

## CLASS CC/CD CCMR SERIES FUSES

**POWR-PRO®** 600 VAC • Dual Element • Time-Delay •  $\frac{2}{10}$ -60 A


## Description

The CCMR series is ideal for space saving protection of motors up to 40 hp\*. It was designed specifically to withstand sustained starting currents of small motors. The CCMR 60 fuse is the smallest 60 A fuse available rated at 600 V. Compared to other UL Listed fuses, Class CC fuses are the most current-limiting, rating for rating.

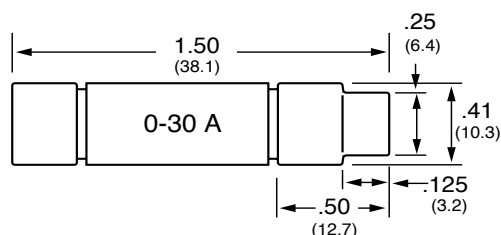
## Features/Benefits

- POWR-PRO® Performance
- Extremely current-limiting
- Ratings up to 60 Amps
- 300 kA Interrupting Rating (self-certified)

## Applications

- Motor and motor branch circuit protection

## Dimensions Inches (mm)



## Specifications

## Voltage Rating

AC: 600 V  
 DC: 250 V (CCMR  $\frac{2}{10}$ –2 A)  
 (CCMR  $\frac{4}{10}$ –10 A)  
 (CCMR 35–60 A)  
 300 V (CCMR  $\frac{2}{10}$ –4 A)  
 500 V (CCMR 12–30 A)

## Amperage Rating

$\frac{2}{10}$ –60 A

## Interrupting Rating

AC: 200 kA rms symmetrical  
 300 kA Littelfuse self-certified

DC: 20 kA

## Approvals

AC: Standard 248-4, Class CC  
 UL Listed  $\frac{2}{10}$ -30 A (File: E81895)  
 Standard 248, Class CD  
 UL Listed 35-60 A (File: E81895)  
 CSA Certified  $\frac{2}{10}$ -30 A (File: LR29862)

DC: Littelfuse self-certified

## Environmental

RoHS Compliant (except 35-60 A)

## Country of Origin

Mexico

## Ordering Information

| AMPERAGE RATINGS |                 |                 |                 |                |                 |    |
|------------------|-----------------|-----------------|-----------------|----------------|-----------------|----|
| $\frac{2}{10}$   | 1               | 2               | $3\frac{1}{2}$  | $6\frac{1}{4}$ | 12              | 35 |
| $\frac{1}{4}$    | $1\frac{1}{4}$  | $2\frac{1}{4}$  | 4               | 7              | 15              | 40 |
| $\frac{3}{10}$   | $1\frac{4}{10}$ | $2\frac{1}{2}$  | $4\frac{1}{2}$  | $7\frac{1}{2}$ | $17\frac{1}{2}$ | 45 |
| $\frac{1}{2}$    | $1\frac{1}{2}$  | $2\frac{8}{10}$ | 5               | 8              | 20              | 50 |
| $\frac{6}{10}$   | $1\frac{6}{10}$ | 3               | $5\frac{6}{10}$ | 9              | 25              | 60 |
| $\frac{8}{10}$   | $1\frac{8}{10}$ | $3\frac{2}{10}$ | 6               | 10             | 30              |    |

| SERIES | AMPERAGE | ROHS | CATALOG NUMBER | ORDERING NUMBER |
|--------|----------|------|----------------|-----------------|
| CCMR   | 10       | •    | CCMR020        | CCMR020.TXP     |
| CCMR   | 45       |      | CCMR045        | CCMR045.T       |

## Web Resources

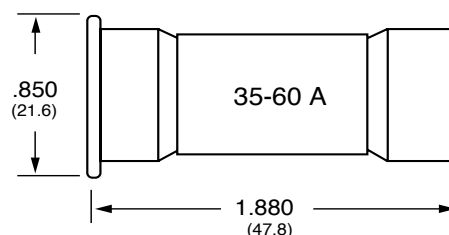
TC Curves, downloadable CAD drawings and other technical information: [Littelfuse.com/ccmr](http://Littelfuse.com/ccmr)

## Recommended Fuse Holders

LFC600 Series

L60030C Series

LPSC Touch-Safe Series



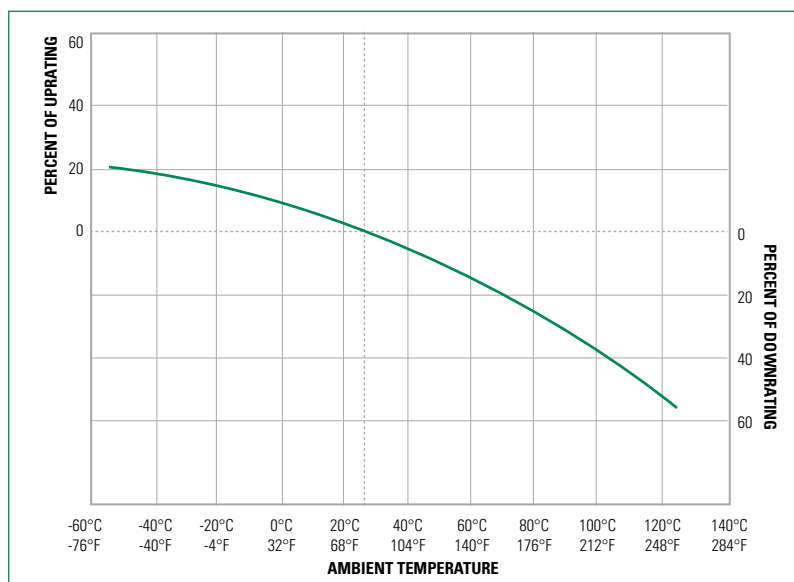
\*Consult Motor Protection Tables on [www.littelfuse.com](http://www.littelfuse.com) or call 800-TEC-FUSE for specific motor sizing information.

# CLASS CC/CD CCMR SERIES FUSES

## Electrical Specifications

| ORDERING NUMBER | AMPERAGE RATING | VOLTAGE RATING |     | INTERRUPTING RATING |       | UPC         | WATTS LOSS AT 100% RATED CURRENT (W) | WATTS LOSS AT 80% RATED CURRENT (W) | TOTAL CLEARING I <sup>2</sup> T (A <sup>2</sup> SEC) 200 kA | AGENCY APPROVALS |     |      |
|-----------------|-----------------|----------------|-----|---------------------|-------|-------------|--------------------------------------|-------------------------------------|-------------------------------------------------------------|------------------|-----|------|
|                 |                 | AC             | DC  | AC                  | DC    |             |                                      |                                     |                                                             | UL               | CSA | RoHS |
| CCMR2.25TXP     | 2-1/4           | 600            | 300 | 200 kA              | 20 kA | 07945896818 | 1.55                                 | 0.99                                | 351                                                         | •                | •   | •    |
| CCMR02.5TXP     | 2-1/2           | 600            | 300 | 200 kA              | 20 kA | 07945896819 | 1.99                                 | 1.26                                | 192                                                         | •                | •   | •    |
| CCMR003.TXP     | 3               | 600            | 300 | 200 kA              | 20 kA | 07945896821 | 1.55                                 | 1.02                                | 286                                                         | •                | •   | •    |
| CCMR004.TXP     | 4               | 600            | 300 | 200 kA              | 20 kA | 07945896824 | 1.62                                 | 1.04                                | 1870                                                        | •                | •   | •    |
| CCMR005.TXP     | 5               | 600            | 250 | 200 kA              | 20 kA | 07945896826 | 1.89                                 | 1.20                                | 1060                                                        | •                | •   | •    |
| CCMR6.25TXP     | 6-1/4           | 600            | 250 | 200 kA              | 20 kA | 07945896829 | 1.72                                 | 1.08                                | 797                                                         | •                | •   | •    |
| CCMR07.5TXP     | 7-1/2           | 600            | 250 | 200 kA              | 20 kA | 07945896831 | 1.72                                 | 1.09                                | 983                                                         | •                | •   | •    |
| CCMR008.TXP     | 8               | 600            | 250 | 200 kA              | 20 kA | 07945896832 | 1.39                                 | 0.83                                | 431                                                         | •                | •   | •    |
| CCMR010.TXP     | 10              | 600            | 250 | 200 kA              | 20 kA | 07945896834 | 1.49                                 | 0.90                                | 1250                                                        | •                | •   | •    |
| CCMR015.TXP     | 15              | 600            | 500 | 200 kA              | 20 kA | 07945896836 | 1.77                                 | 1.03                                | 1120                                                        | •                | •   | •    |
| CCMR020.TXP     | 20              | 600            | 500 | 200 kA              | 20 kA | 07945896838 | 2.3                                  | 1.39                                | 918                                                         | •                | •   | •    |
| CCMR030.TXP     | 30              | 600            | 500 | 200 kA              | 20 kA | 07945896840 | 2.75                                 | 1.62                                | 1790                                                        | •                | •   | •    |

## Temperature Derating Curve (Temperature of Air Immediately Surrounding Fuse)



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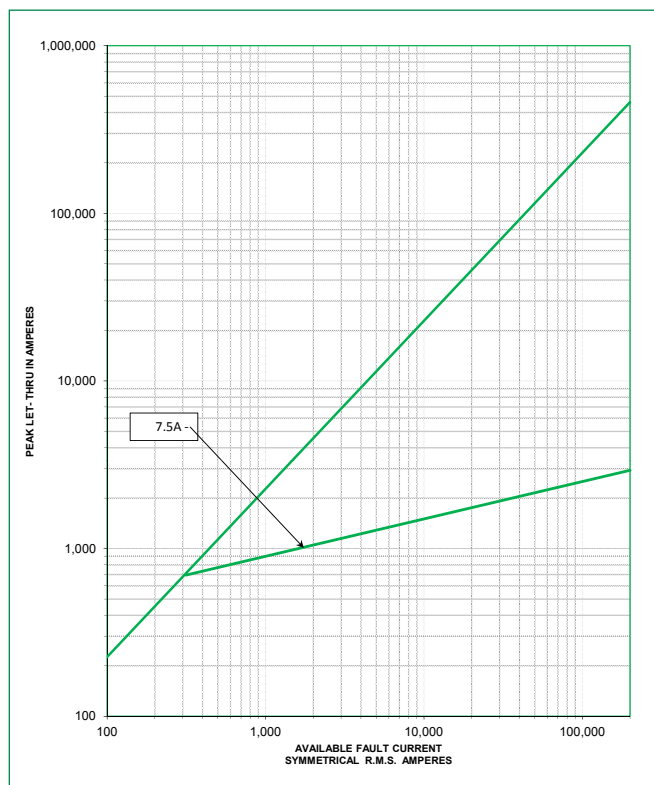
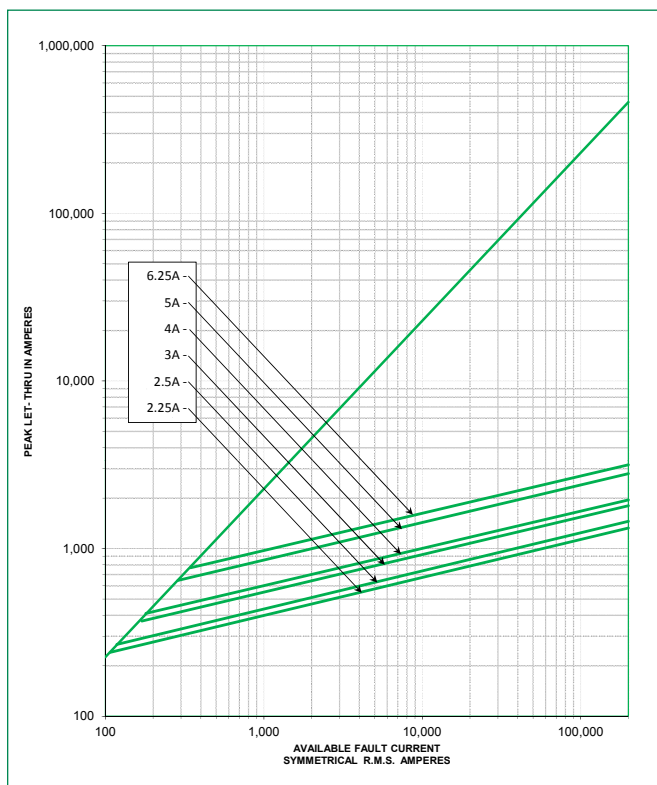
## Current-Limiting Effects

| SHORT<br>CIRCUIT<br>CURRENT* | APPARENT RMS SYMMETRICAL CURRENT FOR VARIOUS FUSE RATINGS |      |     |     |       |       |       |       |       |       |       |      |       |      |       |       |       |       |
|------------------------------|-----------------------------------------------------------|------|-----|-----|-------|-------|-------|-------|-------|-------|-------|------|-------|------|-------|-------|-------|-------|
|                              | 2.25A                                                     | 2.5A | 3A  | 4A  | 5A    | 6.25A | 7.5A  | 8A    | 10A   | 12A   | 15A   | 20A  | 30A   | 35A  | 40A   | 45A   | 50A   | 60A   |
| 5,000                        | 255                                                       | 280  | 345 | 380 | 540   | 615   | 570   | 555   | 530   | 575   | 660   | 535  | 750   | 1170 | 1,240 | 1,320 | 1,070 | 1,525 |
| 10,000                       | 300                                                       | 330  | 410 | 445 | 630   | 720   | 670   | 650   | 625   | 680   | 775   | 635  | 875   | 1480 | 1,565 | 1,670 | 1,355 | 1,930 |
| 15,000                       | 330                                                       | 360  | 445 | 485 | 695   | 785   | 730   | 710   | 680   | 735   | 845   | 700  | 950   | 1695 | 1,795 | 1,915 | 1,555 | 2,200 |
| 20,000                       | 350                                                       | 380  | 475 | 520 | 745   | 840   | 775   | 770   | 725   | 790   | 900   | 735  | 1,000 | 1870 | 1,980 | 2,110 | 1,710 | 2,430 |
| 25,000                       | 365                                                       | 400  | 500 | 545 | 775   | 880   | 815   | 800   | 760   | 830   | 945   | 800  | 1,050 | 2015 | 2,135 | 2,275 | 1,845 | 2,620 |
| 30,000                       | 385                                                       | 420  | 520 | 570 | 810   | 905   | 850   | 840   | 790   | 865   | 980   | 815  | 1,125 | 2145 | 2,270 | 2,420 | 1,965 | 2,780 |
| 35,000                       | 400                                                       | 435  | 540 | 590 | 840   | 950   | 880   | 870   | 830   | 890   | 1,020 | 840  | 1,175 | 2260 | 2,390 | 2,550 | 2,070 | 2,885 |
| 40,000                       | 410                                                       | 445  | 555 | 605 | 865   | 980   | 900   | 890   | 840   | 930   | 1,050 | 860  | 1,200 | 2360 | 2,500 | 2,665 | 2,165 | 3,025 |
| 50,000                       | 430                                                       | 473  | 585 | 630 | 905   | 1,025 | 950   | 935   | 890   | 965   | 1,100 | 910  | 1,300 | 2545 | 2,695 | 2,875 | 2,330 | 3,200 |
| 60,000                       | 445                                                       | 490  | 610 | 665 | 945   | 1,060 | 1,000 | 970   | 930   | 1,000 | 1,145 | 950  | 1,350 | 2705 | 2,865 | 3,055 | 2,480 | 3,350 |
| 80,000                       | 470                                                       | 525  | 648 | 710 | 1,000 | 1,140 | 1,050 | 1,040 | 985   | 1,065 | 1,220 | 1010 | 1,400 | 2985 | 3,160 | 3,365 | 2,730 | 3,540 |
| 100,000                      | 500                                                       | 555  | 685 | 740 | 1,060 | 1,195 | 1,110 | 1,100 | 1,030 | 1,130 | 1,285 | 1075 | 1,500 | 3215 | 3,405 | 3,630 | 2,945 | 3,685 |
| 150,000                      | 550                                                       | 600  | 750 | 815 | 1,145 | 1,310 | 1,220 | 1,190 | 1,135 | 1,235 | 1,400 | 1150 | 1,600 | 3685 | 3,905 | 4,160 | 3,375 | 4,030 |
| 200,000                      | 585                                                       | 650  | 800 | 870 | 1,245 | 1,400 | 1,290 | 1,285 | 1,210 | 1,320 | 1,500 | 1250 | 1,750 | 4060 | 4,300 | 4,580 | 3,720 | 4,230 |

\*Prospective RMS Symmetrical Amperes Short-Circuit Current

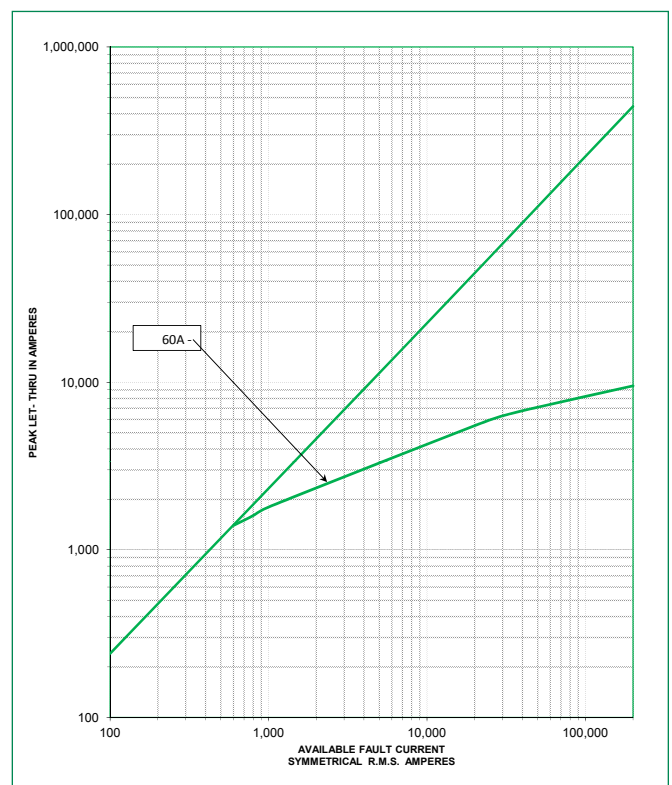
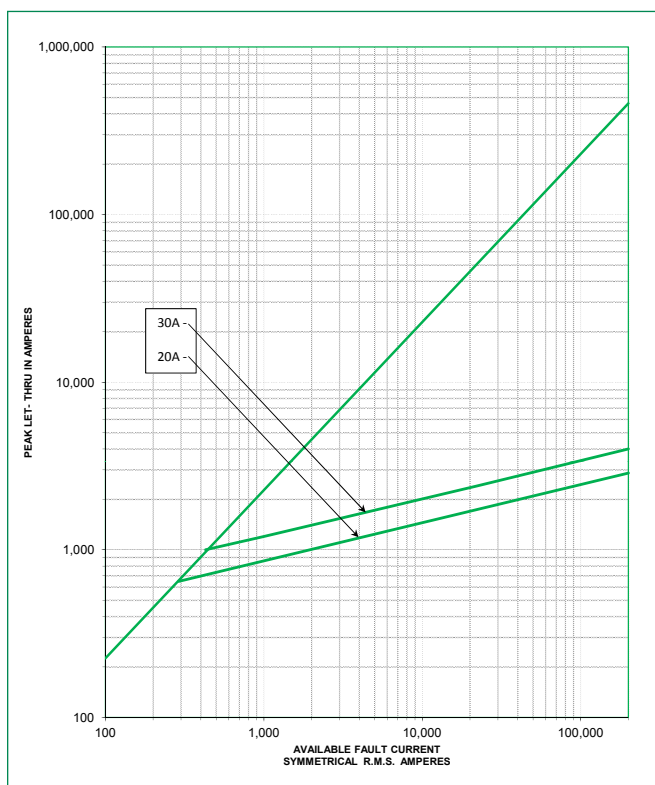
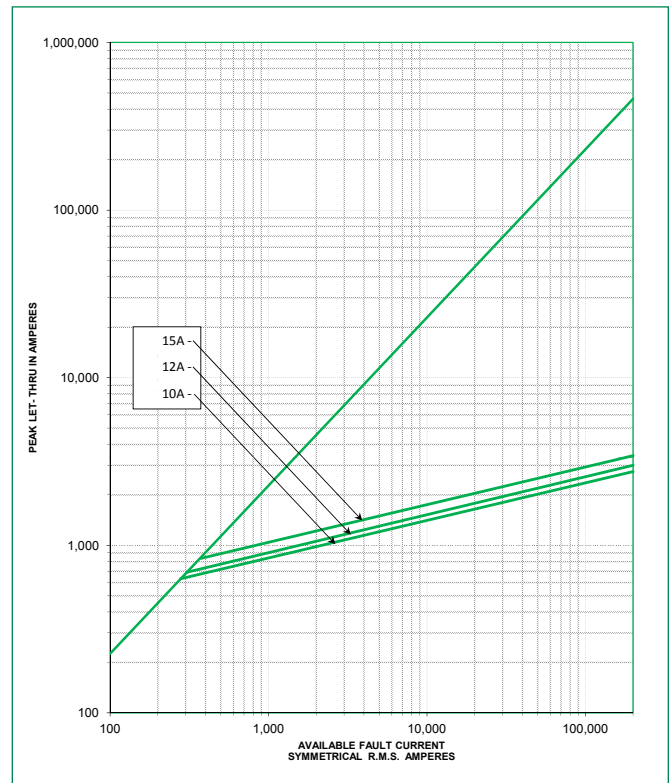
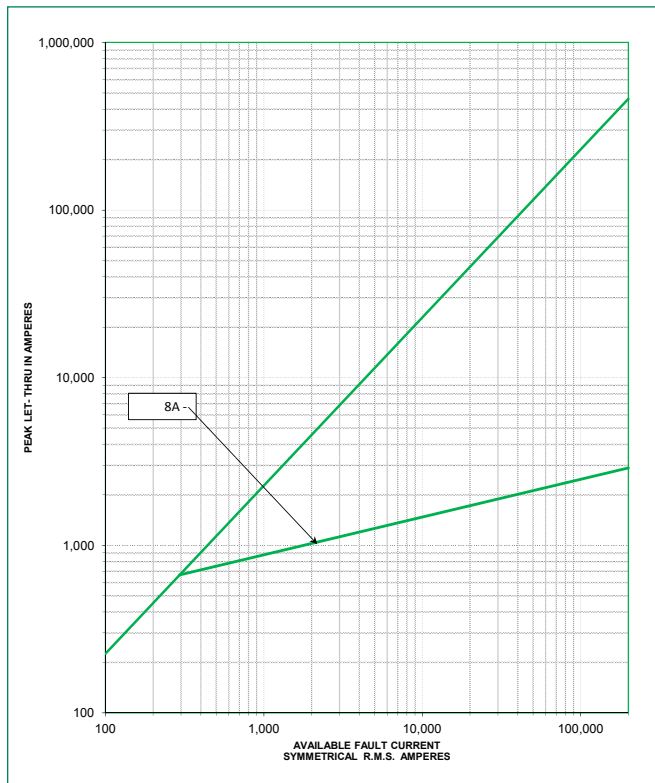
Note: Data Derived from Peak Let-Thru Curves

## Peak Let-Thru Curves

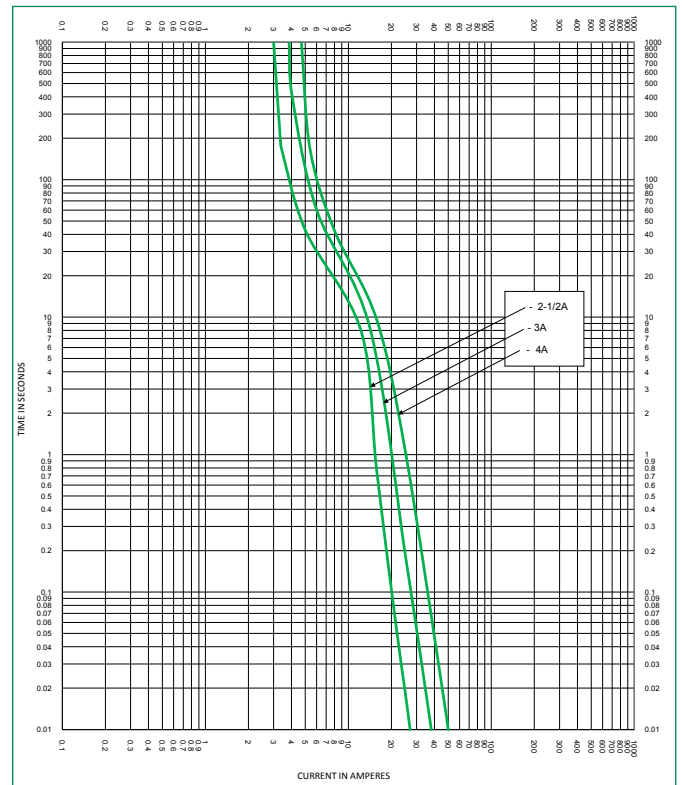
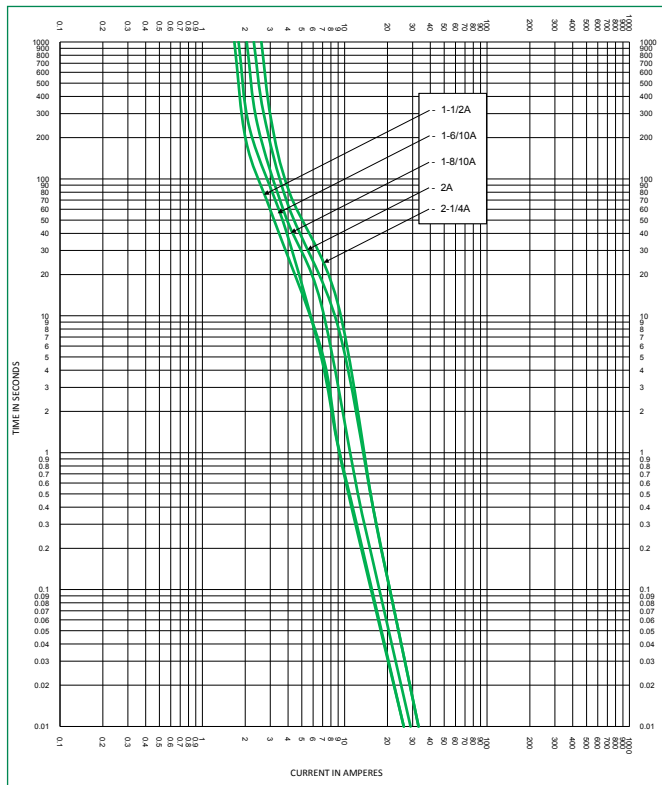
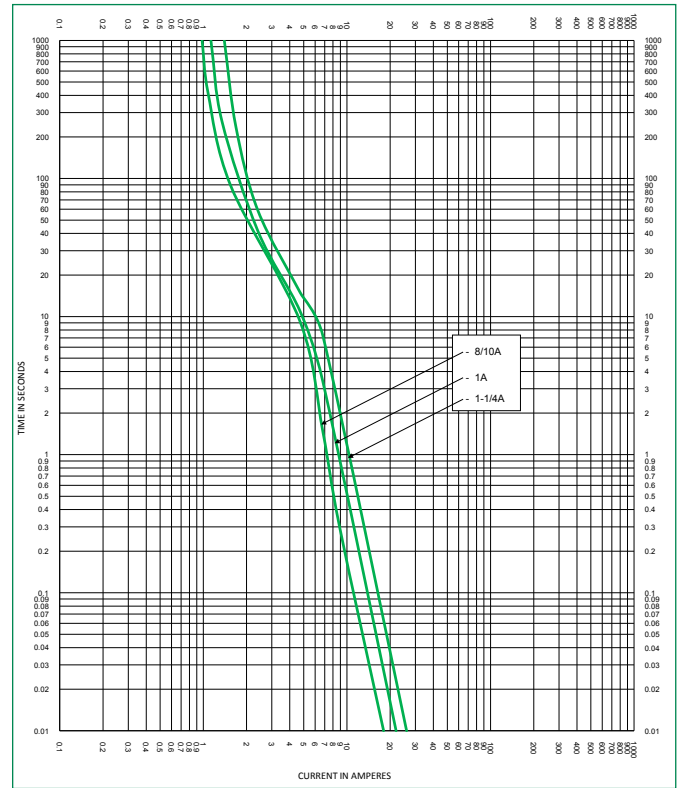
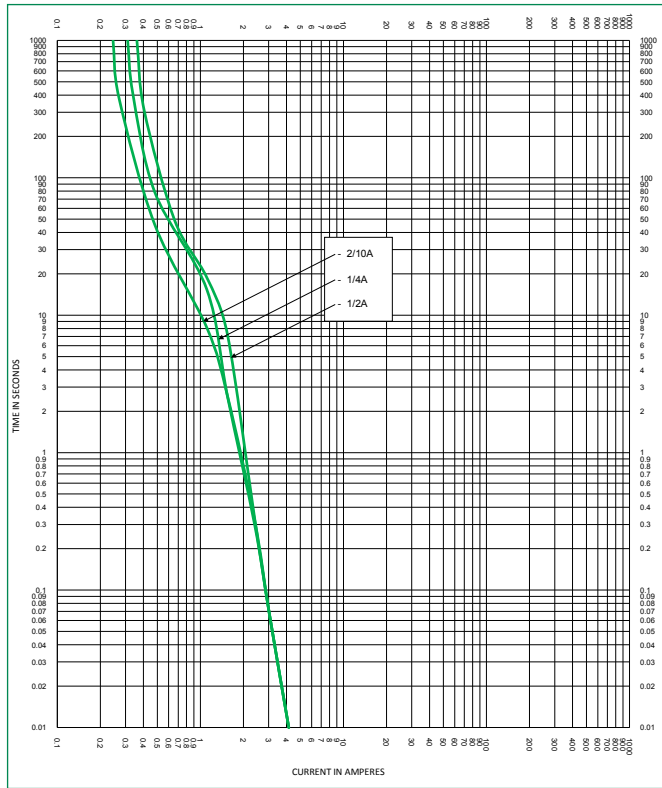


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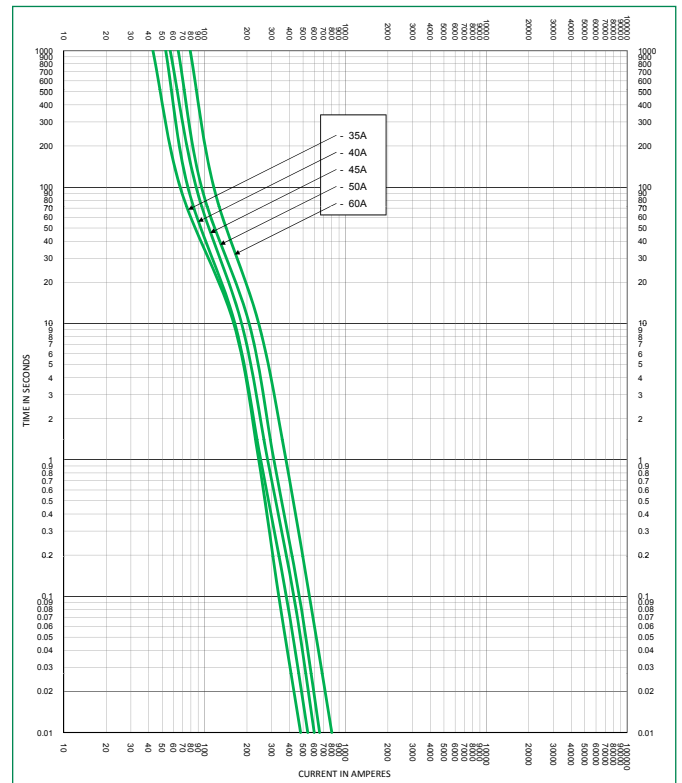
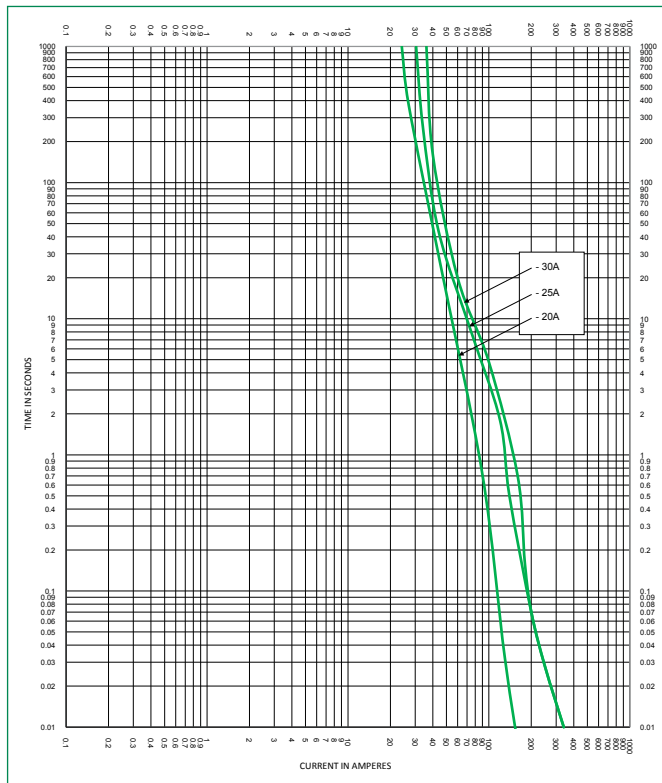
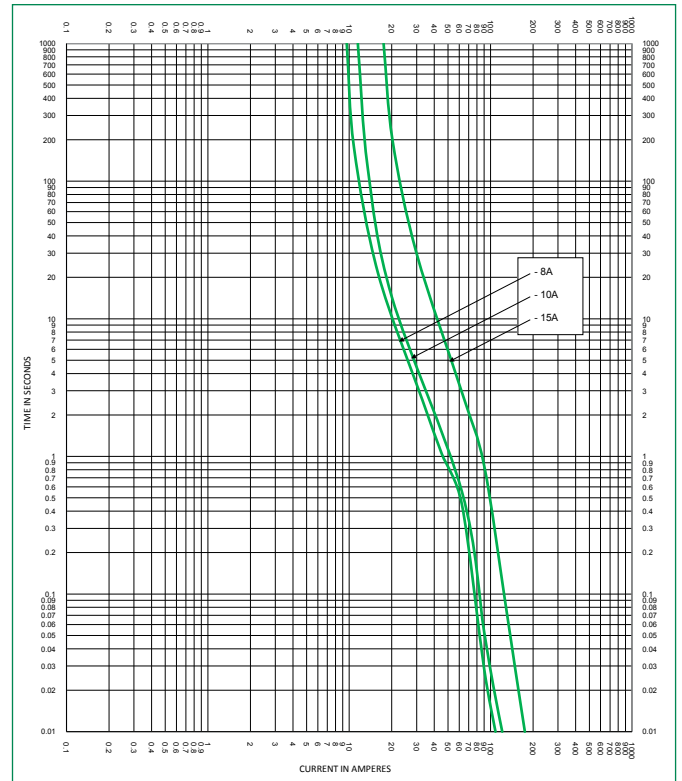
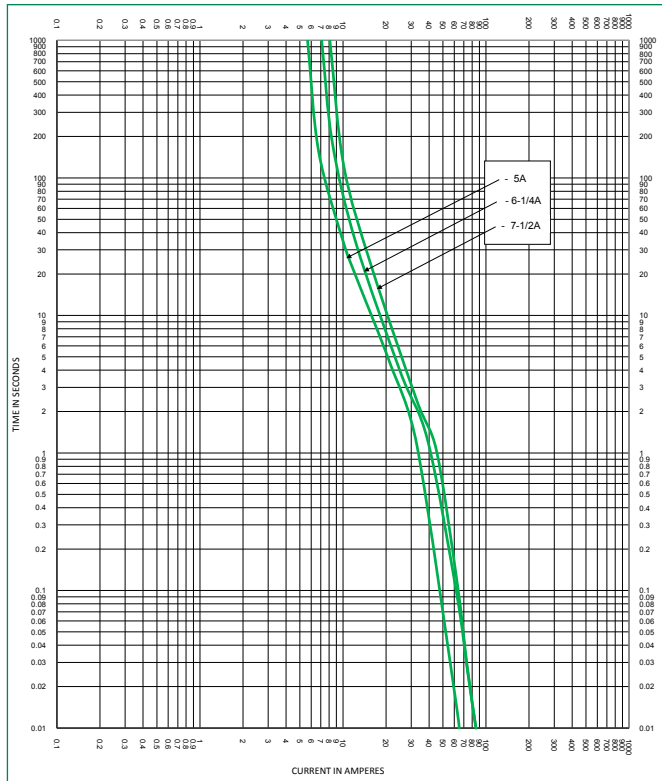
## Peak Let-Thru Curves



## Time Current Curves



## Time Current Curves





Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

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