

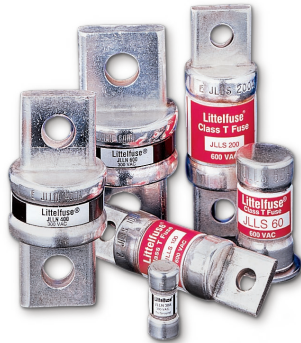


THE DATASHEET OF JLLS175.X



CLASS T – JLLN / JLLS SERIES FUSES

300/600 VAC • Fast-Acting • 1-1200 A



Description

JLLN / JLLS fuses are less than 1/3 the size of comparable Class R fuses and are typically used for short circuit protection of drives and surge sensitive components. When rated in accordance with the NEC®, JLLN / JLLS fuses provide fast-acting overload and short circuit protection for non-inductive circuits and equipment.

Features/Benefits

- Extremely current-limiting
- Compact design
- 200 kA Interrupting Rating
- JLLN 35-60A available with PCB mounts

Applications

- Variable speed drive protection
- Power Conversion Devices (Inverters, Rectifiers, UPS)
- Power Supplies and Power Distribution Units
- Compact mains switches

Web Resources

Download TC Curves, CAD drawings and other technical information: littelfuse.com/jlln
littelfuse.com/jlls

Recommended Fuse Holders

LFT30 Series
LFT60 Series
LSCR Series for 70-800 A

Ordering Information

| AMPERE RATINGS | | | | | |
|----------------|----|-----|-----|------|------|
| 1 | 25 | 70 | 175 | 450 | 1100 |
| 2 | 30 | 80 | 200 | 500 | 1200 |
| 3 | 35 | 90 | 225 | 600 | |
| 6 | 40 | 100 | 250 | 700 | |
| 10 | 45 | 110 | 300 | 800 | |
| 15 | 50 | 125 | 350 | 900* | |
| 20 | 60 | 150 | 400 | 1000 | |

*JLLS only

Specifications

JLLN

Voltage Ratings

AC: 300 V
DC: 160 V (1 - 60 A)
125 V (70 - 1200 A)

Ampere Range

1 – 1200 A

Interrupting Ratings

AC: 200 kA rms symmetrical
DC: 50kA (1 - 30A)
20kA (35 - 1200A)

Approvals

AC: UL Standard 248-15, Class T
UL Listed (File: E81895): 1 – 1200 A
CSA Certified (File: LR29862): 1 – 600 A
DC: UL Listed (File: E81895): 1 – 1200 A
1-30 A: Melamine body, Bronze caps
35-1200 A: Melamine body, Copper caps
RoHS Compliant

Material

Environmental

JLLS

Voltage Ratings

AC: 600 V
DC: 300 V

Ampere Range

1 – 1200 A

Interrupting Ratings

AC: 200 kA rms symmetrical
DC: 20kA

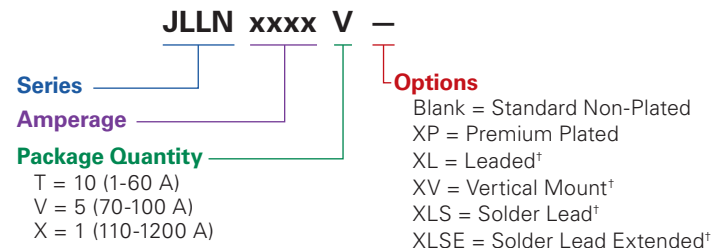
Approvals

AC: UL Standard 248-15, Class T
UL Listed (File: E81895): 1 – 1200 A
CSA Certified (File: LR29862): 1 – 600 A
DC: Littelfuse self-certified
1-30 A: Melamine body, Copper caps
35-60 A: Melamine body, Bronze caps
70-1200 A: Melamine body, Copper caps
RoHS Compliant

Material

Environmental

Part Numbering System



| SERIES | AMP | PACK SIZE | PLATING SUFFIX | MOUNT SUFFIX | CATALOG NUMBER | ORDERING NUMBER |
|--------|-----|-----------|----------------|--------------|----------------|-----------------|
| JLLS | 6 | T | – | – | JLLS006 | JLLS006.T |
| JLLN | 35 | T | – | XL† | JLLN035L | JLLN035.TXL |
| JLLN | 40 | T | – | XLSE† | JLLN040LSE | JLLN040.TXLSE |
| JLLN | 100 | V | XP | – | JLLN100P | JLLN100.VXP |

†Option is available for JLLN 35-60 A only. Premium plating is standard

CLASS T – JLLN / JLLS SERIES FUSES

Dimensions Inches (mm)

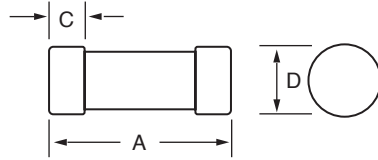


Fig. 1

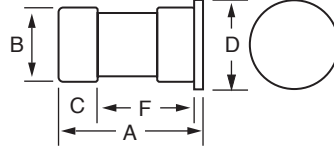


Fig. 2

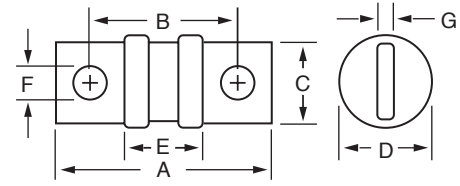
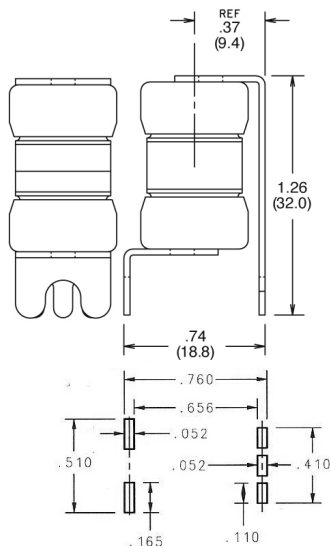


Fig. 3

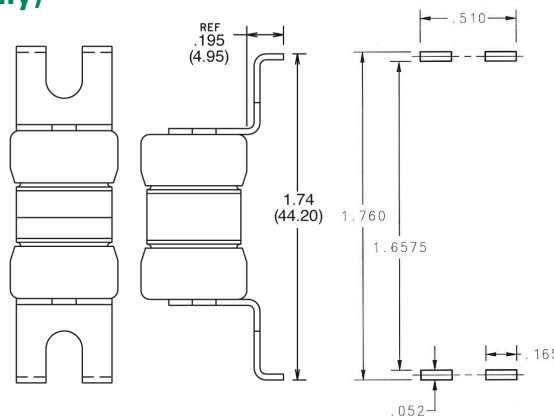
| AMPERES | REFER TO FIG. NO. | SERIES | DIMENSIONS INCHES (mm) | | | | | | |
|------------|-------------------|--------|------------------------|--------------|--------------|--------------|--------------|--------------|-------------|
| | | | A | B | C | D | E | F | G |
| 1 – 30 | 1 | JLLN | .875 (22.2) | — | .281 (7.1) | .406 (10.3) | — | — | — |
| | | JLLS | 1.500 (38.1) | — | .281 (7.1) | .562 (14.3) | — | — | — |
| 35 – 60 | 1 | JLLN | .875 (22.2) | — | .281 (7.1) | .562 (14.3) | — | — | — |
| | | JLLS | 1.562 (39.7) | .812 (20.6) | .406 (10.3) | .994 (25.2) | .062 (1.6) | 1.094 (27.8) | — |
| 70 – 100 | 3 | JLLN | 2.156 (54.8) | 1.562 (39.7) | .750 (19.1) | .812 (20.6) | .830 (21.1) | .281 (7.1) | .125 (3.2) |
| | | JLLS | 2.953 (75.0) | 2.352 (59.7) | .750 (19.1) | .828 (21.0) | 1.625 (41.3) | .281 (7.1) | .125 (3.2) |
| 110 – 200 | 3 | JLLN | 2.437 (61.9) | 1.687 (42.9) | .875 (22.2) | 1.062 (27.0) | .830 (21.1) | .343 (8.7) | .187 (4.8) |
| | | JLLS | 3.250 (82.6) | 2.507 (63.7) | .875 (22.2) | 1.078 (27.4) | 1.656 (42.1) | .343 (8.7) | .187 (4.8) |
| 225 – 400 | 3 | JLLN | 2.750 (69.9) | 1.843 (46.8) | 1.000 (25.4) | 1.312 (33.3) | .828 (21.0) | .406 (10.3) | .250 (6.4) |
| | | JLLS | 3.625 (92.1) | 2.718 (69.1) | 1.000 (25.4) | 1.593 (40.5) | 1.712 (43.5) | .406 (10.3) | .250 (6.4) |
| 450 – 600 | 3 | JLLN | 3.062 (77.8) | 2.031 (51.6) | 1.250 (31.8) | 1.593 (40.5) | .875 (22.2) | .484 (12.3) | .312 (7.9) |
| | | JLLS | 3.984 (101.2) | 2.953 (75.0) | 1.250 (31.8) | 2.062 (52.4) | 1.765 (44.8) | .484 (12.3) | .312 (7.9) |
| 700 – 800 | 3 | JLLN | 3.375 (85.7) | 2.218 (56.4) | 1.750 (44.5) | 2.062 (52.4) | .875 (22.2) | .546 (13.9) | .375 (9.5) |
| | | JLLS | 4.328 (109.9) | 3.171 (80.6) | 1.750 (44.5) | 2.500 (63.5) | 1.860 (47.2) | .546 (13.9) | .375 (9.5) |
| 900 – 1200 | 3 | JLLN | 4.000 (101.6) | 2.531 (64.3) | 2.000 (50.8) | 2.500 (63.5) | 1.033 (26.2) | .609 (15.5) | .437 (11.1) |
| | | JLLS | 5.271 (133.9) | 3.801 (96.5) | 2.000 (50.8) | 2.625 (66.7) | 2.303 (58.5) | .609 (15.5) | .437 (11.1) |

PCB Mounting Options (JLLN 35-60 A Only)

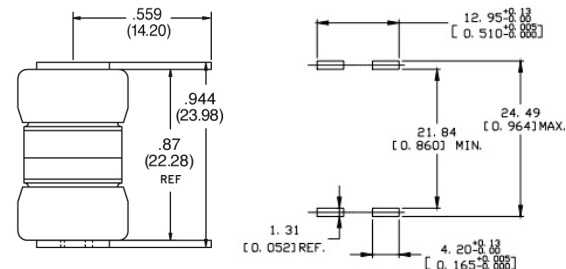
Vertical Mount JLLN-XV



Leaded JLLN-XL



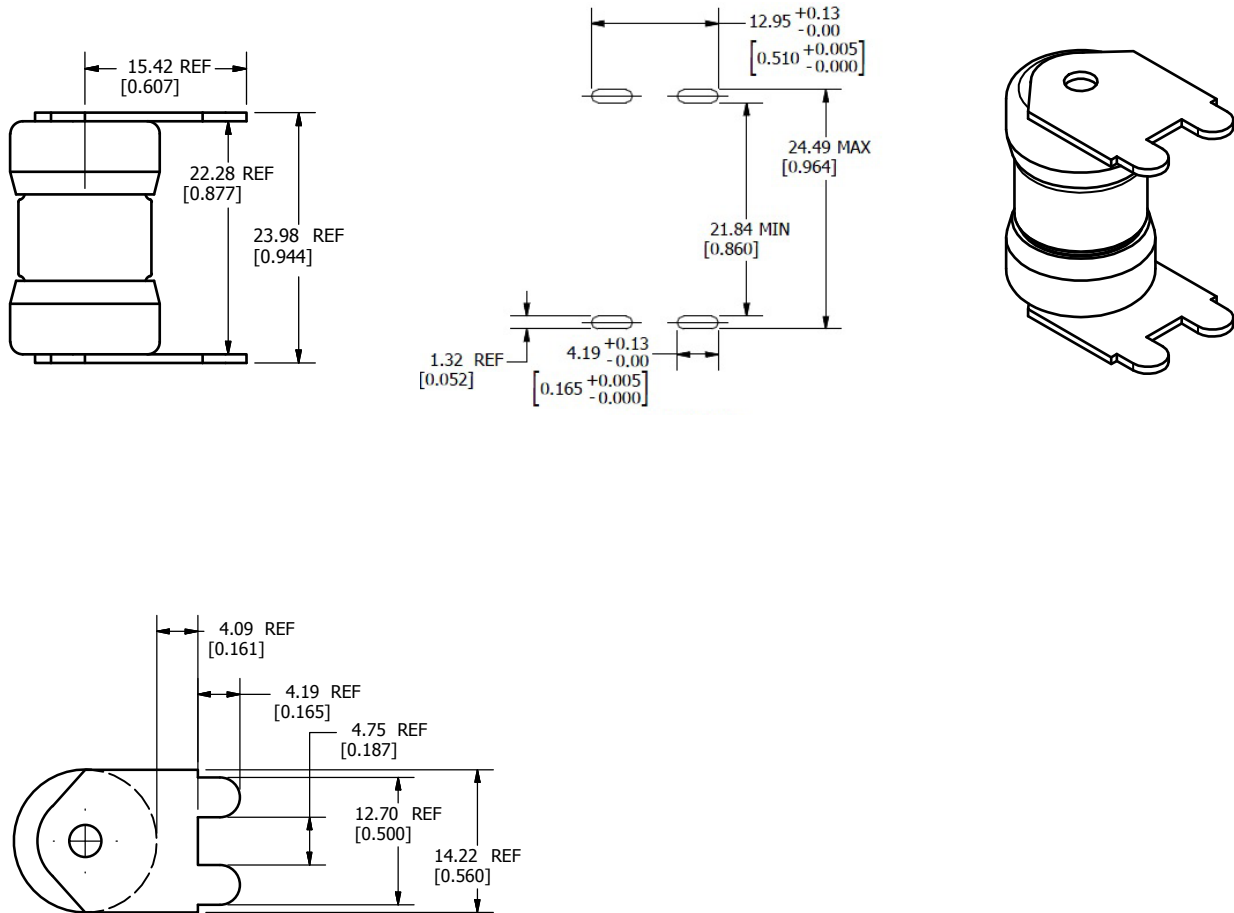
Solder JLLN-XLS



CLASS T – JLLN / JLLS SERIES FUSES

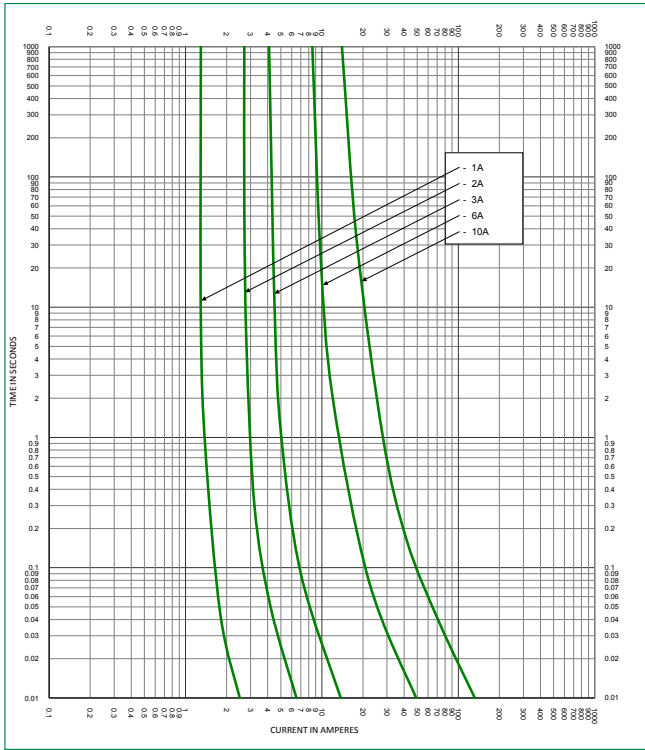
PCB Mounting Options (Cont.) (JLLN 35-60 A Only)

Solder
JLLN-XLSE

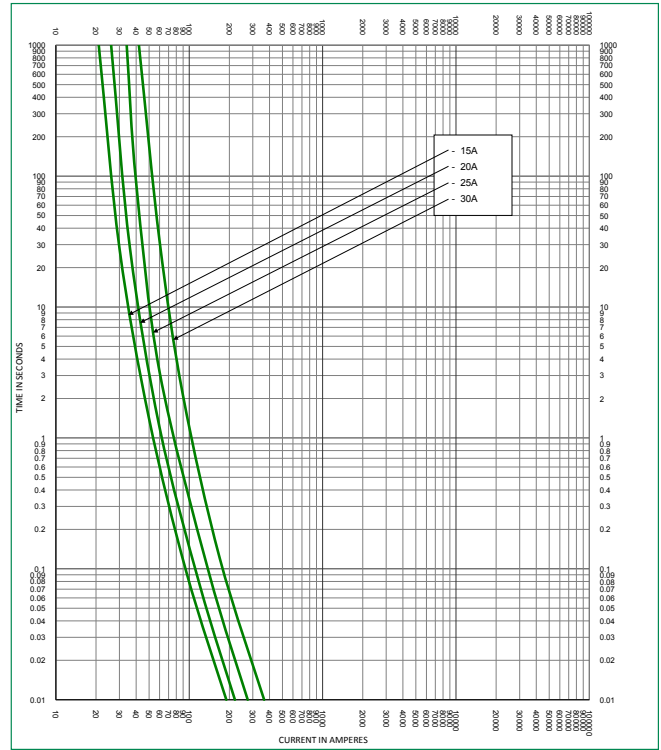


CLASS T – JLLN / JLLS SERIES FUSES

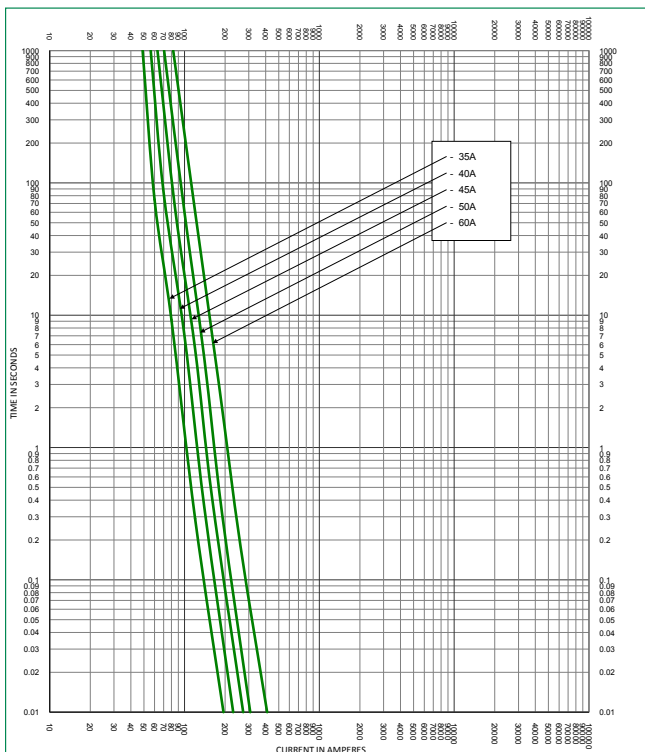
Time Current Curve JLLN (1-10A)



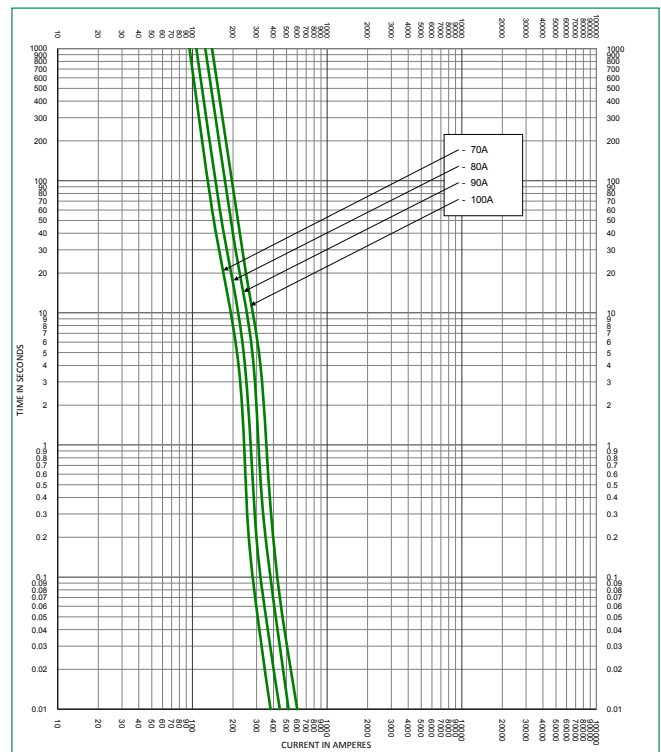
Time Current Curve JLLN (15-30A)



Time Current Curve JLLN (35-60A)

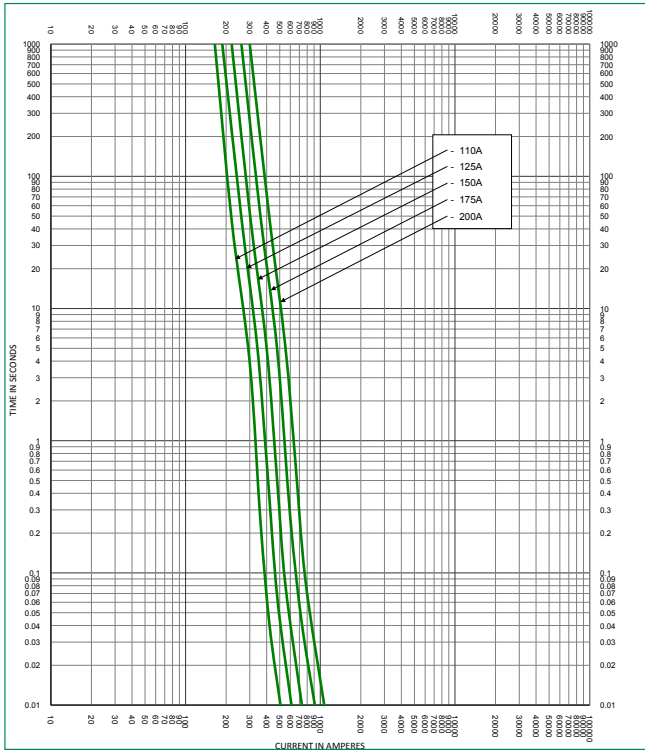


Time Current Curve JLLN (70-100A)

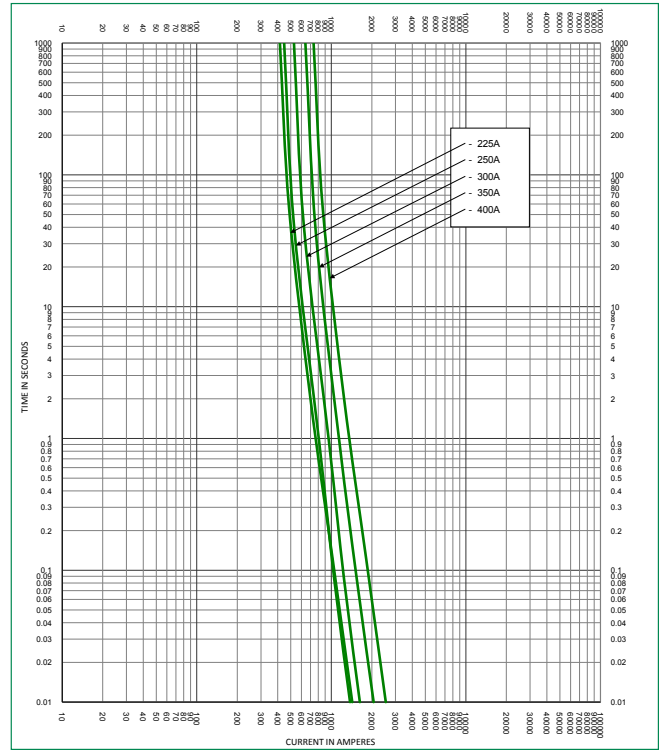


CLASS T – JLLN / JLLS SERIES FUSES

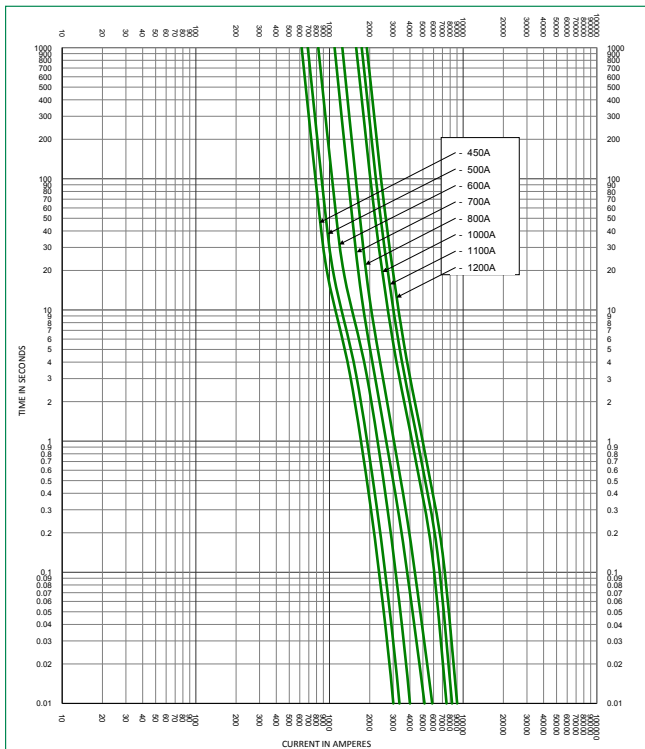
Time Current Curve JLLN (110-200A)



Time Current Curve JLLN (225-400A)

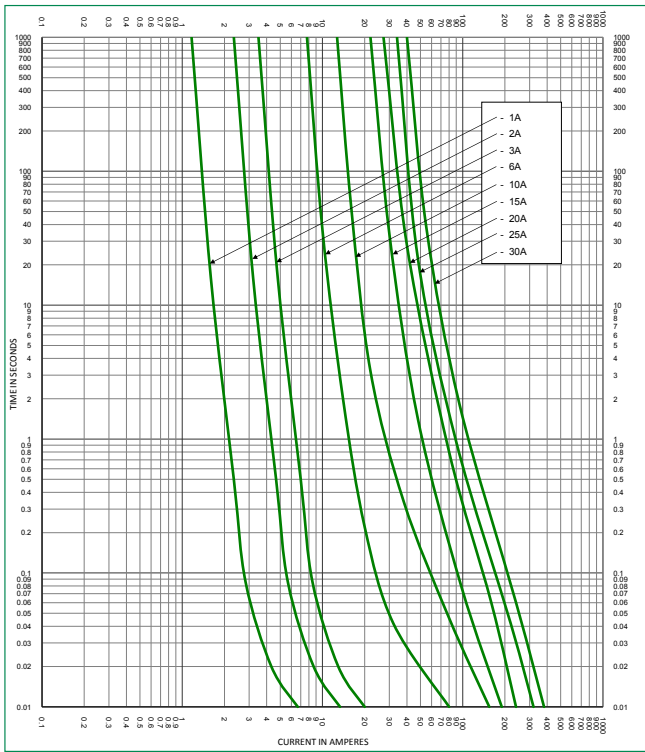


Time Current Curve JLLN (450-1200A)

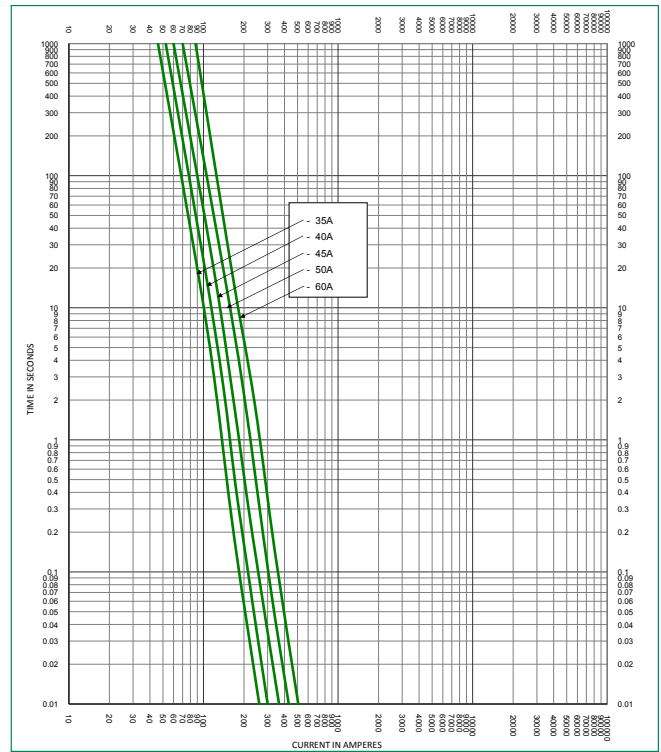


CLASS T – JLLN / JLLS SERIES FUSES

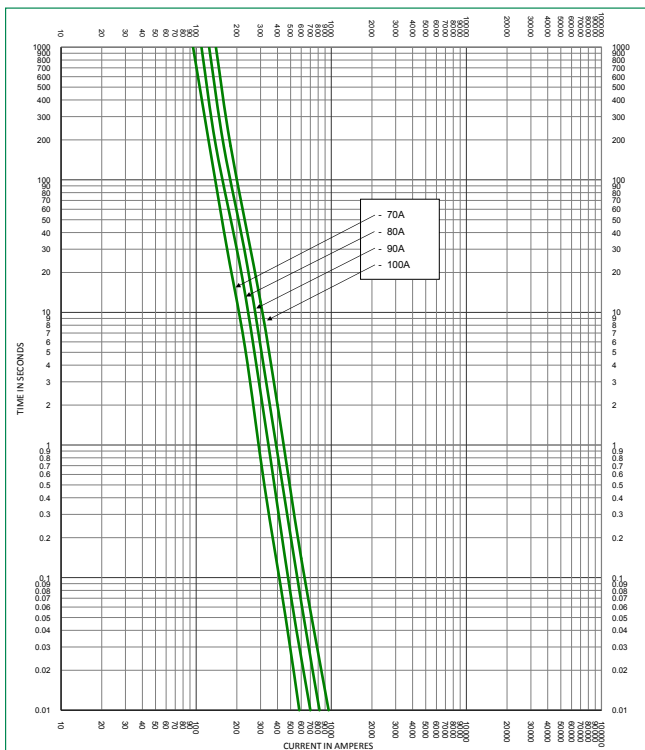
Time Current Curve JLLS (1-30A)



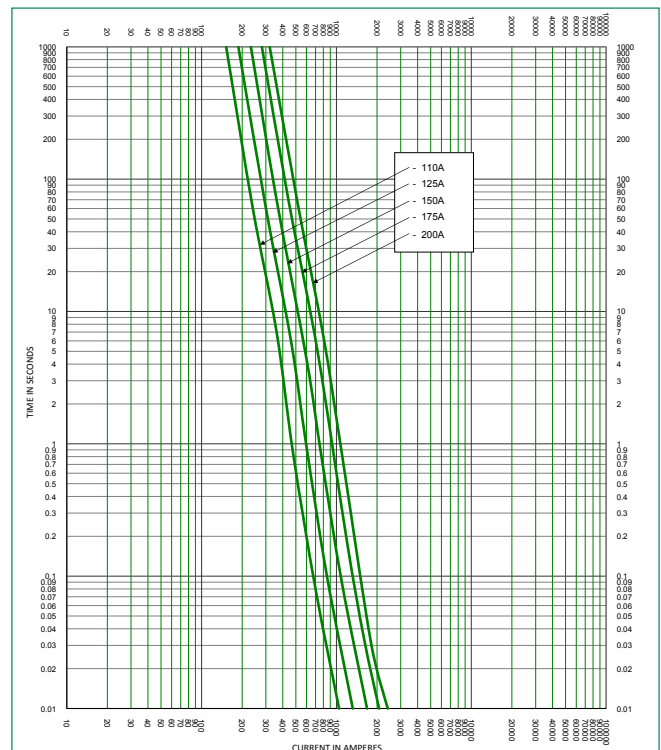
Time Current Curve JLLS (35-60A)



Time Current Curve JLLS (70-100A)

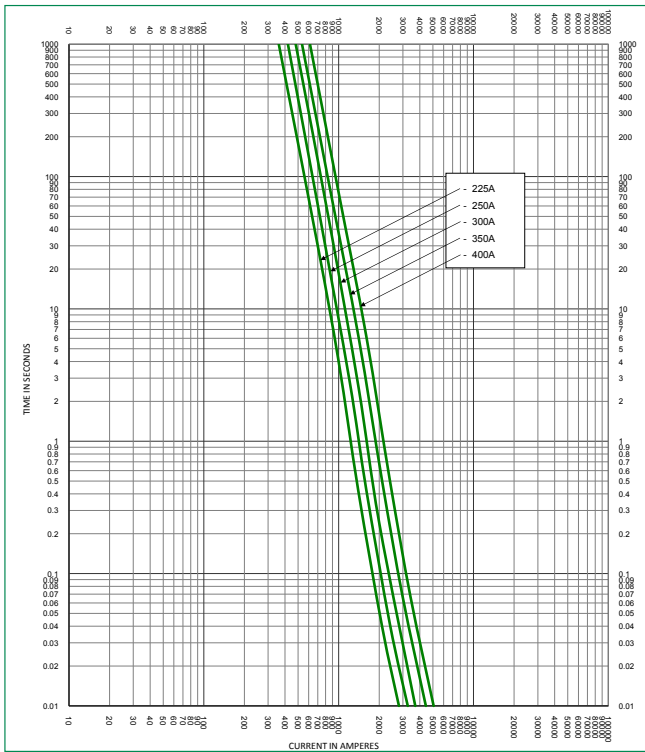


Time Current Curve JLLS (110-200A)

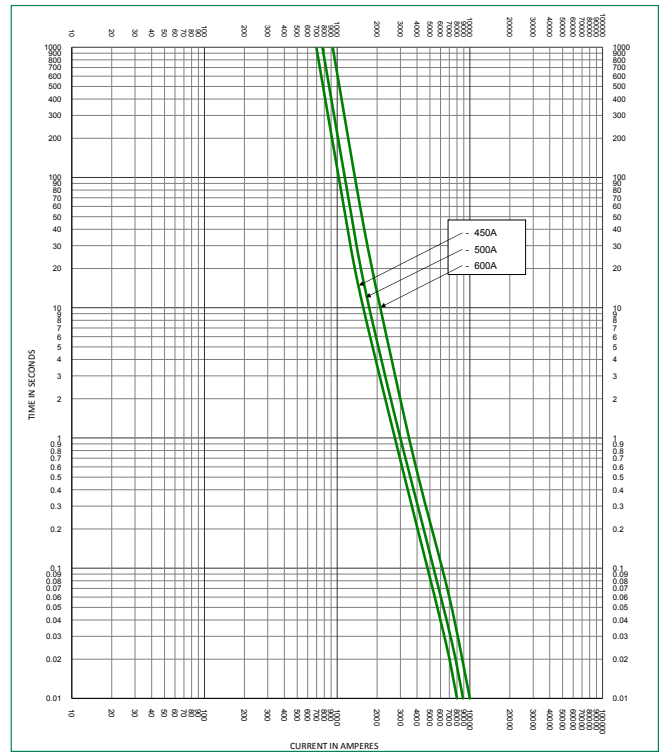


CLASS T – JLLN / JLLS SERIES FUSES

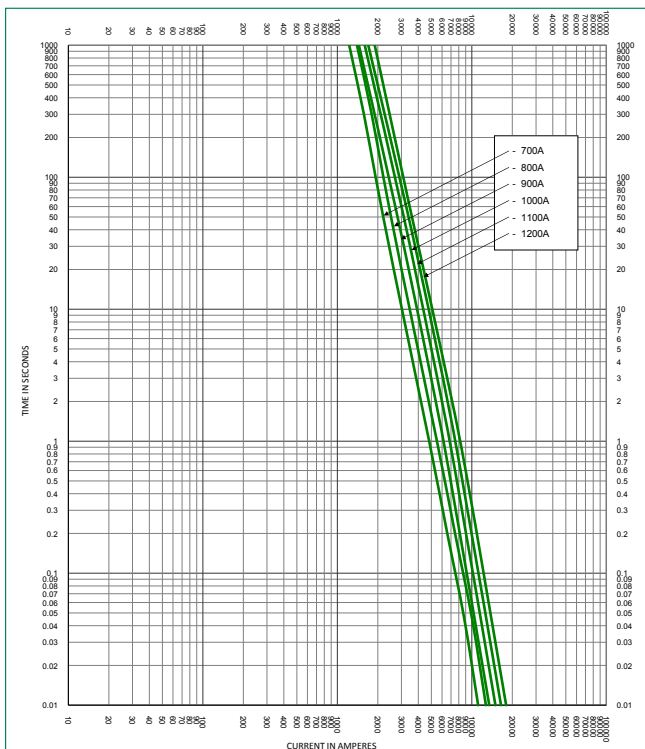
Time Current Curve JLLS (225-400A)



Time Current Curve JLLS (450-600A)

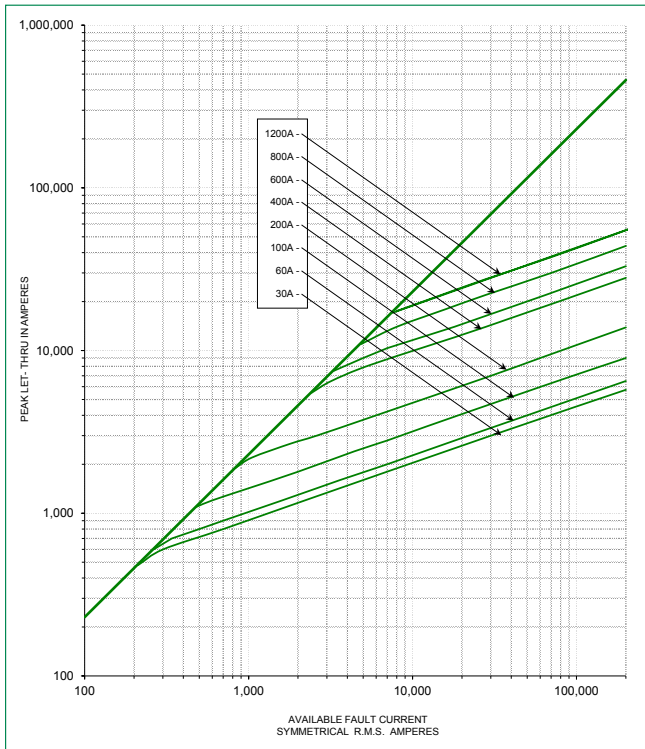


Time Current Curve JLLS (700-1200A)



CLASS T – JLLN / JLLS SERIES FUSES

Peak Let-Thru Curve and Current-Limiting Effects of JLLN (300 V) Fuses



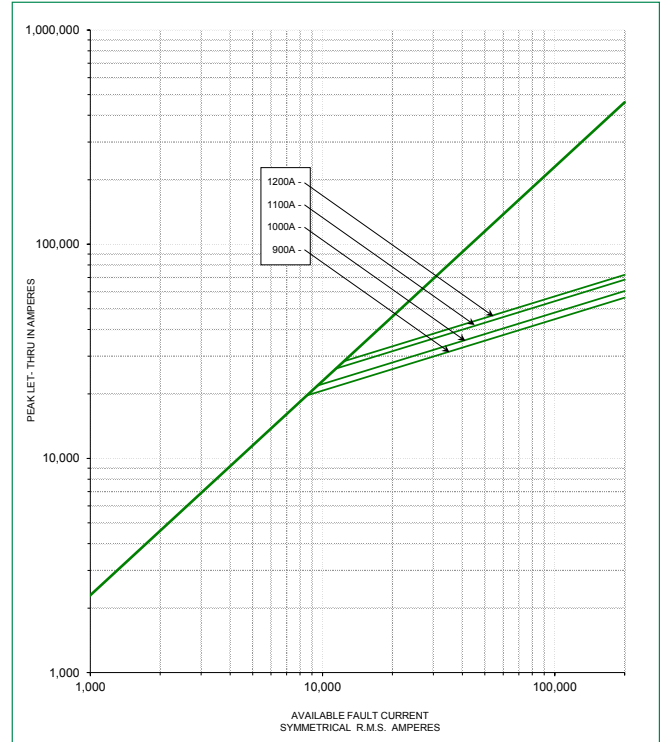
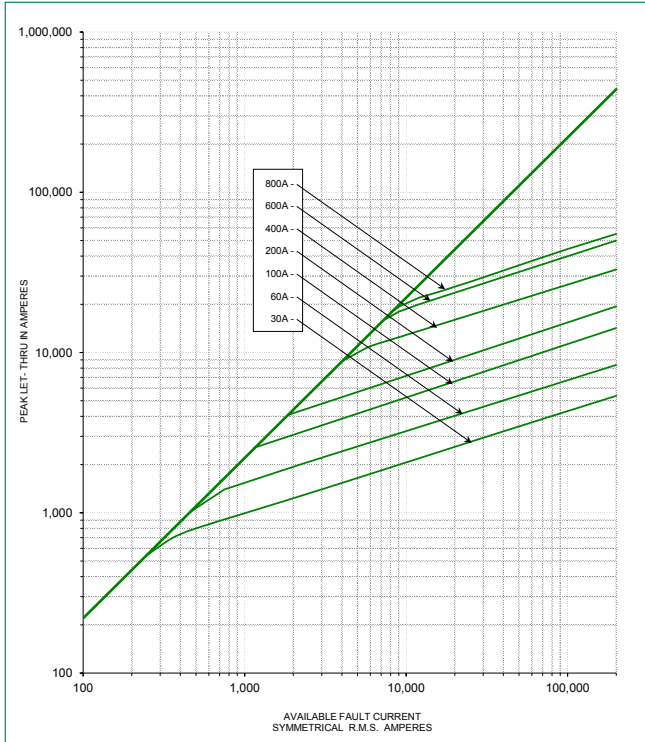
| SHORT CIRCUIT CURRENT* | APPARENT RMS SYMMETRICAL CURRENT FOR VARIOUS FUSE RATINGS | | | | | | | |
|------------------------|---|-------|-------|-------|--------|--------|--------|--------|
| | 30 A | 60 A | 100 A | 200 A | 400 A | 600 A | 800 A | 1200 A |
| 5,000 | 700 | 775 | 1,100 | 1,650 | 3,500 | 4,000 | 5,000 | 5,000 |
| 10,000 | 900 | 1,000 | 1,400 | 2,100 | 4,400 | 5,100 | 6,750 | 8,250 |
| 15,000 | 1,000 | 1,100 | 1,600 | 2,400 | 5,000 | 5,900 | 7,750 | 10,000 |
| 20,000 | 1,100 | 1,250 | 1,800 | 2,700 | 5,500 | 6,500 | 8,750 | 11,000 |
| 25,000 | 1,230 | 1,300 | 1,950 | 2,900 | 6,000 | 7,000 | 9,500 | 12,000 |
| 30,000 | 1,300 | 1,475 | 2,050 | 3,100 | 6,400 | 7,500 | 10,000 | 12,500 |
| 35,000 | 1,330 | 1,575 | 2,150 | 3,300 | 6,750 | 7,750 | 10,500 | 13,500 |
| 40,000 | 1,430 | 1,600 | 2,300 | 3,500 | 7,000 | 8,000 | 11,000 | 14,000 |
| 50,000 | 1,500 | 1,750 | 2,400 | 3,700 | 7,500 | 8,750 | 12,000 | 15,000 |
| 60,000 | 1,700 | 1,900 | 2,700 | 4,000 | 8,000 | 9,500 | 12,500 | 16,000 |
| 80,000 | 1,850 | 2,100 | 2,800 | 4,400 | 9,000 | 10,500 | 14,000 | 17,500 |
| 100,000 | 2,000 | 2,250 | 3,150 | 4,800 | 9,750 | 11,500 | 15,000 | 18,500 |
| 150,000 | 2,300 | 2,600 | 3,600 | 5,500 | 11,000 | 13,000 | 17,500 | 22,000 |
| 200,000 | 2,600 | 2,800 | 3,900 | 6,000 | 12,000 | 14,500 | 19,500 | 24,000 |

*Prospective RMS Symmetrical Amperes Short-Circuit Current
Note: Data Derived from Peak Let-Thru Curves

| Part Name | TOTAL I ² T (A ² S) |
|-----------|---|
| JLLN030 | 740 |
| JLLN060 | 5,850 |
| JLLN100 | 9,340 |
| JLLN200 | 59,150 |
| JLLN400 | 298,500 |
| JLLN600 | 605,000 |
| JLLN1200 | 1,560,000 |

CLASS T – JLLN / JLLS SERIES FUSES

Peak Let-Through Curve and Current-Limiting Effects of JLLS (600 V) Fuses



| SHORT CIRCUIT CURRENT* | APPARENT RMS SYMMETRICAL CURRENT FOR VARIOUS FUSE RATINGS | | | | | | | |
|------------------------|---|-------|-------|-------|--------|--------|--------|--------|
| | 30 A | 60 A | 100 A | 200 A | 400 A | 600 A | 800 A | 1200 A |
| 5,000 | 750 | 1,225 | 1,810 | 2,500 | 4,600 | 5,000 | 5,000 | 5,000 |
| 10,000 | 945 | 1,525 | 2,300 | 3,150 | 6,000 | 8,500 | 9,400 | 10,000 |
| 15,000 | 1,050 | 1,700 | 2,610 | 3,600 | 6,600 | 9,750 | 10,500 | 13,000 |
| 20,000 | 1,150 | 1,900 | 2,900 | 3,950 | 7,250 | 10,500 | 11,000 | 14,750 |
| 25,000 | 1,300 | 2,050 | 3,100 | 4,250 | 8,000 | 11,500 | 12,500 | 15,500 |
| 30,000 | 1,375 | 2,150 | 3,300 | 4,500 | 8,250 | 12,000 | 13,750 | 16,500 |
| 35,000 | 1,400 | 2,250 | 3,500 | 4,750 | 8,500 | 13,000 | 14,000 | 17,000 |
| 40,000 | 1,425 | 2,400 | 3,650 | 4,950 | 8,700 | 14,000 | 14,750 | 18,000 |
| 50,000 | 1,600 | 2,450 | 3,900 | 5,350 | 9,500 | 14,500 | 16,000 | 20,000 |
| 60,000 | 1,650 | 2,625 | 4,150 | 5,650 | 10,000 | 15,500 | 17,300 | 21,000 |
| 80,000 | 1,825 | 2,800 | 4,570 | 6,250 | 11,000 | 17,000 | 18,750 | 23,000 |
| 100,000 | 2,000 | 3,100 | 4,950 | 6,700 | 12,000 | 18,000 | 20,000 | 25,000 |
| 150,000 | 2,250 | 3,400 | 5,650 | 7,700 | 13,000 | 21,000 | 23,000 | 28,500 |
| 200,000 | 2,450 | 3,800 | 6,200 | 8,450 | 15,000 | 23,000 | 25,000 | 31,000 |

| Part Name | TOTAL I ² T (A ² S) |
|-----------|---|
| JLLS030 | 1,460 |
| JLLS060 | 11,300 |
| JLLS100 | 44,700 |
| JLLS200 | 93,800 |
| JLLS400 | 521,000 |
| JLLS600 | 1,060,000 |
| JLLS1200 | 6,570,000 |

*Prospective RMS Symmetrical Amperes Short-Circuit Current
Note: Data Derived from Peak Let-Through Curves

Disclaimer Notice - Information furnished is believed to be accurate and reliable. However, users should independently evaluate the suitability of and test each product selected for their own applications. Littelfuse products are not designed for, and may not be used in, all applications. Read complete Disclaimer Notice at www.littelfuse.com/product-disclaimer.

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