

# L50QS SERIES HIGH-SPEED ROUND BODY FUSES

500 Vac/dc • 35-800 A • Traditional Round Body Bolted Style

**HF** **c** **UL** **us** **CE** **RoHS**



## Description

The L50QS 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.

L50QS Series High-Speed Fuses are extremely current limiting and are used to protect power converters, drives and control circuit applications. Designed with lower I<sup>2</sup>t performance characteristics, these fuses provide balanced performance to extend longevity while lowering potentially damaging heat energy to the devices being protected.

In addition L50QS 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

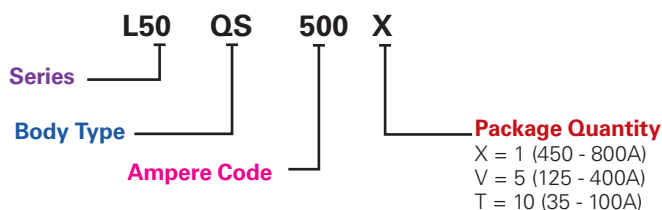
## Applications

- Power Converters (Inverters, Rectifiers)
- Power Supplies
- UPS
- Variable Speed Drives
- Control Circuits
- Soft Starters

## Specifications

|                              |                                                      |
|------------------------------|------------------------------------------------------|
| <b>Voltage Rating</b>        | AC: 500V<br>DC: 500V                                 |
| <b>Amperage Rating</b>       | 35 - 800 A                                           |
| <b>Interrupting Rating</b>   | AC: 200 kA<br>DC: 50 kA                              |
| <b>Time Constant</b>         | 10ms                                                 |
| <b>Material</b>              | Body: Melamine<br>Caps: Copper Alloy (Silver Plated) |
| <b>Approvals</b>             | UL Recognized (E71611)<br>c-UR-us (E71611)           |
| <b>Environmental</b>         | RoHS Compliant, REACH                                |
| <b>Country of Origin</b>     | Mexico                                               |
| <b>Operating Temperature</b> | -55C to +125C                                        |
| <b>Storage Temperature</b>   | Up to 35C with Relative Humidity <65%                |

## Part Numbering System



| SERIES | BODY TYPE | AMPERE CODE | PACKAGE QUANTITY | CATALOG NUMBER | ORDERING NUMBER |
|--------|-----------|-------------|------------------|----------------|-----------------|
| L50    | QS        | 500         | 1                | L50QS500       | L50QS500.X      |

## Recommended Fuse Blocks

LSCR001 (35-200A)  
LSCR002 (225-800A)



## Web Resources

Download technical documents: [littelfuse.com/L50QS](http://littelfuse.com/L50QS)

# L50QS SERIES HIGH-SPEED ROUND BODY FUSES

## Electrical Specifications

| CATALOG NUMBER | AMPERAGE RATING | VOLTAGE RATING |     | INTERRUPT RATING |      | MELTING (PRE-ARC) I <sup>2</sup> T (A <sup>2</sup> s) | TOTAL CLEARING I <sup>2</sup> T (A <sup>2</sup> s) | TOTAL CLEARING I <sup>2</sup> T (A <sup>2</sup> s) | WATTS LOSS AT 80% RATED CURRENT | WATTS LOSS AT 100% RATED CURRENT |
|----------------|-----------------|----------------|-----|------------------|------|-------------------------------------------------------|----------------------------------------------------|----------------------------------------------------|---------------------------------|----------------------------------|
|                |                 | AC             | DC  | AC               | DC   |                                                       | 200 kA @ 500 Vac                                   | 50 kA @ 500 Vdc                                    | (W)                             | (W)                              |
| L50QS035       | 35              | 500            | 500 | 200kA            | 50kA | 111                                                   | 430                                                | 290                                                | 3                               | 5                                |
| L50QS040       | 40              | 500            | 500 | 200kA            | 50kA | 137                                                   | 530                                                | 363                                                | 3                               | 9                                |
| L50QS050       | 50              | 500            | 500 | 200kA            | 50kA | 211                                                   | 770                                                | 516                                                | 5                               | 8                                |
| L50QS060       | 60              | 500            | 500 | 200kA            | 50kA | 269                                                   | 1,500                                              | 881                                                | 5                               | 9                                |
| L50QS070       | 70              | 500            | 500 | 200kA            | 50kA | 393                                                   | 1,775                                              | 1,185                                              | 6                               | 11                               |
| L50QS080       | 80              | 500            | 500 | 200kA            | 50kA | 616                                                   | 3,550                                              | 1,720                                              | 6                               | 11                               |
| L50QS090       | 90              | 500            | 500 | 200kA            | 50kA | 720                                                   | 4,075                                              | 1,990                                              | 8                               | 14                               |
| L50QS100       | 100             | 500            | 500 | 200kA            | 50kA | 905                                                   | 4,577                                              | 2,313                                              | 9                               | 17                               |
| L50QS125       | 125             | 500            | 500 | 200kA            | 50kA | 1,503                                                 | 7,655                                              | 4,815                                              | 10                              | 17                               |
| L50QS150       | 150             | 500            | 500 | 200kA            | 50kA | 2,382                                                 | 11,100                                             | 7,190                                              | 12                              | 21                               |
| L50QS175       | 175             | 500            | 500 | 200kA            | 50kA | 3,148                                                 | 16,500                                             | 9,900                                              | 14                              | 25                               |
| L50QS200       | 200             | 500            | 500 | 200kA            | 50kA | 4,102                                                 | 18,233                                             | 11,567                                             | 17                              | 32                               |
| L50QS225       | 225             | 500            | 500 | 200kA            | 50kA | 5,379                                                 | 25,300                                             | 16,700                                             | 19                              | 35                               |
| L50QS250       | 250             | 500            | 500 | 200kA            | 50kA | 7,094                                                 | 31,350                                             | 22,500                                             | 20                              | 37                               |
| L50QS275       | 275             | 500            | 500 | 200kA            | 50kA | 9,655                                                 | 40,175                                             | 30,177                                             | 21                              | 39                               |
| L50QS300       | 300             | 500            | 500 | 200kA            | 50kA | 11,240                                                | 53,800                                             | 36,150                                             | 25                              | 46                               |
| L50QS325       | 325             | 500            | 500 | 200kA            | 50kA | 13,183                                                | 56,250                                             | 41,000                                             | 27                              | 51                               |
| L50QS350       | 350             | 500            | 500 | 200kA            | 50kA | 14,246                                                | 68,850                                             | 44,800                                             | 30                              | 61                               |
| L50QS400       | 400             | 500            | 500 | 200kA            | 50kA | 21,155                                                | 100,300                                            | 67,300                                             | 33                              | 65                               |
| L50QS450       | 450             | 500            | 500 | 200kA            | 50kA | 26,425                                                | 121,000                                            | 84,650                                             | 35                              | 63                               |
| L50QS500       | 500             | 500            | 500 | 200kA            | 50kA | 31,747                                                | 141,000                                            | 103,500                                            | 39                              | 72                               |
| L50QS600       | 600             | 500            | 500 | 200kA            | 50kA | 43,922                                                | 193,500                                            | 128,000                                            | 49                              | 92                               |
| L50QS700       | 700             | 500            | 500 | 200kA            | 50kA | 75,597                                                | 314,000                                            | 230,000                                            | 51                              | 92                               |
| L50QS800       | 800             | 500            | 500 | 200kA            | 50kA | 92,717                                                | 393,500                                            | 280,000                                            | 63                              | 117                              |

# L50QS SERIES HIGH-SPEED ROUND BODY FUSES

## Ordering Information

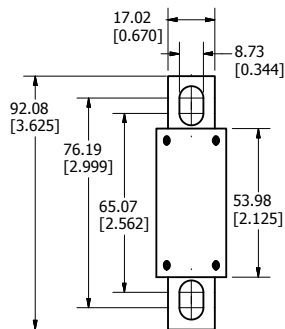
| SERIES | AMPERAGE RATING | AMPERE CODE | CATALOG NUMBER | ORDERING NUMBER | PACK QUANTITY | UPC         |
|--------|-----------------|-------------|----------------|-----------------|---------------|-------------|
| L50QS  | 35              | 035         | L50QS035       | L50QS035.T      | 10 Pcs/ Box   | 07945885991 |
| L50QS  | 40              | 040         | L50QS040       | L50QS040.T      | 10 Pcs/ Box   | 07945885992 |
| L50QS  | 50              | 050         | L50QS050       | L50QS050.T      | 10 Pcs/ Box   | 07945885993 |
| L50QS  | 60              | 060         | L50QS060       | L50QS060.T      | 10 Pcs/ Box   | 07945885994 |
| L50QS  | 70              | 070         | L50QS070       | L50QS070.T      | 10 Pcs/ Box   | 07945885995 |
| L50QS  | 80              | 080         | L50QS080       | L50QS080.T      | 10 Pcs/ Box   | 07945885996 |
| L50QS  | 90              | 090         | L50QS090       | L50QS090.T      | 10 Pcs/ Box   | 07945885997 |
| L50QS  | 100             | 100         | L50QS100       | L50QS100.T      | 10 Pcs/ Box   | 07945885998 |
| L50QS  | 125             | 125         | L50QS125       | L50QS125.V      | 5 Pcs/ Box    | 07945885999 |
| L50QS  | 150             | 150         | L50QS150       | L50QS150.V      | 5 Pcs/ Box    | 07945886000 |
| L50QS  | 175             | 175         | L50QS175       | L50QS175.V      | 5 Pcs/ Box    | 07945886001 |
| L50QS  | 200             | 200         | L50QS200       | L50QS200.V      | 5 Pcs/ Box    | 07945886002 |
| L50QS  | 225             | 225         | L50QS225       | L50QS225.V      | 5 Pcs/ Box    | 07945886003 |
| L50QS  | 250             | 250         | L50QS250       | L50QS250.V      | 5 Pcs/ Box    | 07945886004 |
| L50QS  | 275             | 275         | L50QS275       | L50QS275.V      | 5 Pcs/ Box    | 07945886005 |
| L50QS  | 300             | 300         | L50QS300       | L50QS300.V      | 5 Pcs/ Box    | 07945886006 |
| L50QS  | 325             | 325         | L50QS325       | L50QS325.V      | 5 Pcs/ Box    | 07945886011 |
| L50QS  | 350             | 350         | L50QS350       | L50QS350.V      | 5 Pcs/ Box    | 07945886007 |
| L50QS  | 400             | 400         | L50QS400       | L50QS400.V      | 5 Pcs/ Box    | 07945886008 |
| L50QS  | 450             | 450         | L50QS450       | L50QS450.X      | 1 Pc/ Box     | 07945886009 |
| L50QS  | 500             | 500         | L50QS500       | L50QS500.X      | 1 Pc/ Box     | 07945886010 |
| L50QS  | 600             | 600         | L50QS600       | L50QS600.X      | 1 Pc/ Box     | 07945886012 |
| L50QS  | 700             | 700         | L50QS700       | L50QS700.X      | 1 Pc/ Box     | 07945886013 |
| L50QS  | 800             | 800         | L50QS800       | L50QS800.X      | 1 Pc/ Box     | 07945886014 |

# L50QS SERIES HIGH-SPEED ROUND BODY FUSES

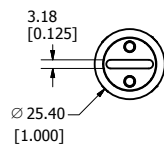
## Dimensions

### Millimeters [inches]

Document Number: OL-L50QS000

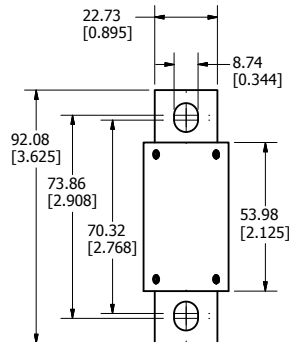


**35-100A**

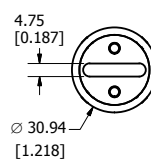


**Stud Size:** M8 (5/16")

**Recommended Torque:** 15 Nm (132.76 in-lb)

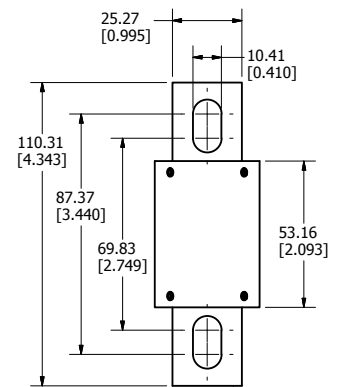


**125-200A**

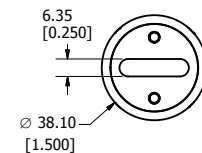


**Stud Size:** M8 (5/16")

**Recommended Torque:** 15 Nm (132.76 in-lb)

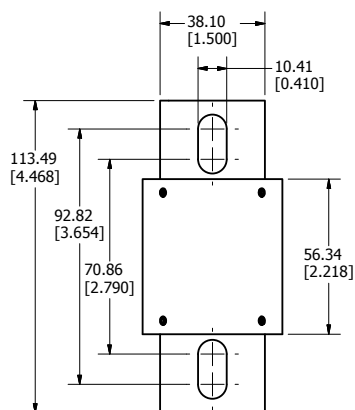


**225-400A**

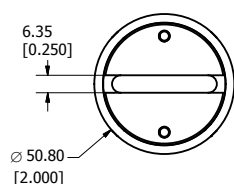


**Stud Size:** M8 (5/16")

**Recommended Torque:** 15 Nm (132.76 in-lb)

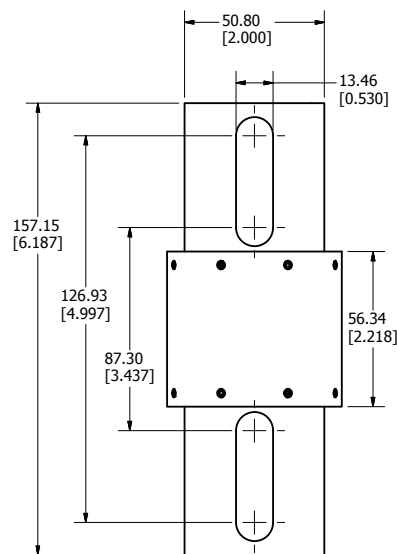


**450-600A**

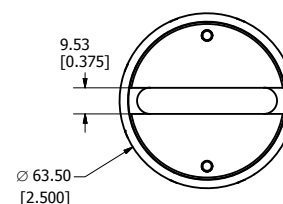


**Stud Size:** M8 (5/16")

**Recommended Torque:** 15 Nm (132.76 in-lb)



**700-800A**



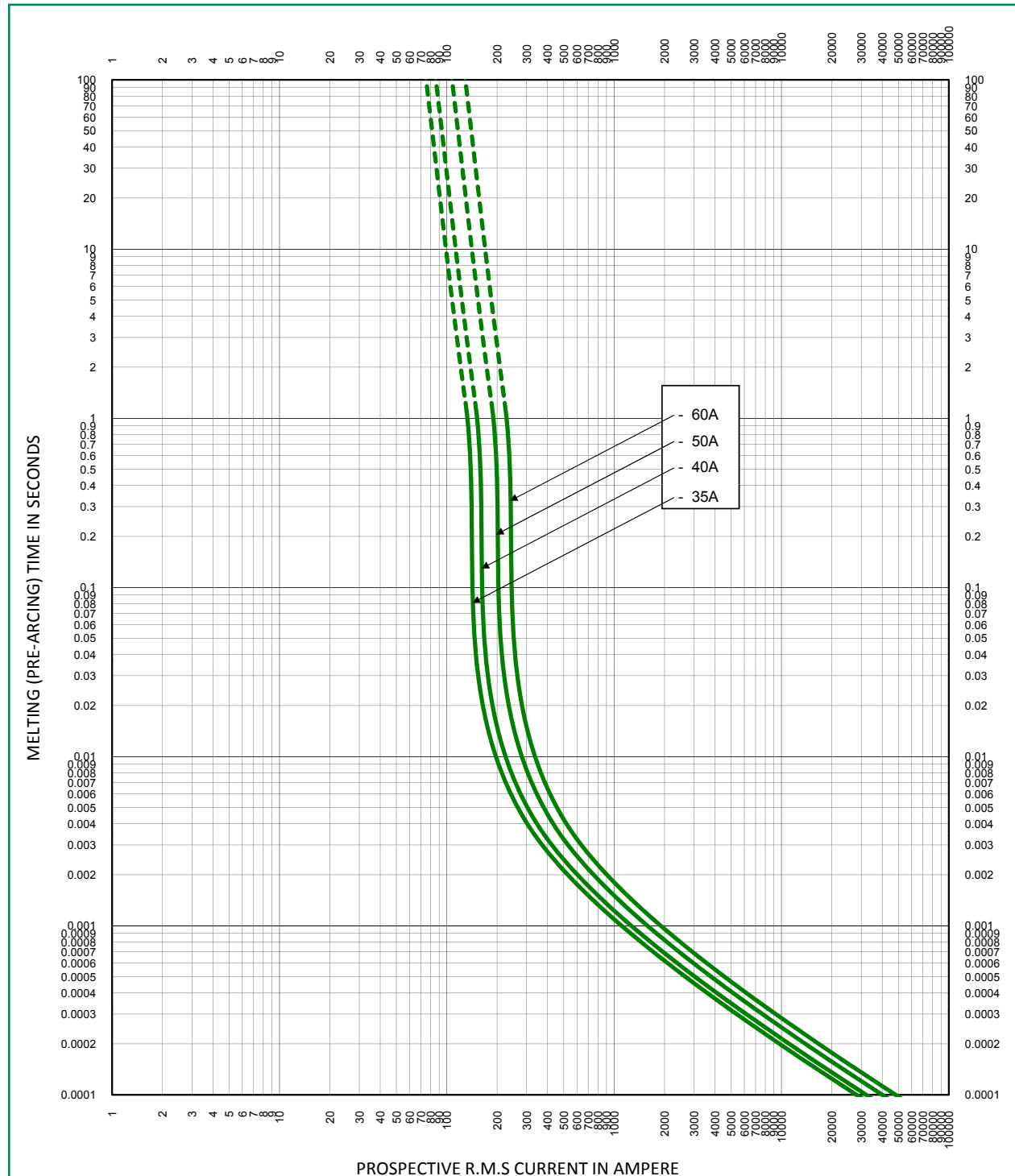
**Stud Size:** M12 (1/2")

**Recommended Torque:** 54 Nm (477.94 in-lb)

# L50QS SERIES HIGH-SPEED ROUND BODY FUSES

## Time Current Curve

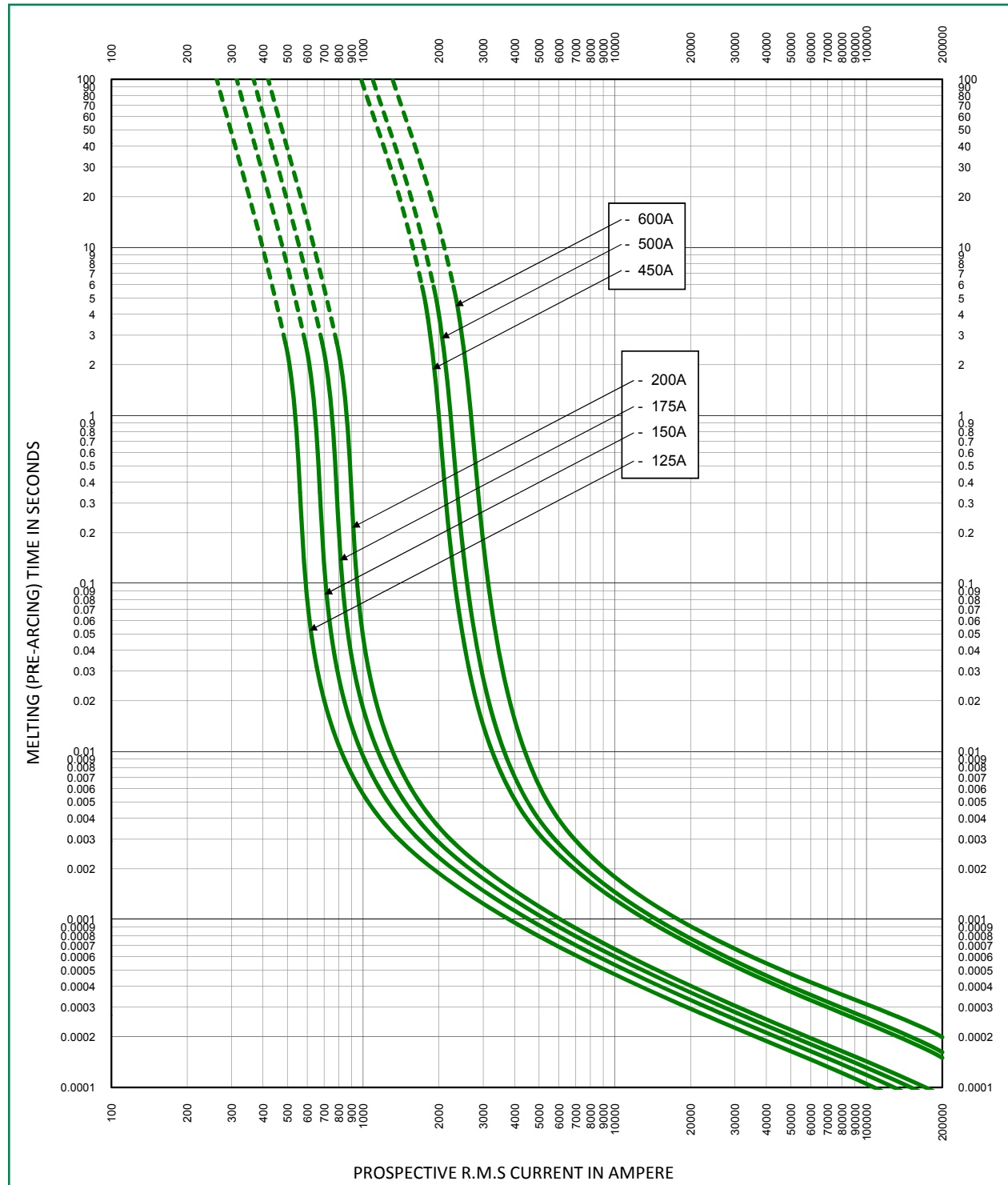
### L50QS Series



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## Time Current Curve

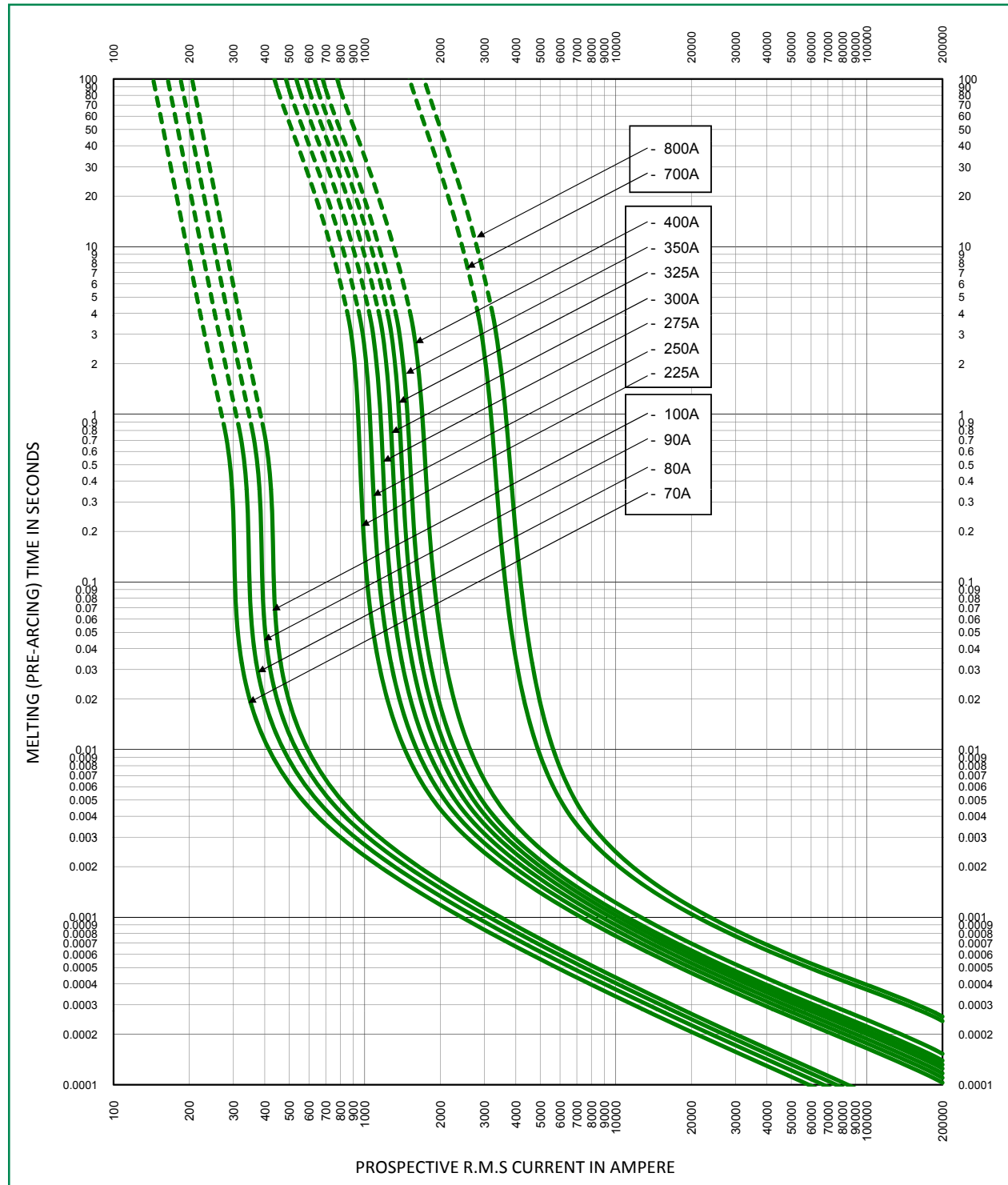
### L50QS Series



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## Time Current Curve

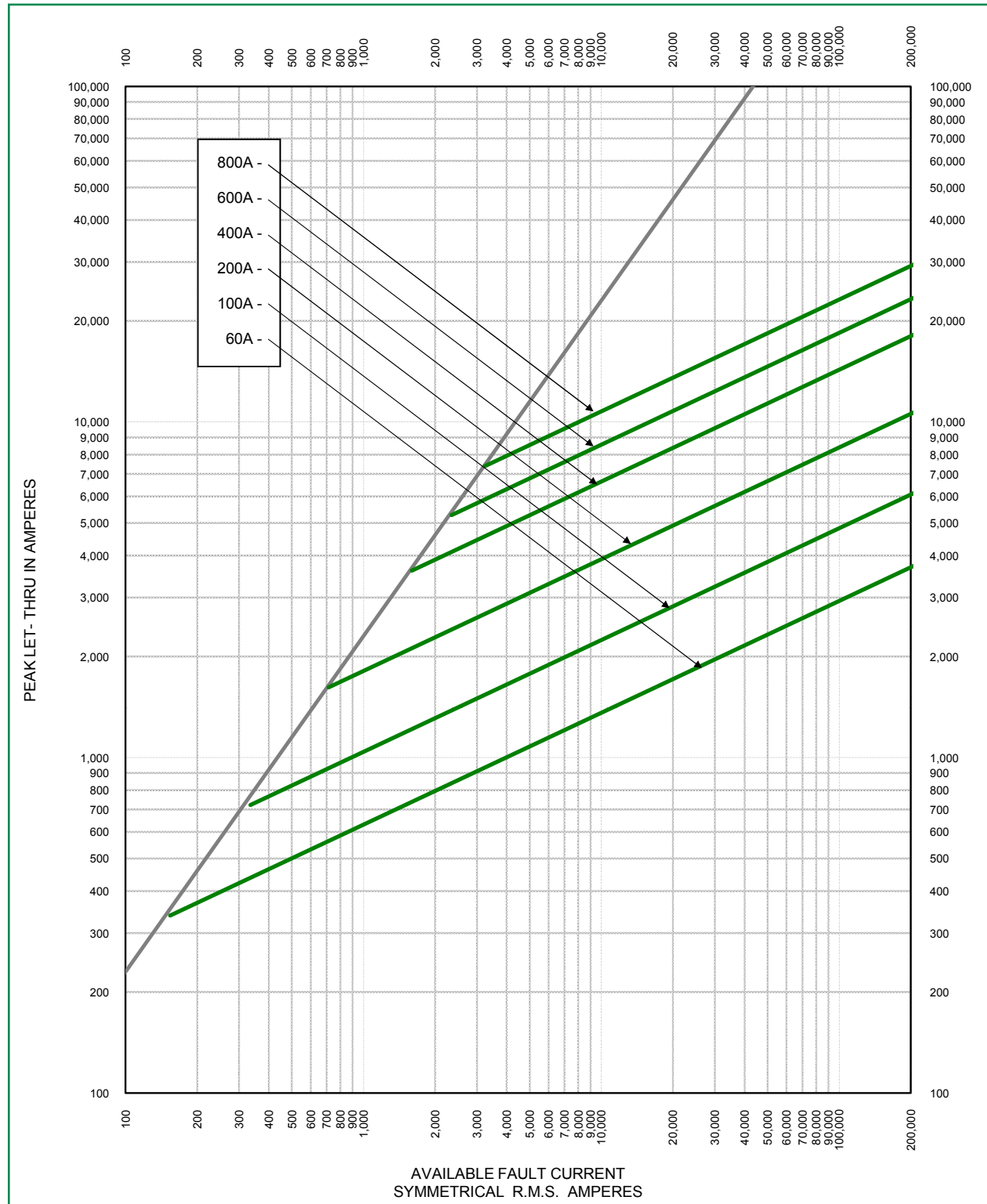
### L50QS Series



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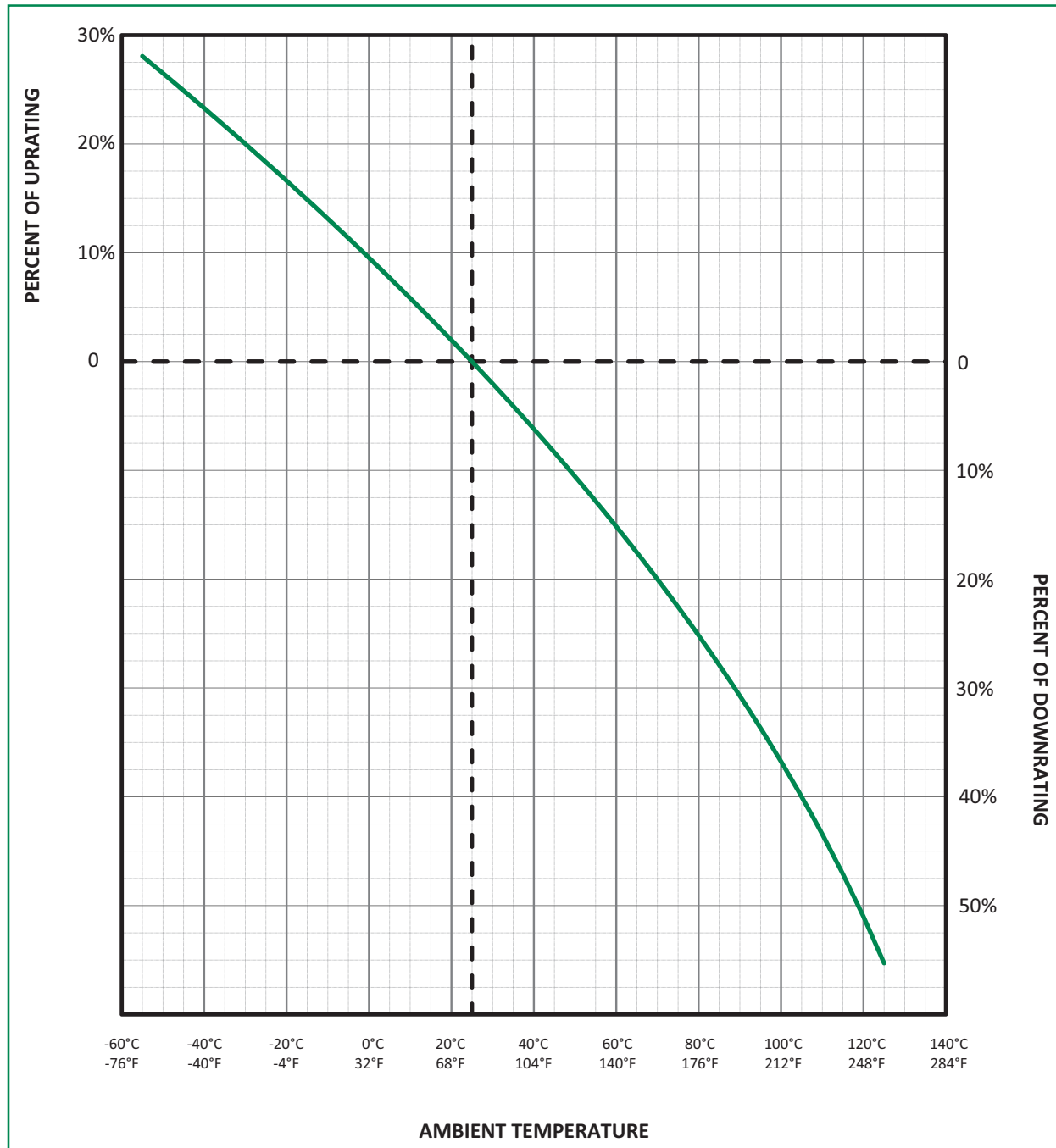
## Peak Let-Thru Curve

L50QS Series



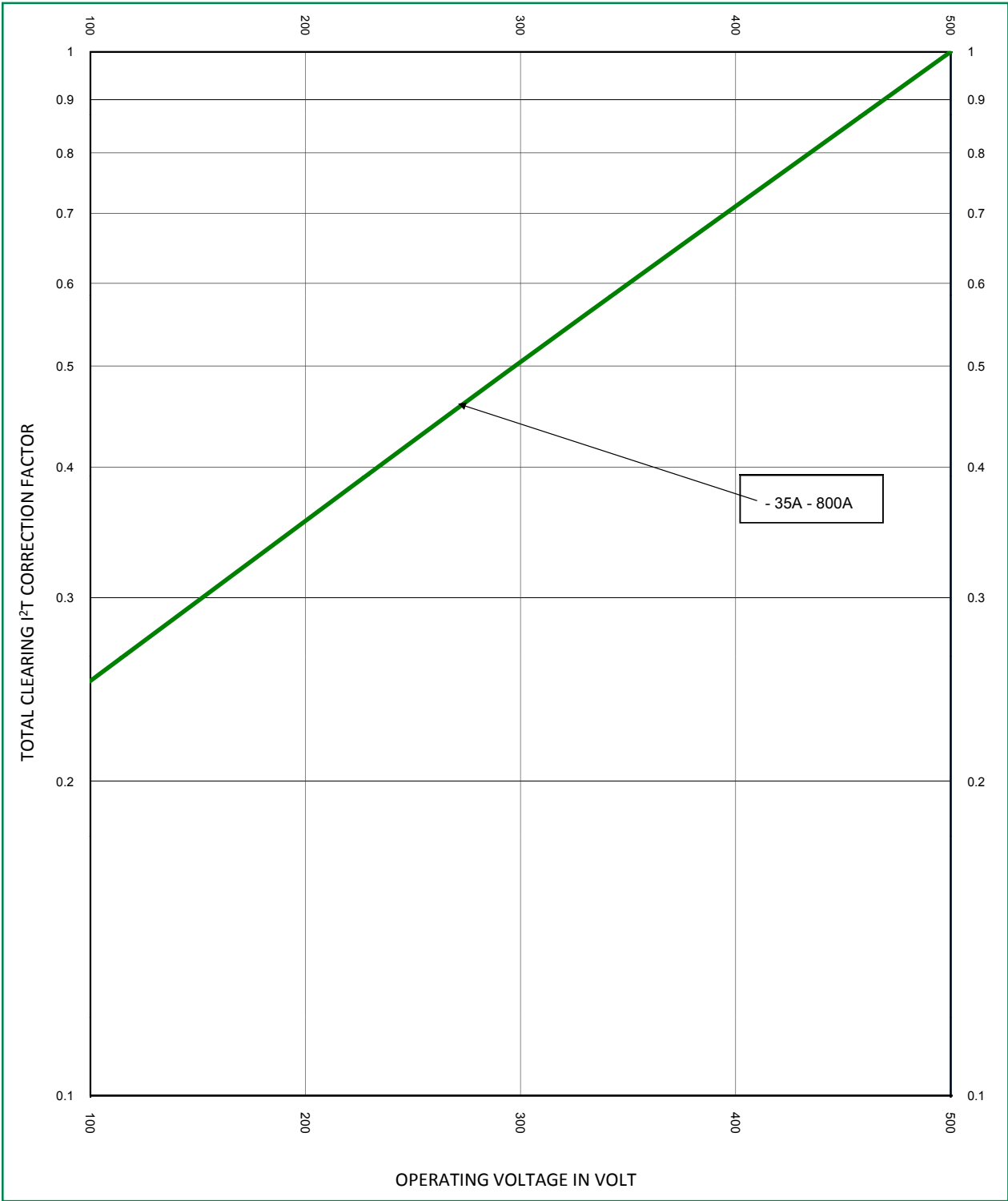
# L50QS SERIES HIGH-SPEED ROUND BODY FUSES

## Temperature De-rating Curve (Temperature of Air Immediately Surrounding Fuse) L50QS Series



L50QS SERIES HIGH-SPEED ROUND BODY FUSES

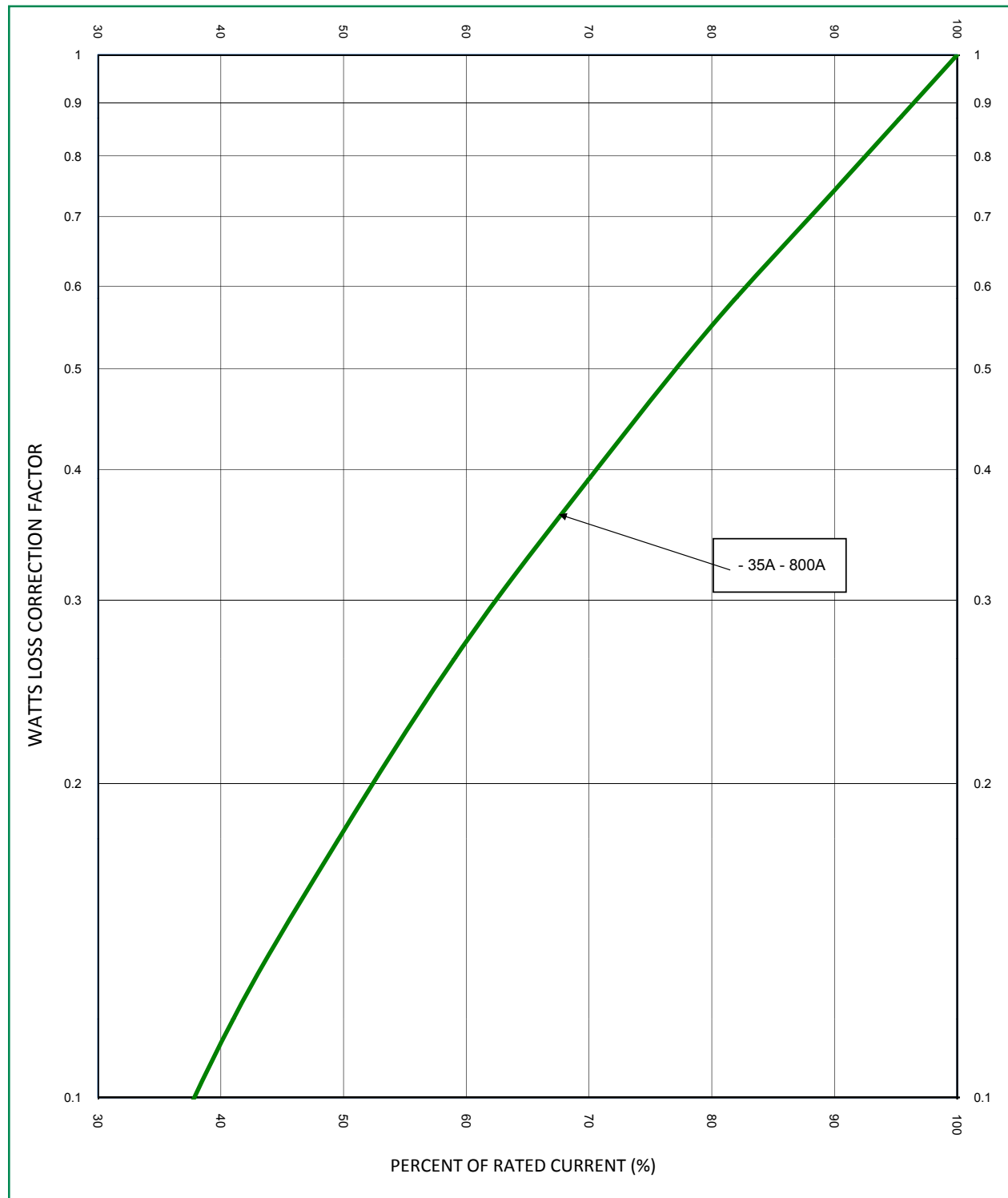
**Total Clearing I<sup>2</sup>t Correction Factor Curve**  
L50QS Series



# L50QS SERIES HIGH-SPEED ROUND BODY FUSES

## Watts Loss Correction Factor Curve

L50QS Series



L50QS SERIES HIGH-SPEED ROUND BODY FUSES

Peak Arc Voltage Curve  
L50QS Series

