POWR-*SPEED*® Fuse

PSX SERIES HIGH-SPEED SQUARE BODY

Battery Protection Fuses • 1500 V Dc Class aBat • 80 A–1400 A



Description

Littelfuse PSX series 1500 V dc high-speed square body fuses are specially designed to protect battery energy storage systems (BESS), photovoltaic inverters, and many dc applications such as dc common bus systems, larger industrial regenerative drives, rectifiers and metal processing equipment.

The PSX series fuses are extremely fast-acting, offering high-speed performance up to 1500 V dc, ranging from 80 A to 1400 A in the smallest NH XL package sizes. The PSX series is available with multiple mounting terminations including flush-end, DIN, and bolted-blade styles. Visual blown fuse indication is standard on all fuses and optional micro-switch is available for external indication.

The PSX series is certified to UL248-13 and designed to meet IEC 60269-7 (Class aBat) battery protection fuse standard.

Features/Benefits

- High dc voltage rating up to 1500 V dc
- Dc interrupting rating is 250 kA
- Extremely fast acting for high speed performance
- Low watt loss provides energy efficiency for BESS applications
- Compact NH 1XL and 3XL sizes offer flexibility

Applications

- Battery energy storage systems (BESSs)
- Power conversion systems
- Dc common bus systems
- Hybrid PV-BESS inverters
- Regenerative drives
- Industrial heaters and welding equipment
- Metal processing equipment

Specifications

Voltage Rating	Dc: 1500 V
Amperage Rating	80 A–1400 A
Interrupting Rating	Dc: 250 kA
Time Constant	1XL: </= 3 ms 3XL: </= 5 ms
Microswitch	Yes
Mounting	Bolted-blade style, DIN-blade style, Metric flush-end style
Material	Body: ceramic Contacts: plated copper (bladed) plated brass (flush end)
Approvals	cURus Recognized (File: E71611)
Applicable Standards	UL 248-13, IEC 60269-7
Environmental	RoHS Compliant, REACH
Operating Temperature	-55 °C to +125 °C
Storage Temperature	Up to +35 °C with relative humidity <65 %
Country of Origin	Mexico

Ordering Part Number

PSX 3XL UB 1400 X

- **Series**
- **Case Size**: 1XL, 3XL
- **Termination**: UB = bolted blade; DB = DIN blade; FL = flush-metric
- **Amperage**
- **Packing Quantity**: X = (1 pc/box)

Catalog Number

SERIES	CASE SIZE	TERMINATION	AMPERAGE	CATALOG NUMBER	ORDERING PART NUMBER
PSX	3XL	UB	1400	PSX3XLUB1400	PSX3XLUB1400X

Recommended Accessories

Microswitch: MSXL2000C

Web Resources

Download technical documents: **Littelfuse.com/PSX**

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Electrical Characteristics

CASE SIZE	CATALOG NUMBER			AMPERE RATING (A)	VOLTAGE RATING (V)	INTERRUPTING RATING	MINIMUM BREAKING CAPACITY (A)	MELTING (PRE-ARC) I^2T (A^2S)	TOTAL CLEARING I^2T (A^2S) AT RATED VOLTAGE	WATTS LOSS AT 100% RATED CURRENT (W)	AGENCY CERTIFICATION
	FLUSH METRIC (FL)	BOLTED BLADE (UB)	DIN BLADE (DB)		DC	DC			DC		cURus
NH 1XL	PSX1XLFL0080	PSX1XLUB0080	PSX1XLDB0080	80	1500	250 kA	800 A	2048	8720	16.4	•
	PSX1XLFL0100	PSX1XLUB0100	PSX1XLDB0100	100	1500	250 kA	1000 A	3540	15485	19.1	•
	PSX1XLFL0125	PSX1XLUB0125	PSX1XLDB0125	125	1500	250 kA	1250 A	7091	35720	19.6	•
	PSX1XLFL0160	PSX1XLUB0160	PSX1XLDB0160	160	1500	250 kA	1600 A	13704	55490	24.6	•
	PSX1XLFL0200	PSX1XLUB0200	PSX1XLDB0200	200	1500	250 kA	2000 A	18016	77240	34.6	•
	PSX1XLFL0250	PSX1XLUB0250	PSX1XLDB0250	250	1500	250 kA	2500 A	36552	156450	38.5	•
	PSX1XLFL0280	PSX1XLUB0280	PSX1XLDB0280	280	1500	250 kA	2800 A	36552	156450	48.7	•
	PSX1XLFL0315	PSX1XLUB0315	PSX1XLDB0315	315	1500	250 kA	3150 A	56940	212400	53.6	•
	PSX1XLFL0350	PSX1XLUB0350	PSX1XLDB0350	350	1500	250 kA	3500 A	86623	332050	51.8	•
	PSX1XLFL0400	PSX1XLUB0400	PSX1XLDB0400	400	1500	250 kA	4000 A	116271	352600	64.4	•
	PSX1XLFL0450	PSX1XLUB0450	PSX1XLDB0450	450	1500	250 kA	6750 A	149336	540850	69.3	•
	PSX1XLFL0500	PSX1XLUB0500	PSX1XLDB0500	500	1500	250 kA	7500 A	250109	774600	71.5	•
	PSX1XLFL0550	PSX1XLUB0550	PSX1XLDB0550	550	1500	250 kA	8250 A	276650	924967	83.1	•
	PSX1XLFL0630	PSX1XLUB0630	PSX1XLDB0630	630	1500	250 kA	9450 A	276650	924967	127.3	•
NH 3XL	PSX3XLFL0450	PSX3XLUB0450	PSX3XLDB0450	450	1500	250 kA	4500 A	57143	194500	146.3	•
	PSX3XLFL0500	PSX3XLUB0500	PSX3XLDB0500	500	1500	250 kA	5000 A	98570	333900	132.5	•
	PSX3XLFL0550	PSX3XLUB0550	PSX3XLDB0550	550	1500	250 kA	5500 A	142790	451600	136.7	•
	PSX3XLFL0630	PSX3XLUB0630	PSX3XLDB0630	630	1500	250 kA	6300 A	205617	650304	150.9	•
	PSX3XLFL0700	PSX3XLUB0700	PSX3XLDB0700	700	1500	250 kA	7000 A	305720	1003650	164.5	•
	PSX3XLFL0800	PSX3XLUB0800	PSX3XLDB0800	800	1500	250 kA	8000 A	335493	1150000	209.6	•
	PSX3XLFL0900	PSX3XLUB0900	PSX3XLDB0900	900	1500	250 kA	9000 A	403262	1308500	266.9	•
	PSX3XLFL1000	PSX3XLUB1000	PSX3XLDB1000	1000	1500	250 kA	10000 A	484792	1791500	335.0	•
	PSX3XLFL1100	PSX3XLUB1100	PSX3XLDB1100	1100	1500	250 kA	11000 A	656719	2201250	341.0	•
	PSX3XLFL1250	PSX3XLUB1250	PSX3XLDB1250	1250	1500	250 kA	12500 A	995376	3003500	346.9	•
	PSX3XLFL1400	PSX3XLUB1400	PSX3XLDB1400	1400	1500	250 kA	14000 A	1395828	4228250	361.9	•

Ordering Information

CASE SIZE	FLUSH METRIC (FL)			BOLTED BLADE (UB)			DIN BLADE (DB)			BOX QUANTITY
	CATALOG NUMBER	ORDERING PART NUMBER	UPC	CATALOG NUMBER	ORDERING PART NUMBER	UPC	CATALOG NUMBER	ORDERING PART NUMBER	UPC	
NH 1XL	PSX1XLFL0080	PSX1XLFL0080X	07945825798	PSX1XLUB0080	PSX1XLUB0080X	07945825819	PSX1XLDB0080	PSX1XLDB0080X	07945826320	1 pc/box
	PSX1XLFL0100	PSX1XLFL0100X	07945825799	PSX1XLUB0100	PSX1XLUB0100X	07945825820	PSX1XLDB0100	PSX1XLDB0100X	07945826321	1 pc/box
	PSX1XLFL0125	PSX1XLFL0125X	07945825800	PSX1XLUB0125	PSX1XLUB0125X	07945825821	PSX1XLDB0125	PSX1XLDB0125X	07945826322	1 pc/box
	PSX1XLFL0160	PSX1XLFL0160X	07945825801	PSX1XLUB0160	PSX1XLUB0160X	07945825822	PSX1XLDB0160	PSX1XLDB0160X	07945826323	1 pc/box
	PSX1XLFL0200	PSX1XLFL0200X	07945825802	PSX1XLUB0200	PSX1XLUB0200X	07945825823	PSX1XLDB0200	PSX1XLDB0200X	07945826324	1 pc/box
	PSX1XLFL0250	PSX1XLFL0250X	07945825803	PSX1XLUB0250	PSX1XLUB0250X	07945825824	PSX1XLDB0250	PSX1XLDB0250X	07945826325	1 pc/box
	PSX1XLFL0280	PSX1XLFL0280X	07945825804	PSX1XLUB0280	PSX1XLUB0280X	07945825825	PSX1XLDB0280	PSX1XLDB0280X	07945826326	1 pc/box
	PSX1XLFL0315	PSX1XLFL0315X	07945825805	PSX1XLUB0315	PSX1XLUB0315X	07945825826	PSX1XLDB0315	PSX1XLDB0315X	07945826327	1 pc/box
	PSX1XLFL0350	PSX1XLFL0350X	07945825806	PSX1XLUB0350	PSX1XLUB0350X	07945825827	PSX1XLDB0350	PSX1XLDB0350X	07945826328	1 pc/box
	PSX1XLFL0400	PSX1XLFL0400X	07945825807	PSX1XLUB0400	PSX1XLUB0400X	07945825828	PSX1XLDB0400	PSX1XLDB0400X	07945826329	1 pc/box
	PSX1XLFL0450	PSX1XLFL0450X	07945825808	PSX1XLUB0450	PSX1XLUB0450X	07945825829	PSX1XLDB0450	PSX1XLDB0450X	07945826330	1 pc/box
	PSX1XLFL0500	PSX1XLFL0500X	07945825809	PSX1XLUB0500	PSX1XLUB0500X	07945826310	PSX1XLDB0500	PSX1XLDB0500X	07945826331	1 pc/box
	PSX1XLFL0550	PSX1XLFL0550X	07945825810	PSX1XLUB0550	PSX1XLUB0550X	07945826311	PSX1XLDB0550	PSX1XLDB0550X	07945826332	1 pc/box
	PSX1XLFL0630	PSX1XLFL0630X	07945825811	PSX1XLUB0630	PSX1XLUB0630X	07945826312	PSX1XLDB0630	PSX1XLDB0630X	07945826333	1 pc/box
NH 3XL	PSX3XLFL0450	PSX3XLFL0450X	07945828641	PSX3XLUB0450	PSX3XLUB0450X	07945828645	PSX3XLDB0450	PSX3XLDB0450X	07945828649	1 pc/box
	PSX3XLFL0500	PSX3XLFL0500X	07945828642	PSX3XLUB0500	PSX3XLUB0500X	07945828646	PSX3XLDB0500	PSX3XLDB0500X	07945828650	1 pc/box
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	PSX3XLFL1100	PSX3XLFL1100X	07945825816	PSX3XLUB1100	PSX3XLUB1100X	07945826317	PSX3XLDB1100	PSX3XLDB1100X	07945826338	1 pc/box
	PSX3XLFL1250	PSX3XLFL1250X	07945825817	PSX3XLUB1250	PSX3XLUB1250X	07945826318	PSX3XLDB1250	PSX3XLDB1250X	07945826339	1 pc/box
	PSX3XLFL1400	PSX3XLFL1400X	07945825818	PSX3XLUB1400	PSX3XLUB1400X	07945826319	PSX3XLDB1400	PSX3XLDB1400X	07945826340	1 pc/box

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Dimensions

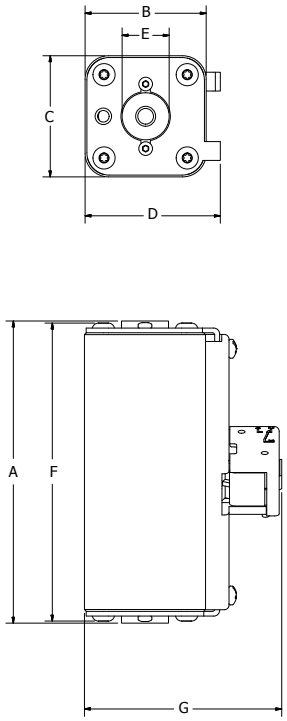


Figure 1. Flush-metric style

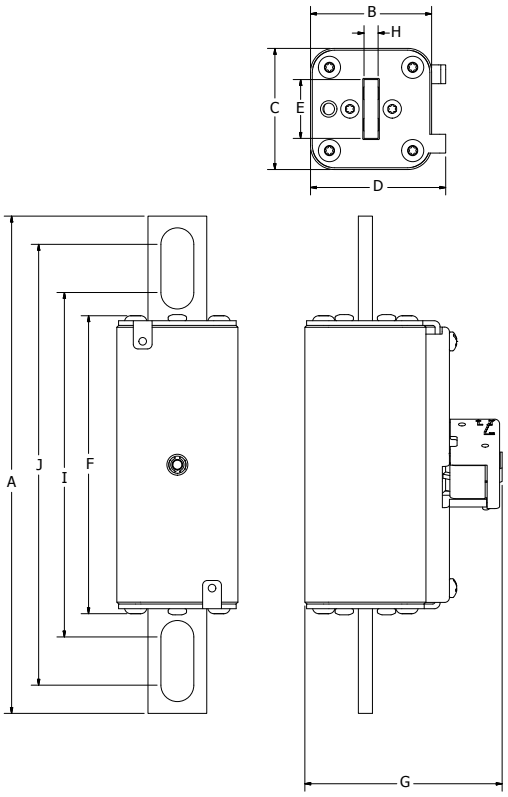


Figure 2. Bolted-blade style

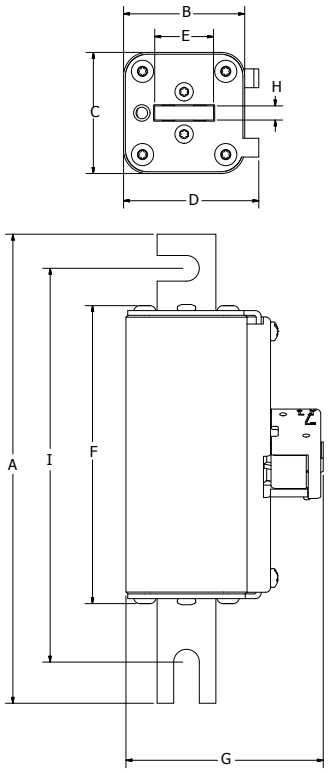


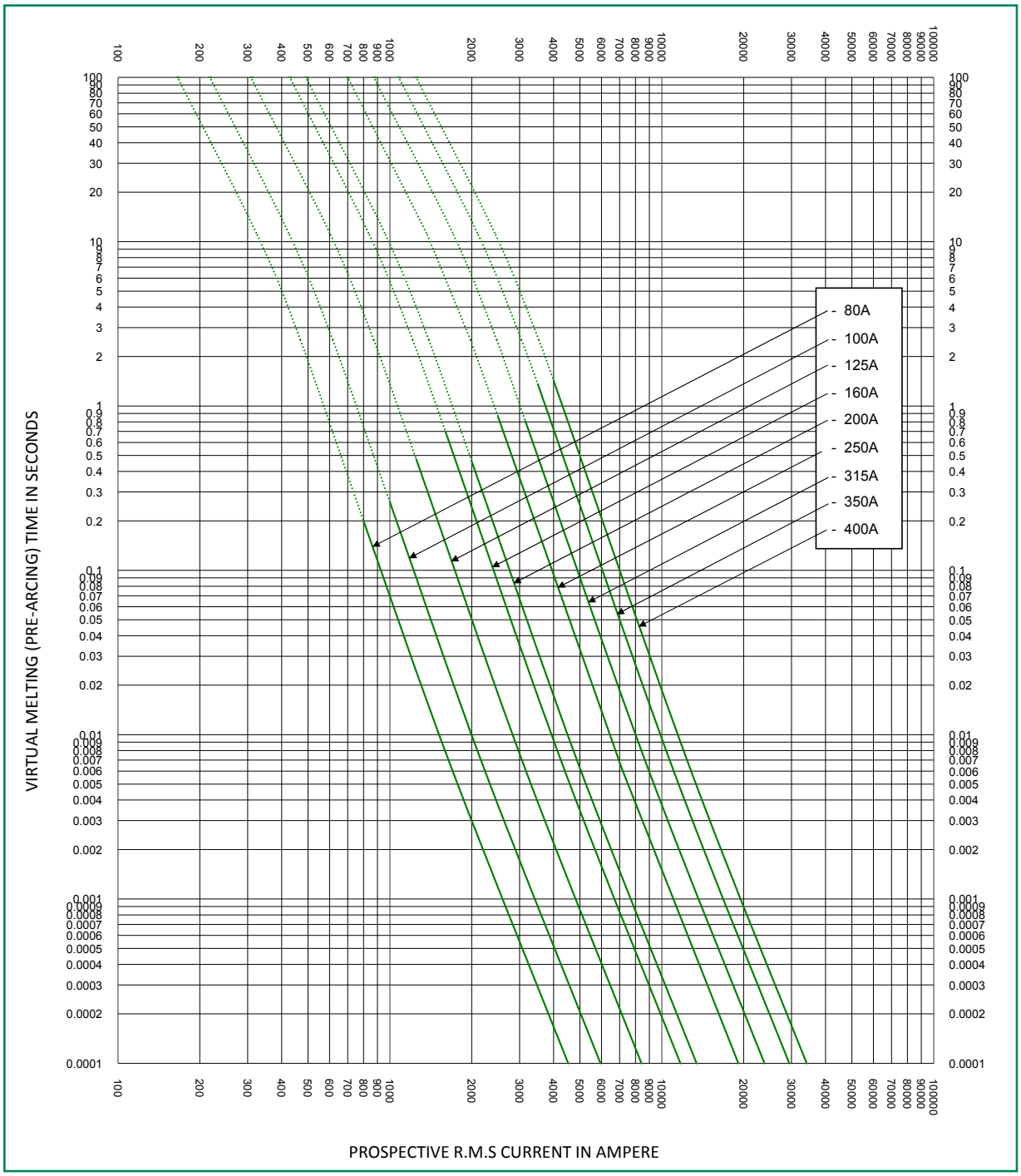
Figure 3. DIN-blade style

DIMENSIONS MM (IN)															
CASE SIZE	MOUNTING STYLE	FIGURE	A	B	C	D	E	F	G*	H	I	J	RECOMMENDED FASTENER	THREAD	RECOMMENDED TORQUE
NH 1XL	FLUSH METRIC (FL)	1	128.5 (5.06)	51.5 (2.03)	51.5 (2.03)	57.5 (2.26)	20.0 (0.79)	126.7 (4.99)	83.9 (3.30)	-	-	-	-	M8 x 1.25	13–20 Nm
	BOLTED BLADE (UB)	2	211.5 (8.33)	51.5 (2.03)	51.5 (2.03)	57.5 (2.26)	25.0 (0.98)	126.7 (4.99)	83.9 (3.30)	6.0 (0.24)	146.5 (5.77)	187.5 (7.38)	12 mm (1/2)	-	64 Nm
	DIN BLADE (DB)	3	199.5 (7.85)	51.5 (2.03)	51.5 (2.03)	57.5 (2.26)	25.0 (0.98)	126.7 (4.99)	83.9 (3.30)	6.0 (0.24)	167.5 (6.59)	-	10 mm (3/8)	-	26 Nm
NH 3XL	FLUSH METRIC (FL)	1	129.5 (5.10)	73.5 (2.89)	73.5 (2.89)	79.5 (3.13)	30.0 (1.18)	128.1 (5.04)	105.9 (4.17)	-	-	-	-	M12 x 1.75	45–55 Nm
	BOLTED BLADE (UB)	2	213.5 (8.41)	73.5 (2.89)	73.5 (2.89)	79.5 (3.13)	36.0 (1.42)	128.7 (5.07)	105.9 (4.17)	6.0 (0.24)	153.1 (6.03)	186.1 (7.33)	14 mm (9/16)	-	92 Nm
	DIN BLADE (DB)	3	199.0 (7.83)	73.5 (2.89)	73.5 (2.89)	79.5 (3.13)	36.0 (1.42)	128.7 (5.07)	105.9 (4.17)	6.0 (0.24)	166.8 (6.57)	-	10 mm (3/8)	-	26 Nm

*These dimensions include the optional bolt-on microswitch.

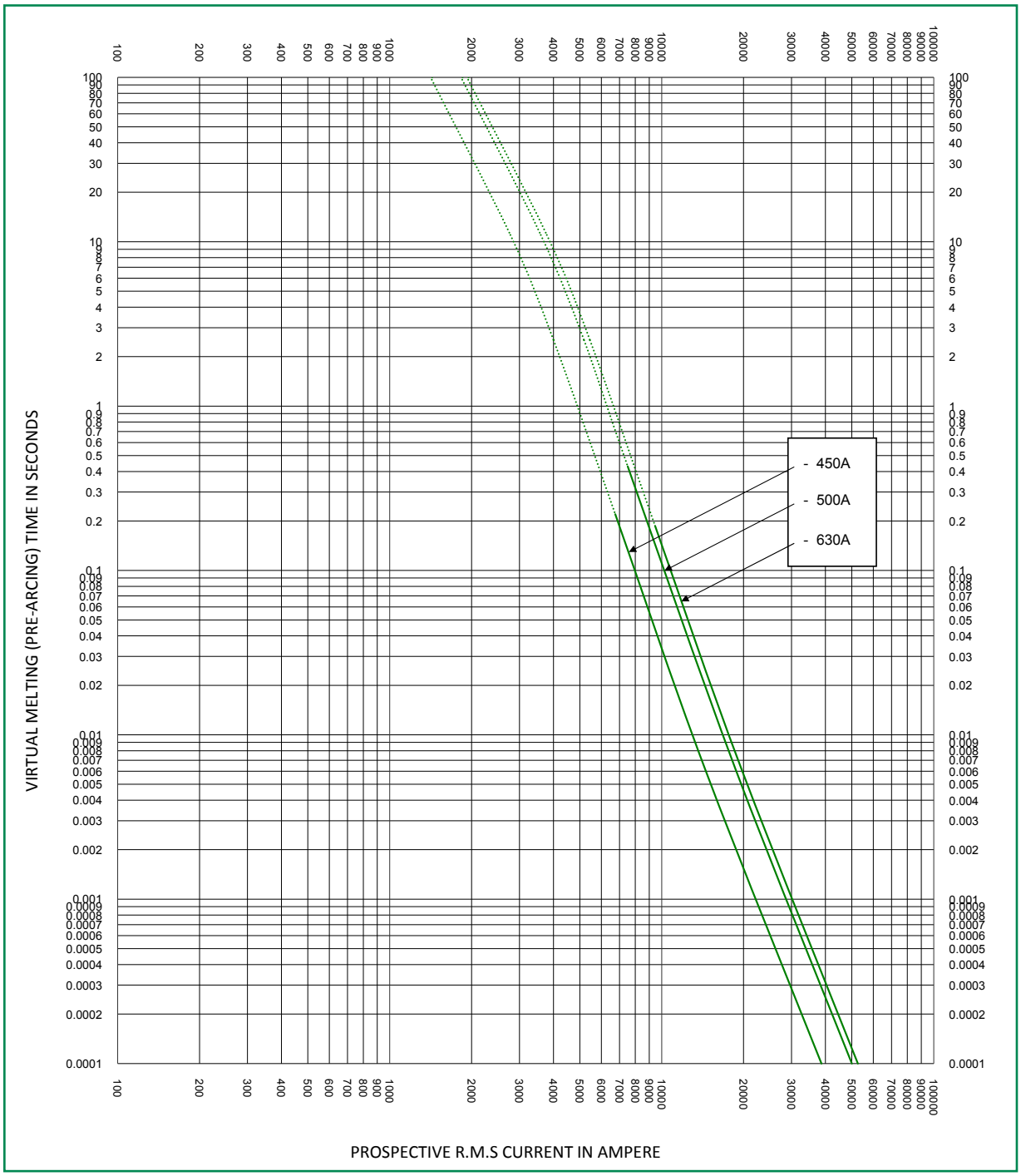
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Time Current Curve (1XL Case Size 80 A–400 A)



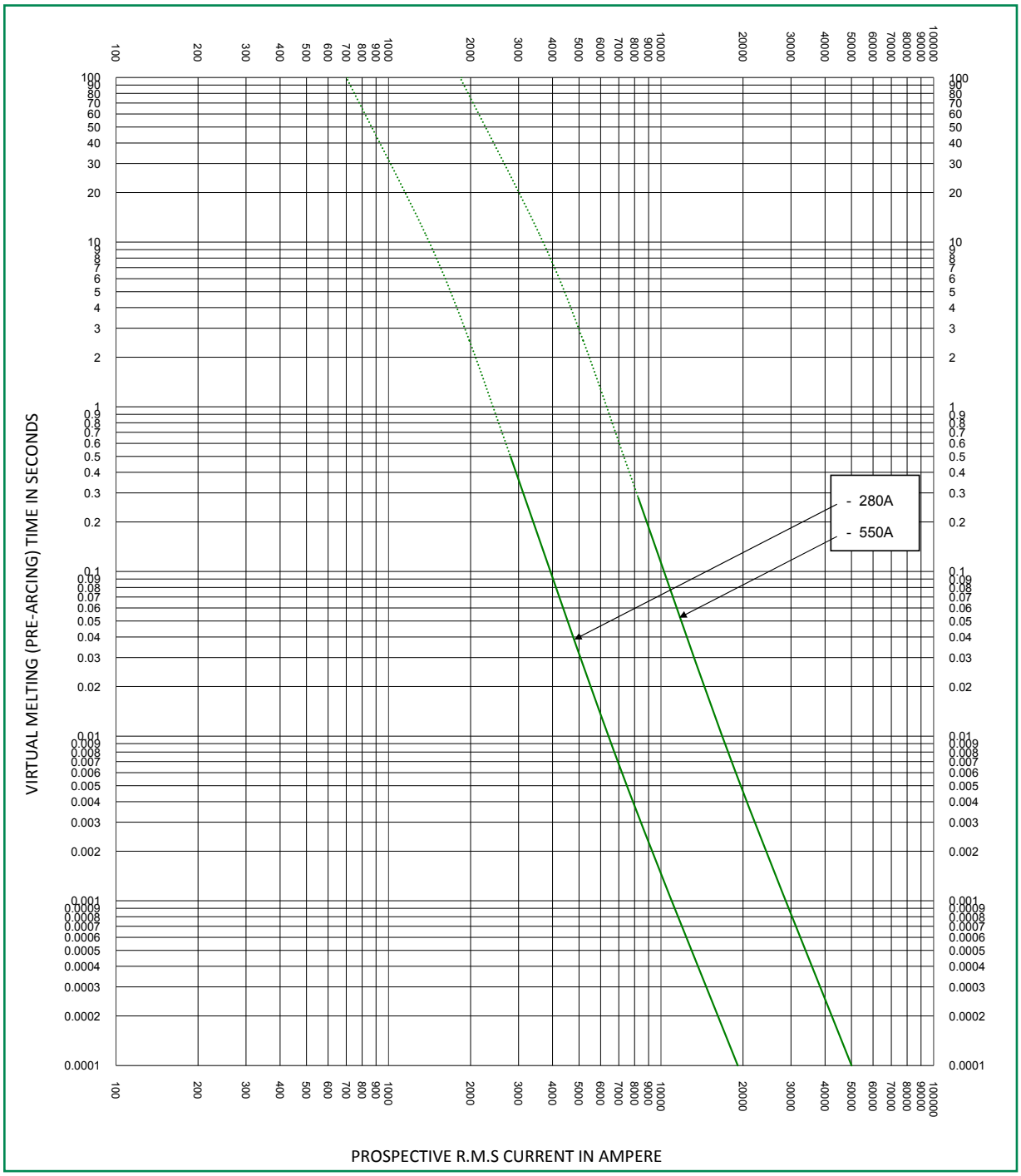
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Time Current Curve (1XL Case Size 450 A–630 A)



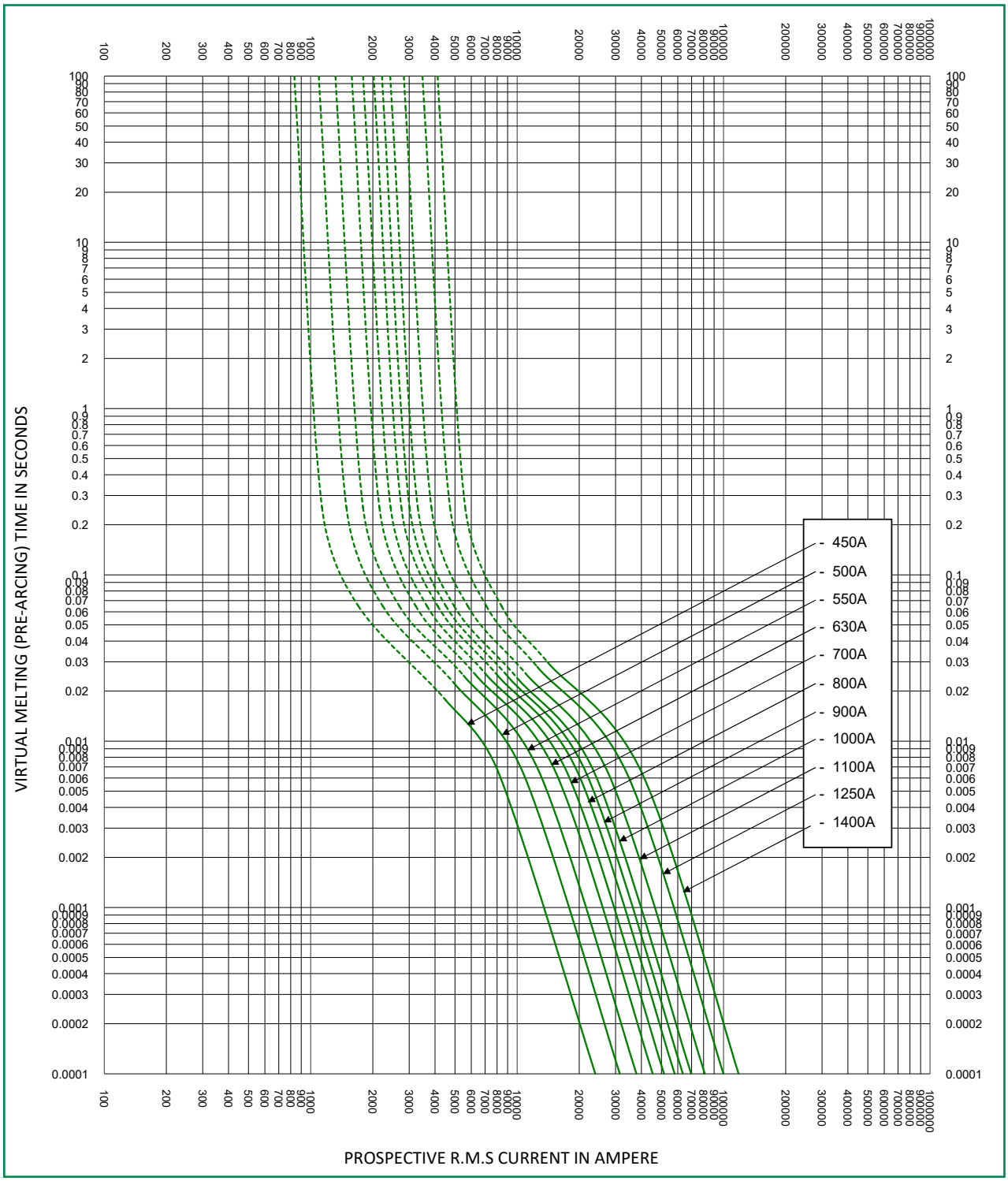
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Time Current Curve (1XL Case Size 280 A and 550 A)



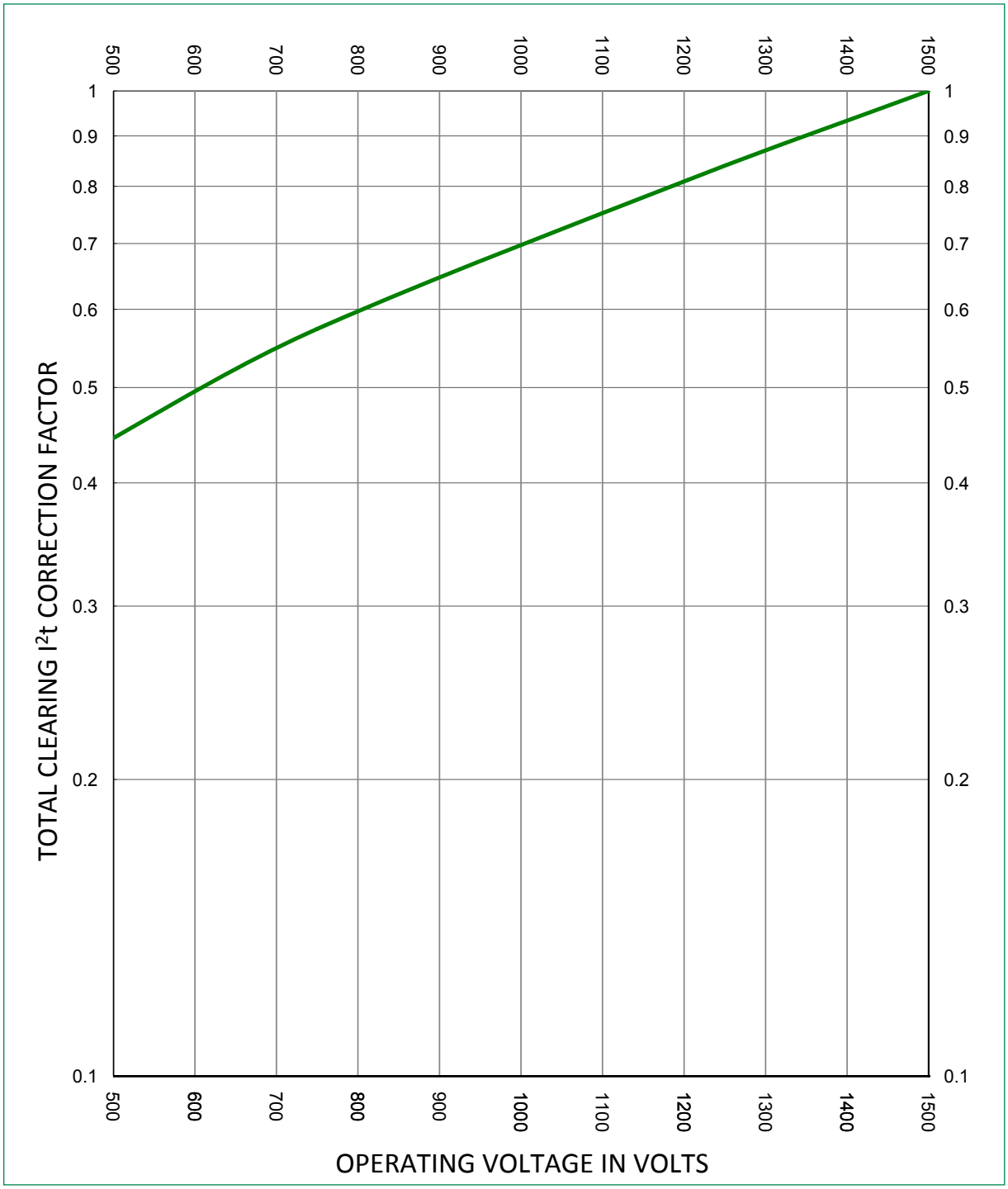
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Time Current Curve (3XL Case Size 450 A–1400 A)



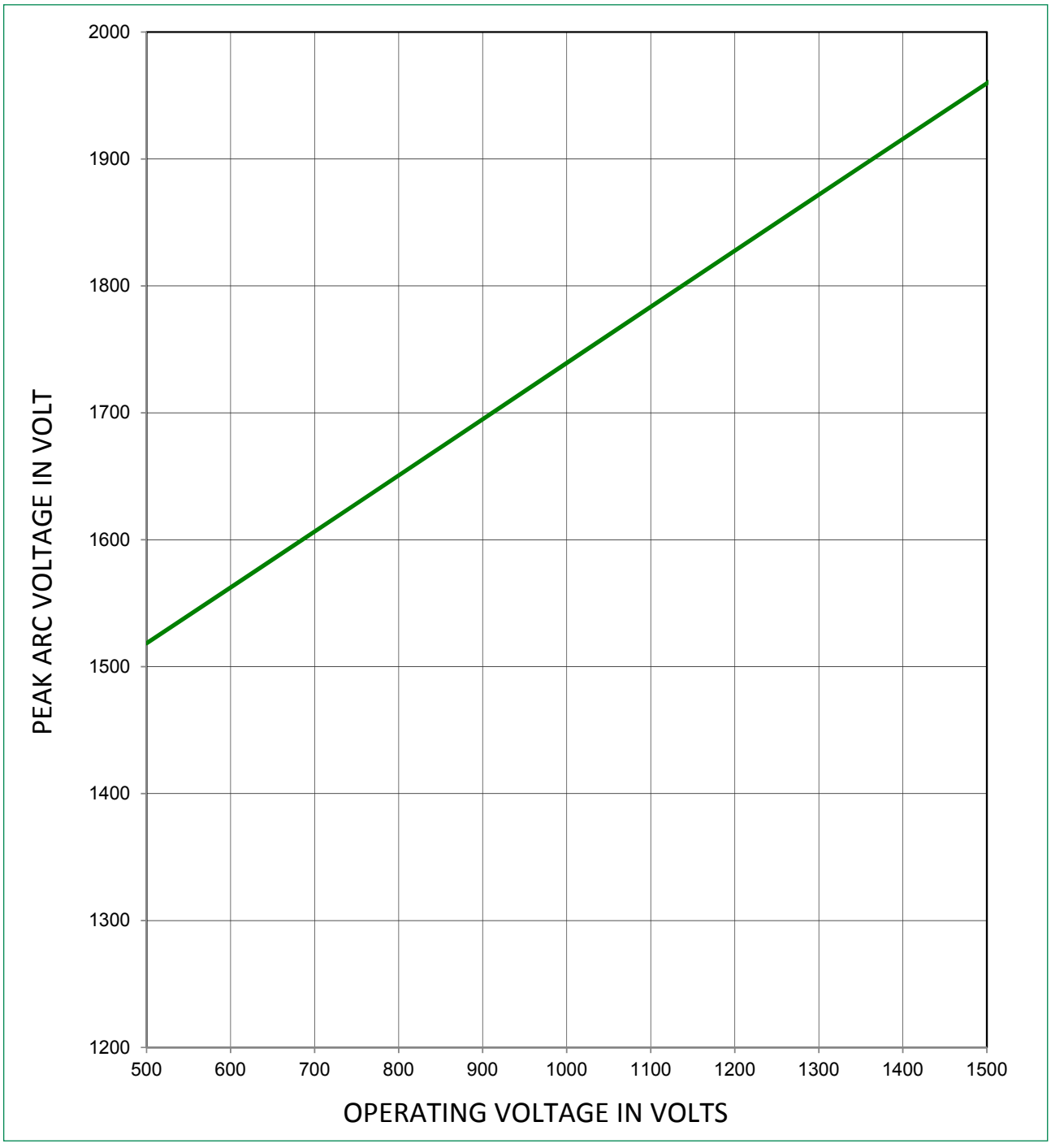
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Total Clearing I²T Correction Factor Curve (1XL and 3XL)



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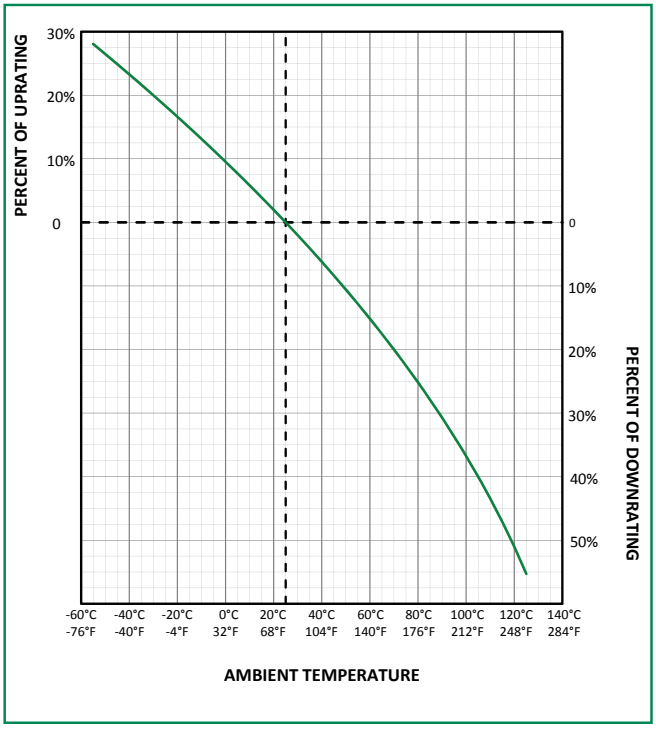
Peak Arc Voltage Curve 1XL and 3XL



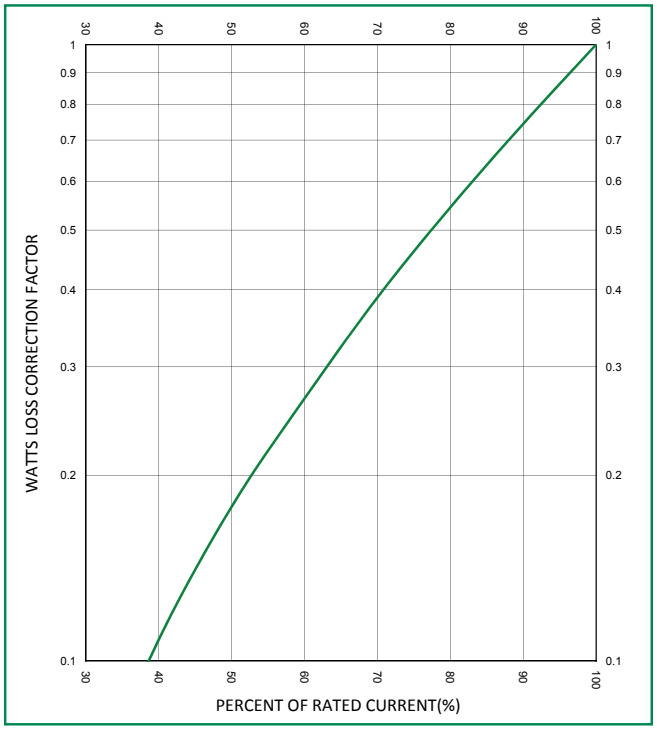
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Temperature Derating Curve

(temperature of air immediately surrounding fuse)



Watts Loss Correction Factor Curve



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