

POWR-SPEED® Fuse

L70QS SERIES HIGH-SPEED ROUND BODY

700 V ac/dc • Very Fast Acting • 35–800 A



Description

The L70QS series is a next generation high-speed fuse for the protection of power semiconductor devices and is designed in the traditional North American bolted style package.

L70QS series high-speed fuses are extremely current limiting and are used to protect power converters, drives and control circuit applications. Designed with lower I^2t performance characteristics, these fuses provide balanced performance to extend longevity while lowering potentially damaging heat energy to the devices being protected.

In addition L70QS series fuses have been designed with a universal mounting option to meet customer requirements for installation into a variety of application configurations

Littelfuse POWR-SPEED products offer optimized circuit protection at the extremely fast speed required to protect modern day, sensitive, high-power semiconductor devices. Such products are commonly found in various industries including pulp and paper industries, cranes and heavy-lifting equipment, processing industries, wastewater treatment plants and large factories and MRO facilities.

Features

- Compliance with US and Canadian requirements
- Traditional North American bolted style dimensions
- Class aR performance
- Direct bus-bar mount or stud mount design
- Halogen free, RoHS and REACH Compliant

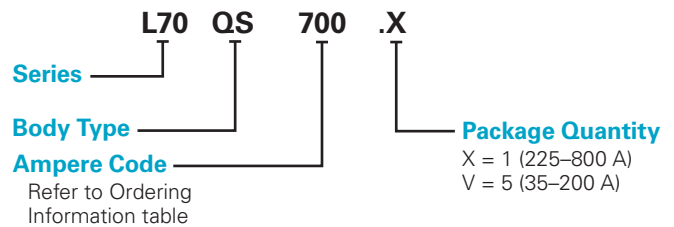
Applications

- Power converters (inverters, rectifiers)
- Power supplies
- UPS
- Variable speed drives
- Control circuits
- Soft starters

Specifications

| | |
|------------------------------|--|
| Voltage Rating | Ac: 700 V Dc: 700 V |
| Amperage Rating | 35–800 A |
| Interrupting Rating | Ac: 200 kA Dc: 50 kA |
| Time Constant | 10 ms |
| Material | Body: melamine Caps: copper alloy (silver plated) |
| Approvals | UL Recognized (E71611) cURus (E71611) |
| Environmental | RoHS Compliant, REACH |
| Country of Origin | Mexico |
| Operating Temperature | -55 °C to +125 °C |
| Storage Temperature | Up to 35 °C with relative humidity <65 % |

Part Numbering System



| SERIES | BODY TYPE | AMPERE CODE | PACKAGE QUANTITY | CATALOG NUMBER | ORDERING NUMBER |
|--------|-----------|-------------|------------------|----------------|-----------------|
| L70 | QS | 700 | 1 | L70QS700 | L70QS700.X |

Recommended Fuse Blocks

LSCR001 (35–100 A)
LSCR002 (125–800 A)



Web Resources

Download technical documents: Littelfuse.com/L70QS

Note: high-speed fuses are designed for fixed installations. They are not intended for use in moving vehicle applications.

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Electrical Specifications

| CATALOG NUMBER | AMPERAGE RATING | VOLTAGE RATING | | INTERRUPT RATING | | MELTING (PRE-ARC) I ² T (A ² s) | TOTAL CLEARING I ² T (A ² s) | TOTAL CLEARING I ² T (A ² s) | WATTS LOSS AT 80 % RATED CURRENT | WATTS LOSS AT 100 % RATED CURRENT |
|----------------|-----------------|----------------|-----|------------------|-------|---|--|--|----------------------------------|-----------------------------------|
| | | AC | DC | AC | DC | | 200 kA @ 700 V AC | 50 kA @ 700 V DC | (W) | (W) |
| L70QS035 | 35 | 700 | 700 | 200 kA | 50 kA | 129 | 332 | 308 | 5 | 8 |
| L70QS040 | 40 | 700 | 700 | 200 kA | 50 kA | 153 | 599 | 416 | 6 | 9 |
| L70QS050 | 50 | 700 | 700 | 200 kA | 50 kA | 196 | 711 | 588 | 6 | 12 |
| L70QS060 | 60 | 700 | 700 | 200 kA | 50 kA | 269 | 1,233 | 678 | 9 | 15 |
| L70QS070 | 70 | 700 | 700 | 200 kA | 50 kA | 359 | 1,575 | 1,075 | 10 | 20 |
| L70QS080 | 80 | 700 | 700 | 200 kA | 50 kA | 452 | 2,755 | 1,415 | 12 | 22 |
| L70QS090 | 90 | 700 | 700 | 200 kA | 50 kA | 625 | 3,365 | 1,920 | 13 | 25 |
| L70QS100 | 100 | 700 | 700 | 200 kA | 50 kA | 966 | 3,747 | 2,347 | 15 | 30 |
| L70QS125 | 125 | 700 | 700 | 200 kA | 50 kA | 2,208 | 8,795 | 5,570 | 13 | 24 |
| L70QS150 | 150 | 700 | 700 | 200 kA | 50 kA | 3,026 | 13,650 | 8,195 | 17 | 32 |
| L70QS175 | 175 | 700 | 700 | 200 kA | 50 kA | 4,219 | 19,550 | 11,650 | 20 | 38 |
| L70QS200 | 200 | 700 | 700 | 200 kA | 50 kA | 5,529 | 22,067 | 16,100 | 22 | 42 |
| L70QS225 | 225 | 700 | 700 | 200 kA | 50 kA | 9,226 | 34,900 | 25,400 | 22 | 40 |
| L70QS250 | 250 | 700 | 700 | 200 kA | 50 kA | 10,999 | 43,750 | 31,650 | 27 | 46 |
| L70QS300 | 300 | 700 | 700 | 200 kA | 50 kA | 16,296 | 64,400 | 45,500 | 31 | 57 |
| L70QS350 | 350 | 700 | 700 | 200 kA | 50 kA | 24,778 | 91,500 | 65,250 | 35 | 67 |
| L70QS400 | 400 | 700 | 700 | 200 kA | 50 kA | 34,225 | 110,667 | 94,666 | 41 | 79 |
| L70QS450 | 450 | 700 | 700 | 200 kA | 50 kA | 38,946 | 145,500 | 113,500 | 45 | 81 |
| L70QS500 | 500 | 700 | 700 | 200 kA | 50 kA | 42,747 | 173,000 | 125,500 | 56 | 112 |
| L70QS600 | 600 | 700 | 700 | 200 kA | 50 kA | 67,363 | 220,333 | 179,667 | 67 | 138 |
| L70QS700 | 700 | 700 | 700 | 200 kA | 50 kA | 99,387 | 368,000 | 298,000 | 72 | 138 |
| L70QS800 | 800 | 700 | 700 | 200 kA | 50 kA | 156,137 | 466,333 | 415,333 | 76 | 142 |

Ordering Information

| SERIES | AMPERAGE RATING | AMPERE CODE | CATALOG NUMBER | ORDERING NUMBER | PACK QUANTITY | UPC |
|--------|-----------------|-------------|----------------|-----------------|---------------|-------------|
| L70QS | 35 | 035 | L70QS035 | L70QS035.V | 5 Pcs/ Box | 07945886015 |
| L70QS | 40 | 040 | L70QS040 | L70QS040.V | 5 Pcs/ Box | 07945886016 |
| L70QS | 50 | 050 | L70QS050 | L70QS050.V | 5 Pcs/ Box | 07945886017 |
| L70QS | 60 | 060 | L70QS060 | L70QS060.V | 5 Pcs/ Box | 07945886018 |
| L70QS | 70 | 070 | L70QS070 | L70QS070.V | 5 Pcs/ Box | 07945886019 |
| L70QS | 80 | 080 | L70QS080 | L70QS080.V | 5 Pcs/ Box | 07945886020 |
| L70QS | 90 | 090 | L70QS090 | L70QS090.V | 5 Pcs/ Box | 07945886021 |
| L70QS | 100 | 100 | L70QS100 | L70QS100.V | 5 Pcs/ Box | 07945886022 |
| L70QS | 125 | 125 | L70QS125 | L70QS125.V | 5 Pcs/ Box | 07945886023 |
| L70QS | 150 | 150 | L70QS150 | L70QS150.V | 5 Pcs/ Box | 07945886024 |
| L70QS | 175 | 175 | L70QS175 | L70QS175.V | 5 Pcs/ Box | 07945886025 |
| L70QS | 200 | 200 | L70QS200 | L70QS200.V | 5 Pcs/ Box | 07945886026 |
| L70QS | 225 | 225 | L70QS225 | L70QS225.X | 1 Pc/ Box | 07945886027 |
| L70QS | 250 | 250 | L70QS250 | L70QS250.X | 1 Pc/ Box | 07945886028 |
| L70QS | 300 | 300 | L70QS300 | L70QS300.X | 1 Pc/ Box | 07945886029 |
| L70QS | 350 | 350 | L70QS350 | L70QS350.X | 1 Pc/ Box | 07945886030 |
| L70QS | 400 | 400 | L70QS400 | L70QS400.X | 1 Pc/ Box | 07945886031 |
| L70QS | 450 | 450 | L70QS450 | L70QS450.X | 1 Pc/ Box | 07945886032 |
| L70QS | 500 | 500 | L70QS500 | L70QS500.X | 1 Pc/ Box | 07945886033 |
| L70QS | 600 | 600 | L70QS600 | L70QS600.X | 1 Pc/ Box | 07945886034 |
| L70QS | 700 | 700 | L70QS700 | L70QS700.X | 1 Pc/ Box | 07945886035 |
| L70QS | 800 | 800 | L70QS800 | L70QS800.X | 1 Pc/ Box | 07945886036 |

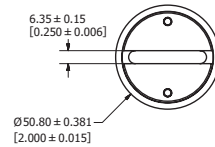
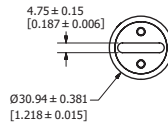
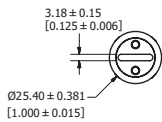
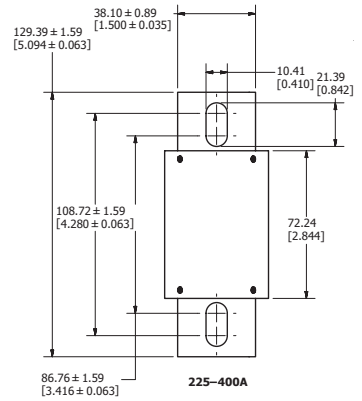
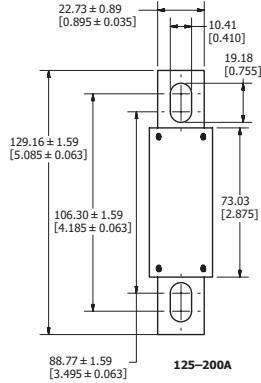
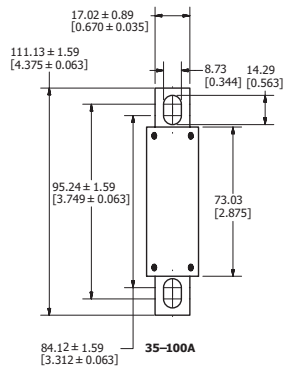
POWR-SPEED® Fuse

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Dimensions

Millimeters [inches]

Document Number: OL-L70QS000



Stud Size: M8 (5/16")

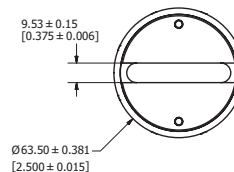
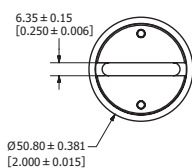
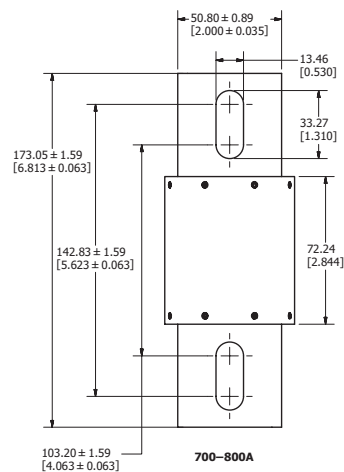
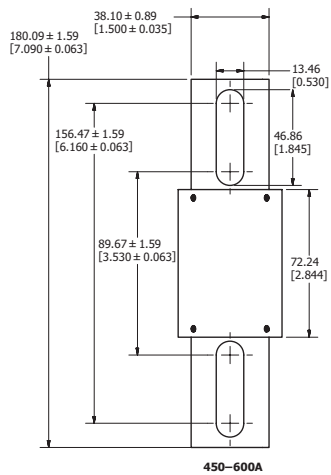
Recommended Torque: 15 Nm (132.76 in-lb)

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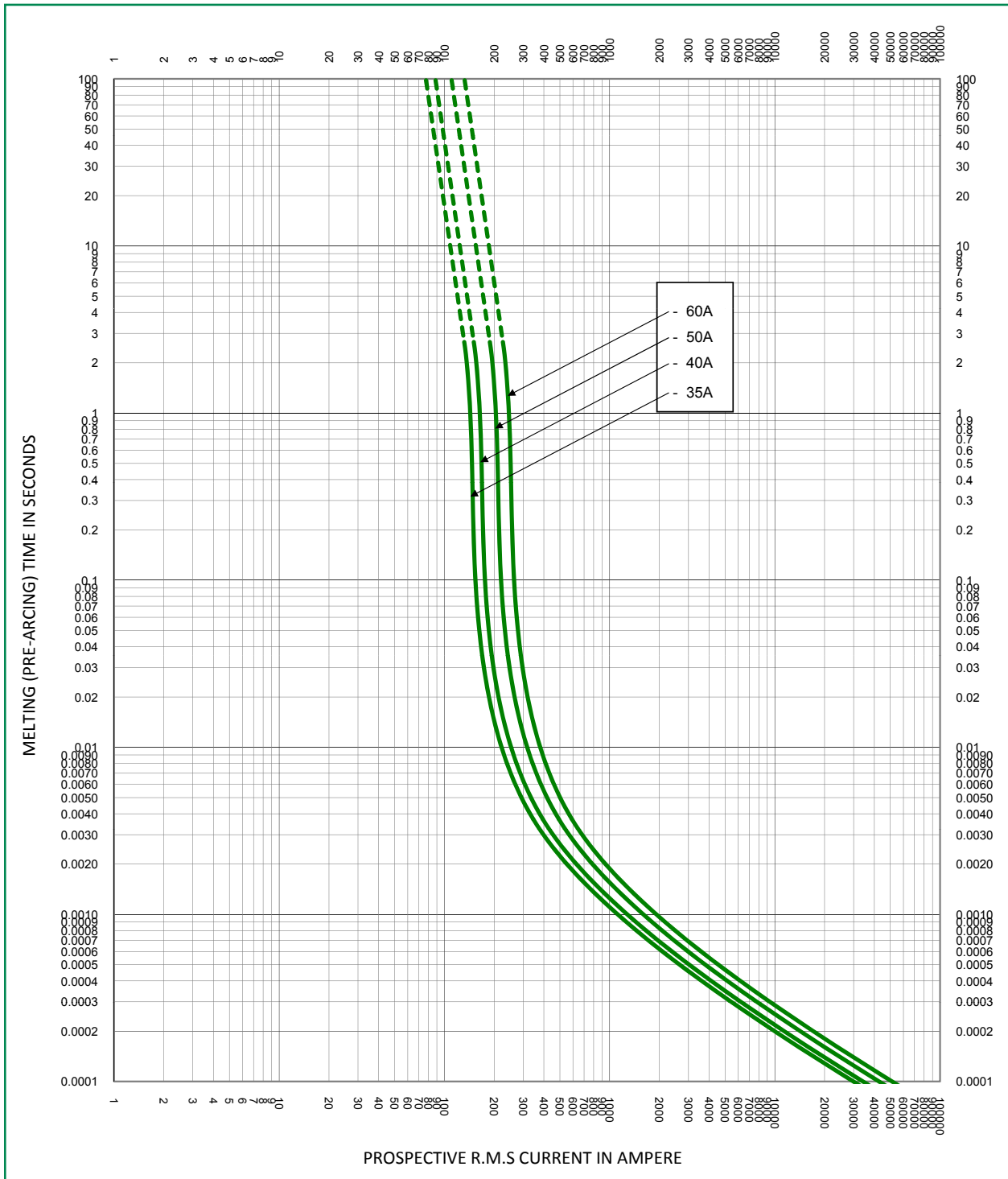
Stud Size: M12 (1/2")

Recommended Torque: 54 Nm (477.94 in-lb)

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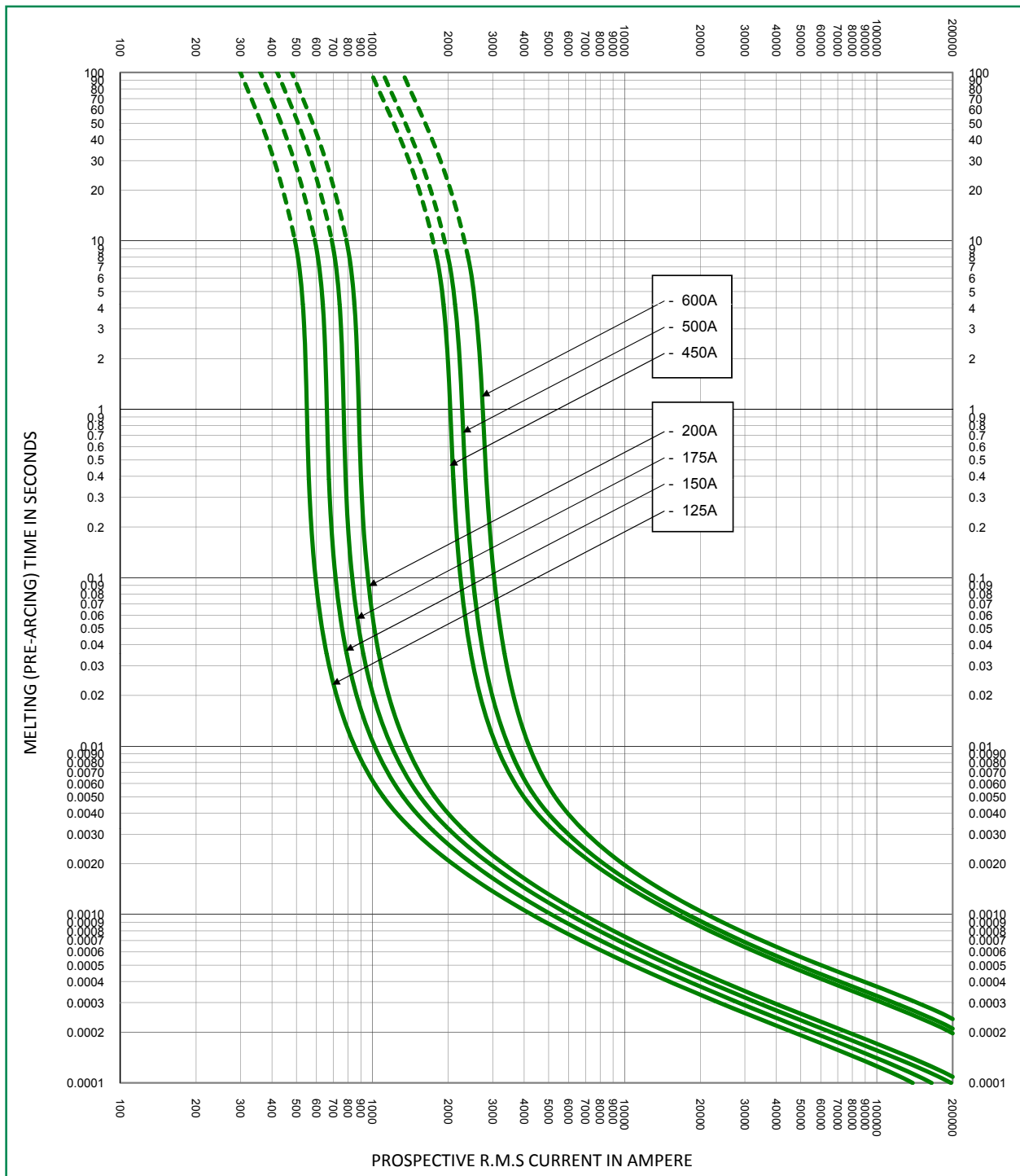
Recommended Torque: 54 Nm (477.94 in-lb)

Time Current Curve
L70QS Series



Time Current Curve

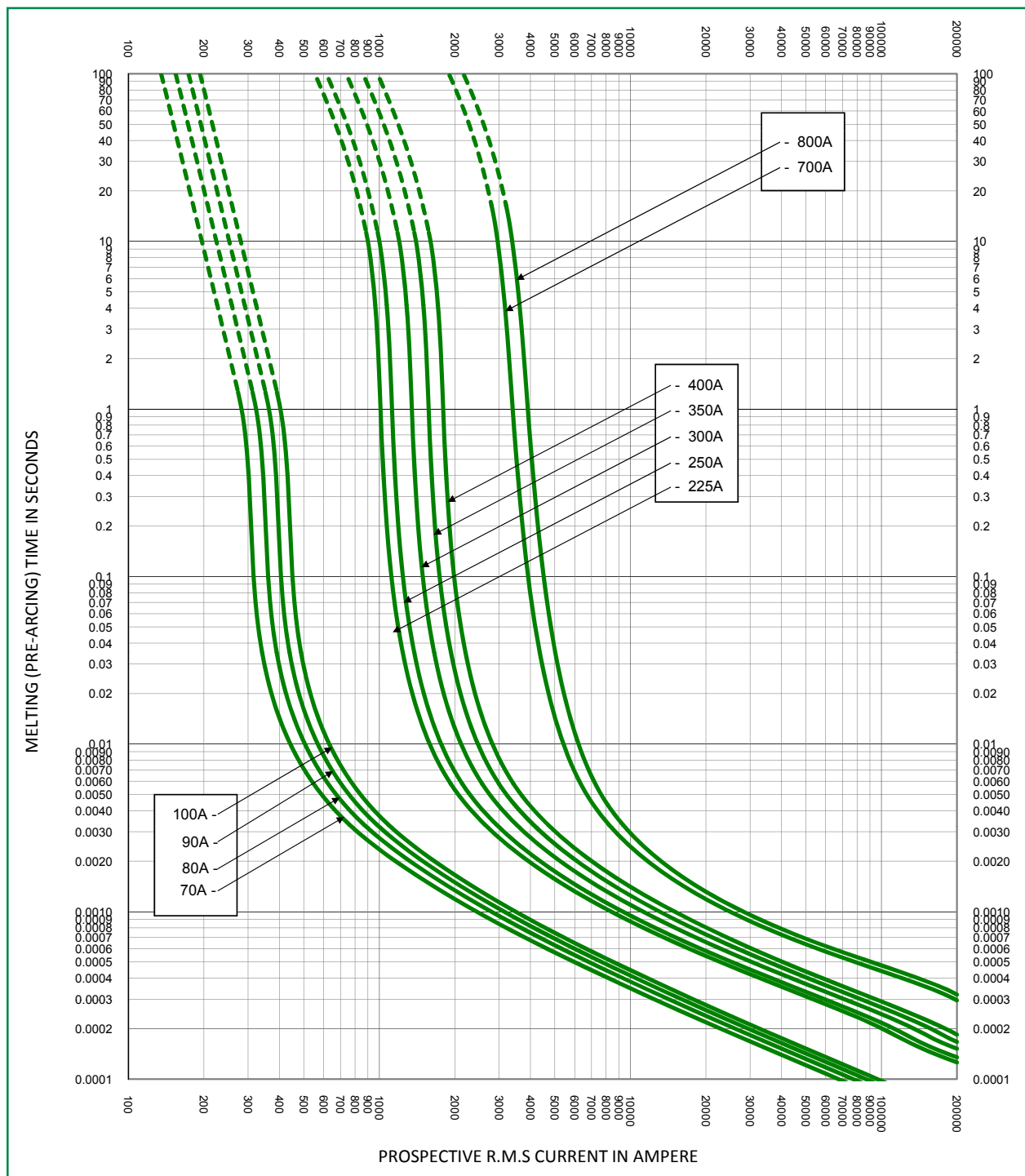
L70QS Series



* Dc minimum breaking capacity = 6 x In (125-200 A only)

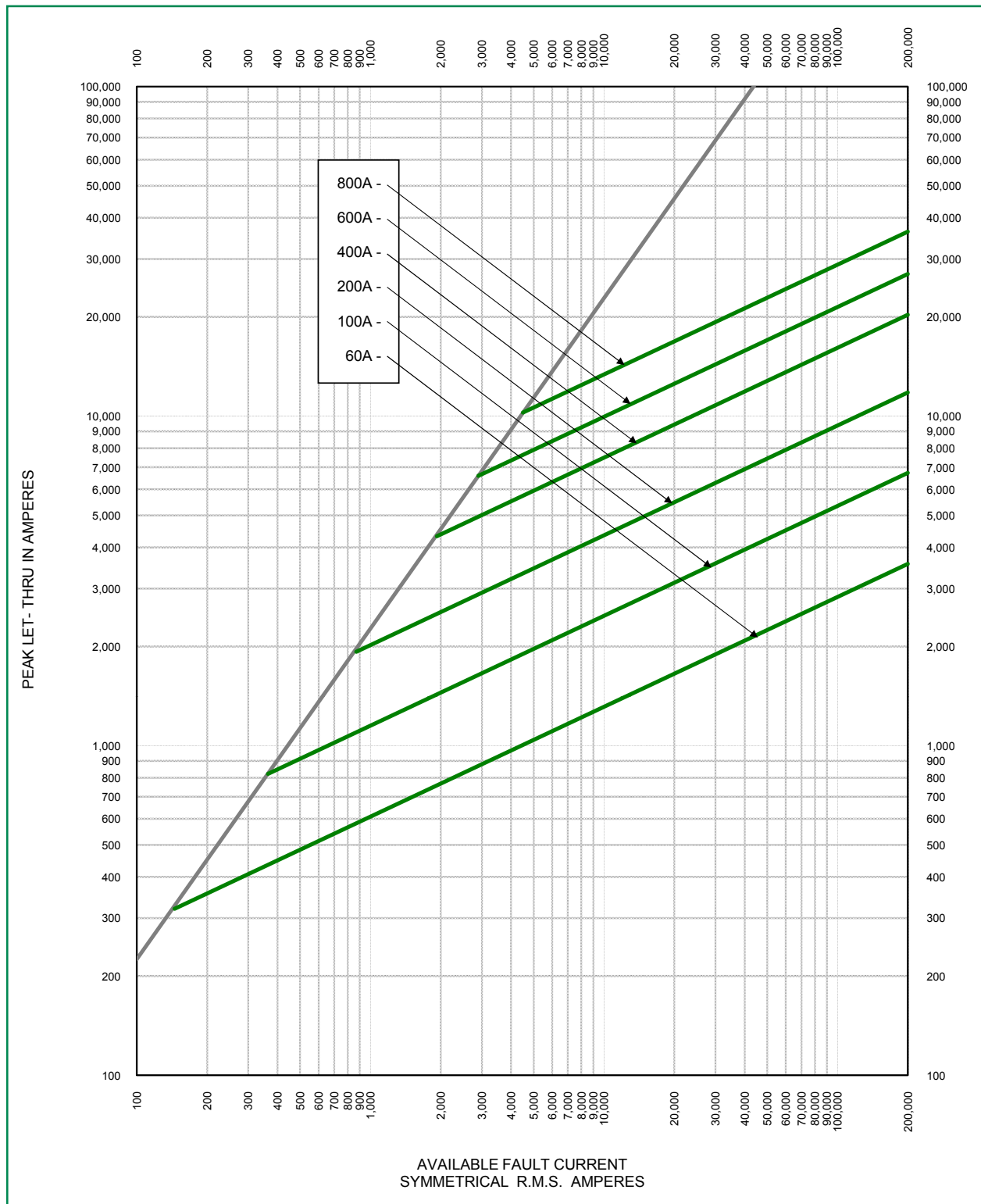
Time Current Curve

L70QS Series

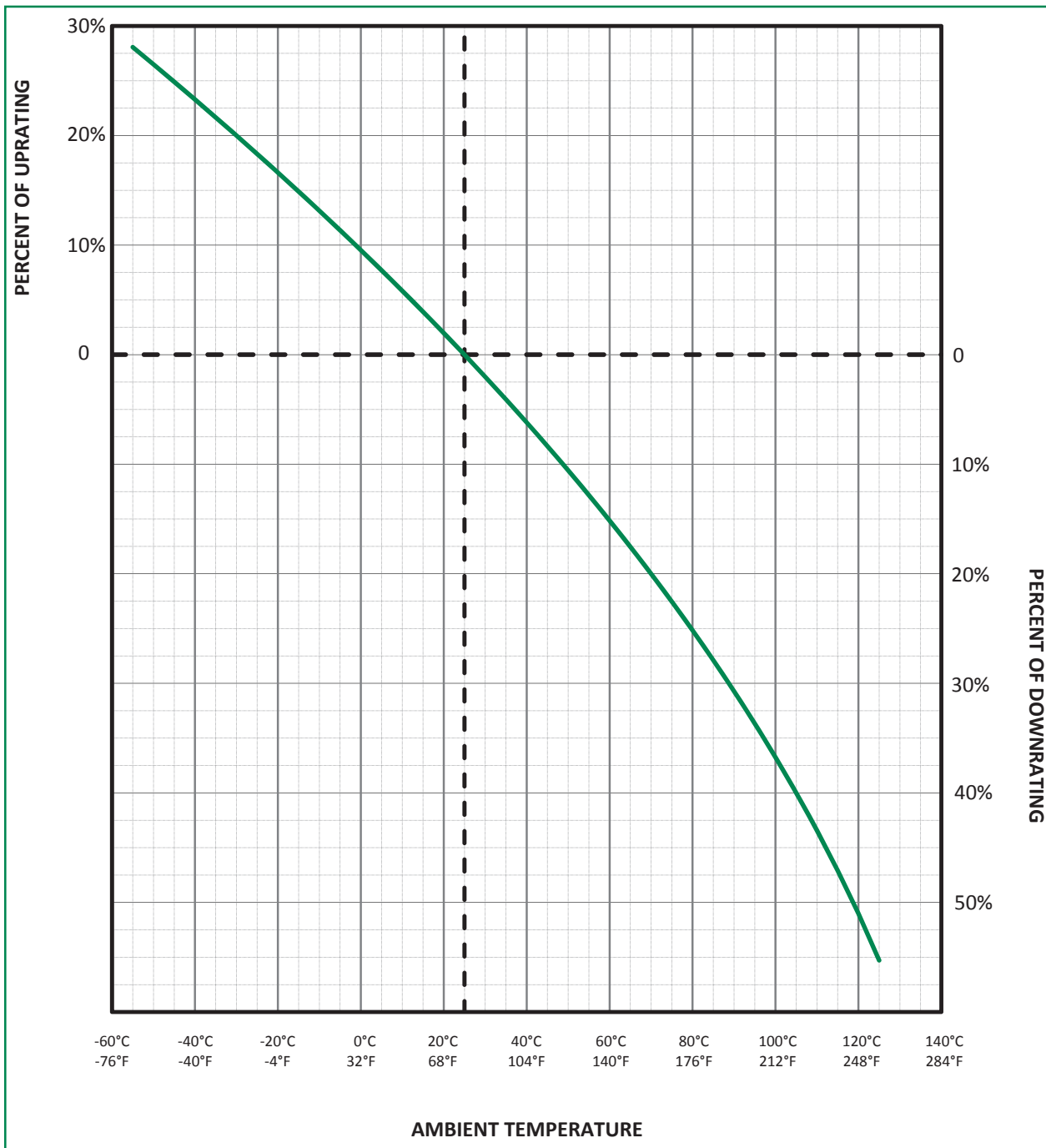


Peak Let-Thru Curve

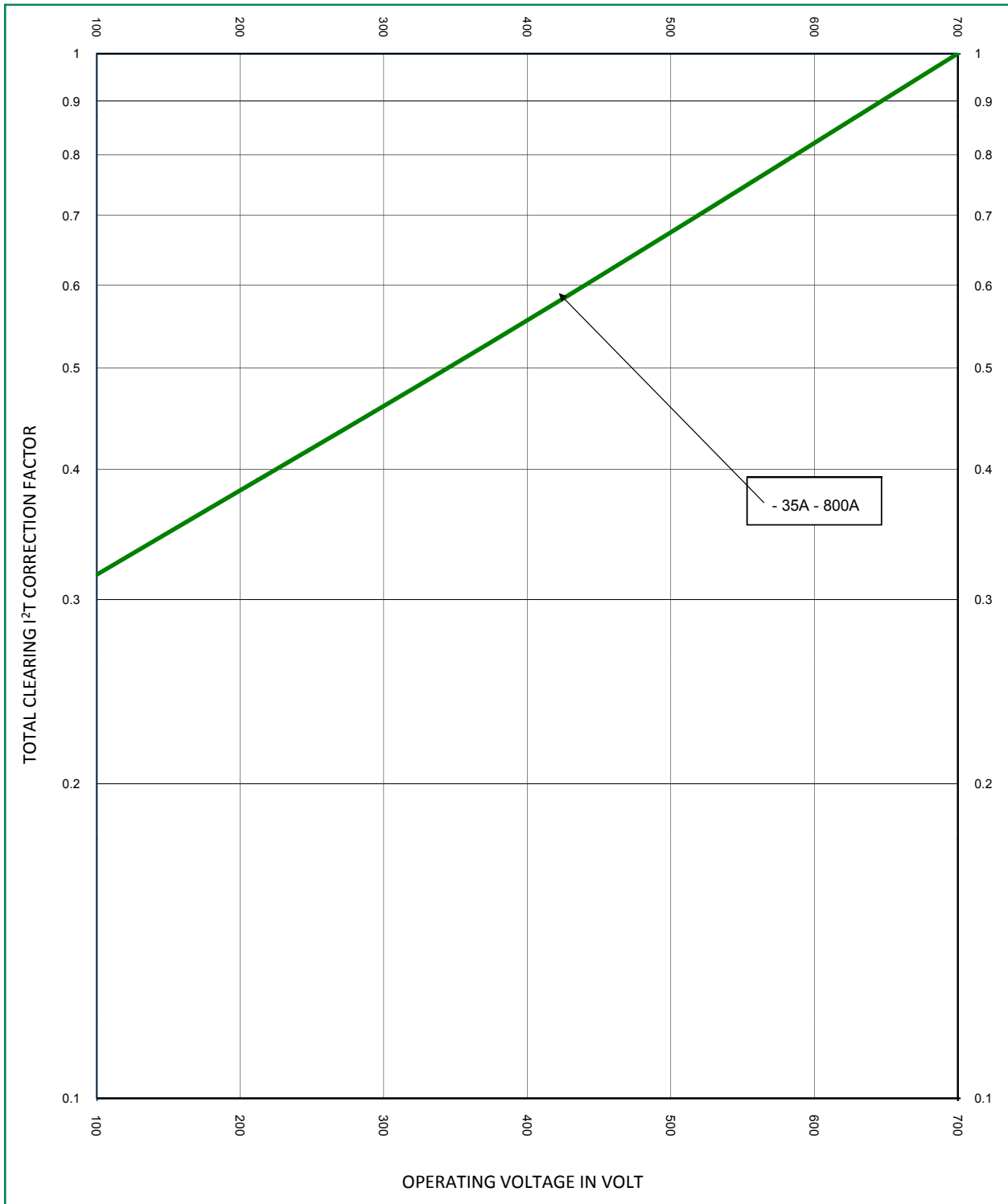
L70QS Series



Temperature De-rating Curve (temperature of air immediately surrounding fuse)
 L70QS Series

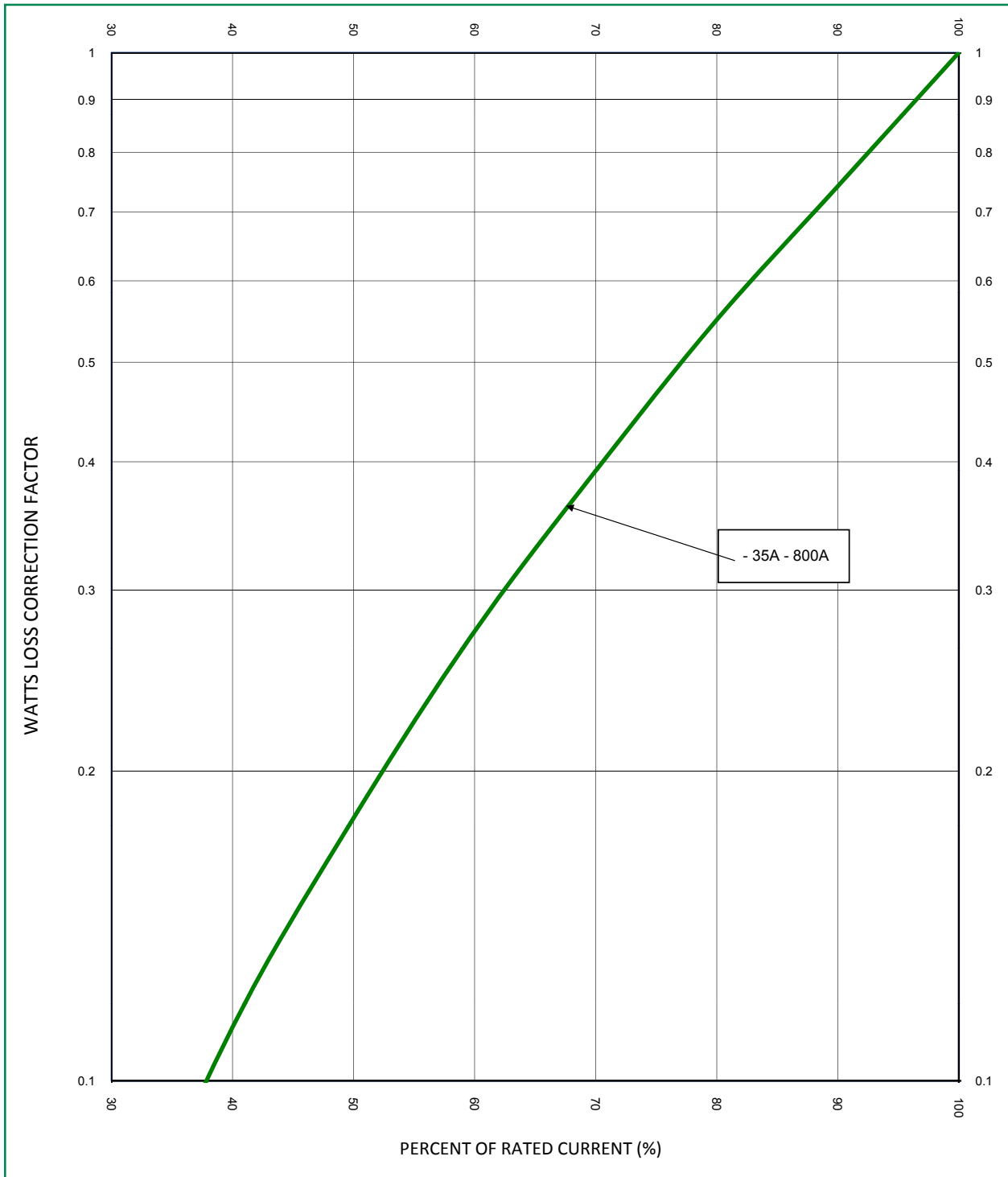


Total Clearing I²t Correction Factor Curve
L70QS Series



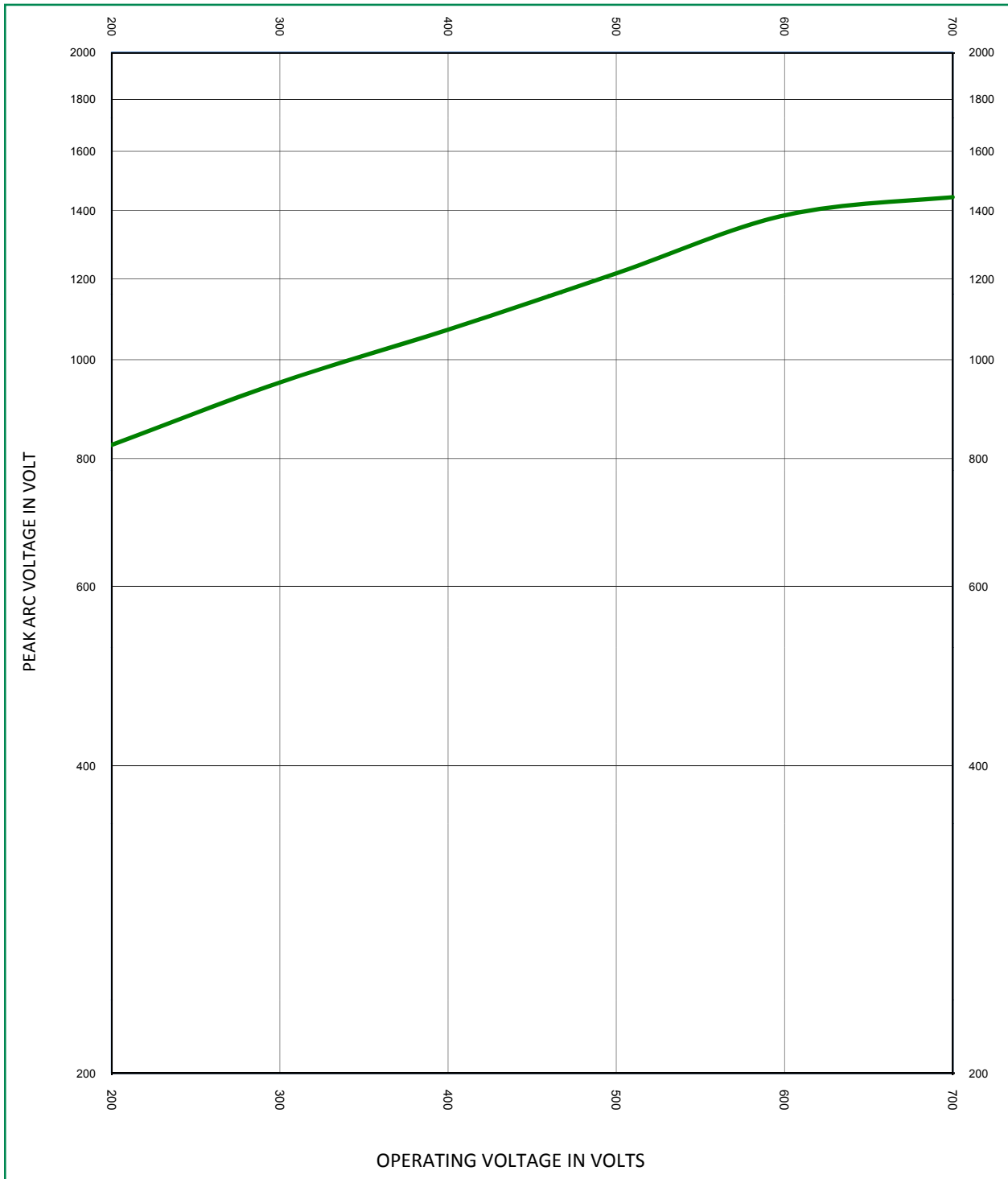
Watts Loss Correction Factor Curve

L70QS Series



Peak Arc Voltage Curve

L70QS Series



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