
SPXV-M	32	032.	SPXV032-M	SPXV 32A-M	10	SPXV032.TXM	07945826358
					50	SPXV032.LXM	07945826359
SPXV	35	035.	SPXV035	SPXV 35A	10	SPXV035.T	07945826372
SPXV	40	040.	SPXV040	SPXV 40A	10	SPXV040.T	07945826373
SPXV	45	045.	SPXV045	SPXV 45A	10	SPXV045.T	07945826374
SPXV	50	050.	SPXV050	SPXV 50A	10	SPXV050.T	07945826375
SPXV	55	055.	SPXV055	SPXV 55A	10	SPXV055.T	07945826376
SPXV	60	060.	SPXV060	SPXV 60A	10	SPXV060.T	07945826377

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### Electrical Specifications

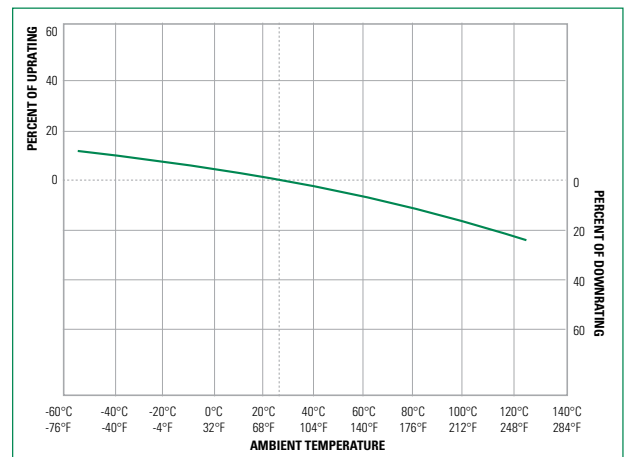
SERIES	AMPERAGE	VOLTAGE		NOM COLD RESISTANCE (ohm)	WATTS LOSS AT 100 % RATED CURRENT (W)	WATTS LOSS AT 80 % RATED CURRENT (W)	MELTING I <sup>2</sup> t (A <sup>2</sup> s) (1500 V dc)	TOTAL CLEARING I <sup>2</sup> t (A <sup>2</sup> s) 15 kA (1500 V dc)	TOTAL CLEARING I <sup>2</sup> t (A <sup>2</sup> s) 30 kA (1500 V dc)	TOTAL CLEARING I <sup>2</sup> t (A <sup>2</sup> s) 50 kA (1500 V dc)	AGENCY APPROVALS	
		DC	DC								cULus	TUV
SPXV	1	1500	50 kA*	0.9256	1.67	0.90	.27	0.48	—	—	•	•
SPXV	2	1500	50 kA*	0.2891	2.17	1.10	1.35	3.24	—	—	•	•
SPXV	2.25	1500	50 kA*	0.2492	2.43	1.21	1.59	4.44	—	—	•	•
SPXV	2.5	1500	50 kA*	0.2234	2.90	1.40	3.68	5.8	—	—	•	•
SPXV	3	1500	50 kA*	0.1587	2.91	1.41	6	12	—	—	•	•
SPXV	3.5	1500	50 kA*	0.1240	2.95	1.47	10	19	16	—	•	•
SPXV	4	1500	50 kA*	0.1067	2.99	1.58	14	24	—	—	•	•
SPXV	4.5	1500	50 kA*	0.0899	2.84	1.54	34	55	—	—	•	•
SPXV	5	1500	50 kA*	0.0644	3.04	1.59	48	71	—	—	•	•
SPXV	6	1500	50 kA*	0.0576	3.05	1.71	49	75	—	—	•	•
SPXV	8	1500	50 kA*	0.0349	3.26	1.84	121	214	—	—	•	•
SPXV	10	1500	50 kA*	0.0223	3.25	1.82	407	509	—	—	•	•
SPXV	12	1500	50 kA*	0.0163	3.34	1.89	798	951	1154	—	•	•
SPXV	15	1500	50 kA*	0.0131	5.27	3.05	299	637	—	—	•	•
SPXV	16	1500	50 kA*	0.0130	5.32	3.08	404	666	—	—	•	•
SPXV	20	1500	50 kA*	0.0085	5.38	3.14	701	1464	1738	—	•	•
SPXV-M	25	1500	50 kA	0.00665	6.1	3.4	2304	—	—	3256	•	•
SPXV-M	30	1500	50 kA	0.00526	7.1	4.0	3792	—	—	5543	•	•
SPXV-M	32	1500	50 kA	0.00459	7.3	4.1	4350	—	—	6655	•	•
SPXV	35	1500	50 kA	0.00713	13.22	7.40	257	—	—	1794	•	•
SPXV	40	1500	50 kA	0.00563	13.75	7.70	362	—	—	5726	•	•
SPXV	45	1500	50 kA	0.0046	13.86	7.76	588	—	—	5521	•	•
SPXV	50	1500	50 kA	0.00412	16.07	9.00	657	—	—	7058	•	•
SPXV	55	1500	50 kA	0.0037	18.31	10.25	853	—	—	8783	•	•
SPXV	60	1500	50 kA	0.0033	20.93	11.72	1030	—	—	11682	•	•

\*Self-certified

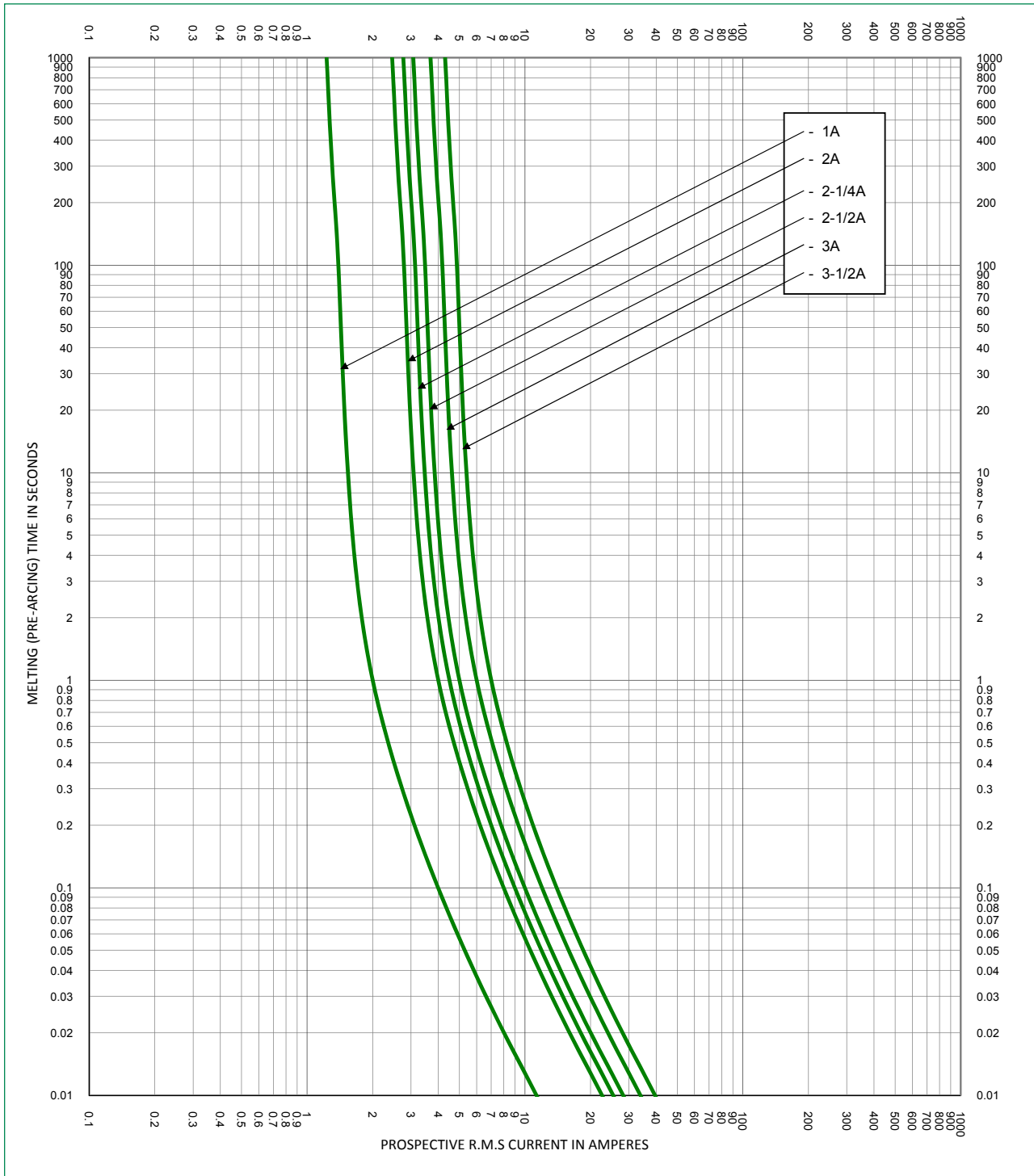
### Electrical Specification – Agency Requirements

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

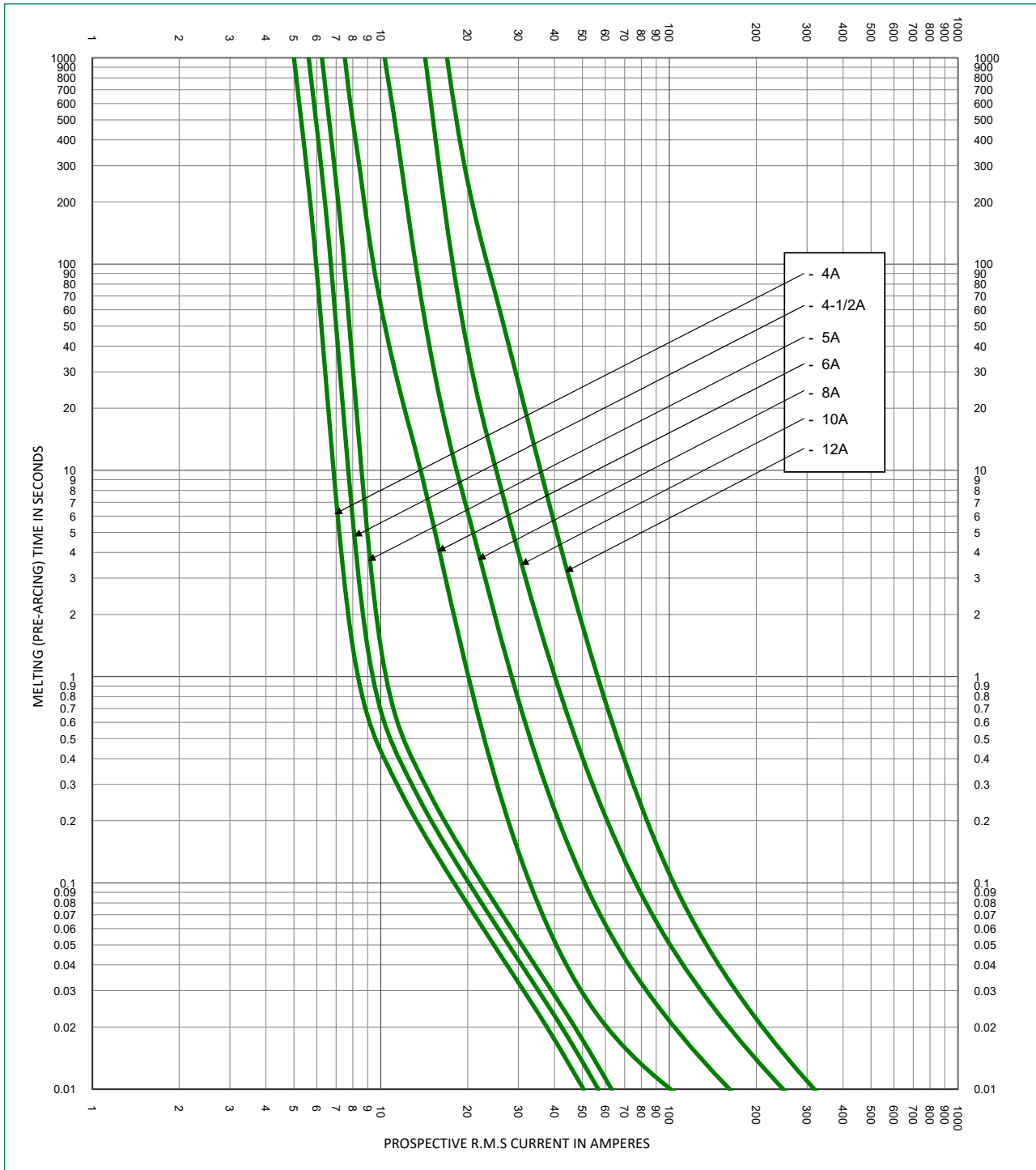
### Temperature Derating Curve (temperature of air immediately surrounding fuse)



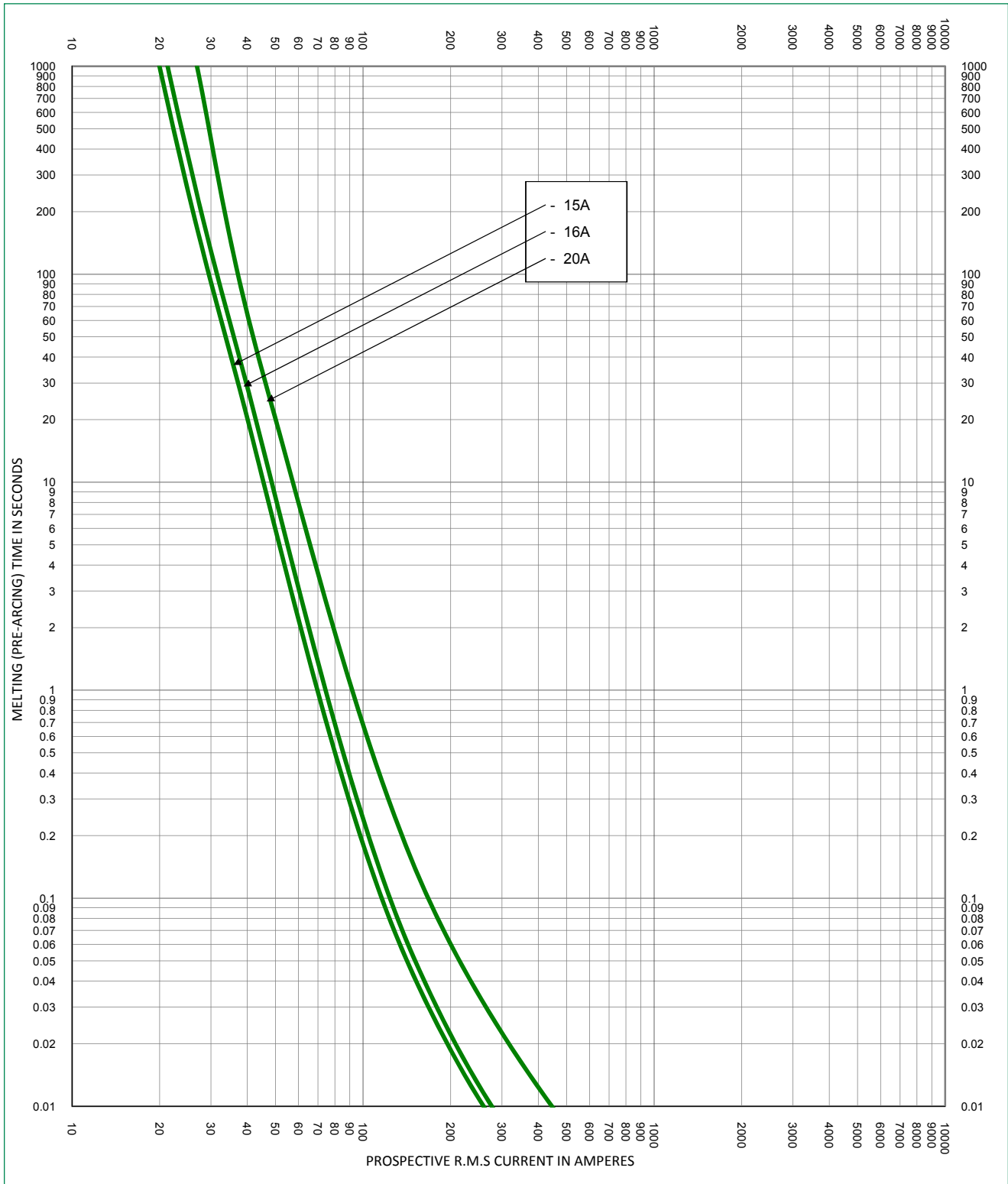
**SPXV Time Current Curve**  
**(1–3.5 A)**



**SPXV Time Current Curve**  
**(4–12 A)**



**SPXV Time Current Curve**  
**(15–20 A)**



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### SPXV Time Current Curve (35–60 A)

