

# EVpack-fuse MEV70

700 VDC Max., L/R ≤ 1ms, 35 - 600A

## BATTERY FUSES

## BATTERY PACK FUSES



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## FEATURES & BENEFITS

- Design for DC applications
- Low watt losses
- High cycling performance
- Full coverage of battery module voltage and current
- Ultra compact size
- Current Ratings (In): 35 to 600A
- Interrupting Rating (IR): 20kA @ 700VDC, L/R ≤ 1ms
- High inrush current capability

## APPLICATIONS

- EV/HEV
- Electrical Energy Storage
- Battery pack protection
- Battery Disconnect Unit (BDU)
- Battery Junction Box for auxiliaries
- Battery charger
- Supercapacitor pack protection
- Backup protection for DC relay / disconnecter / switch
- Maintenance Safety Disconnect (MSD)

## STANDARDS

- Power Cycling & Vibration: JASO D622



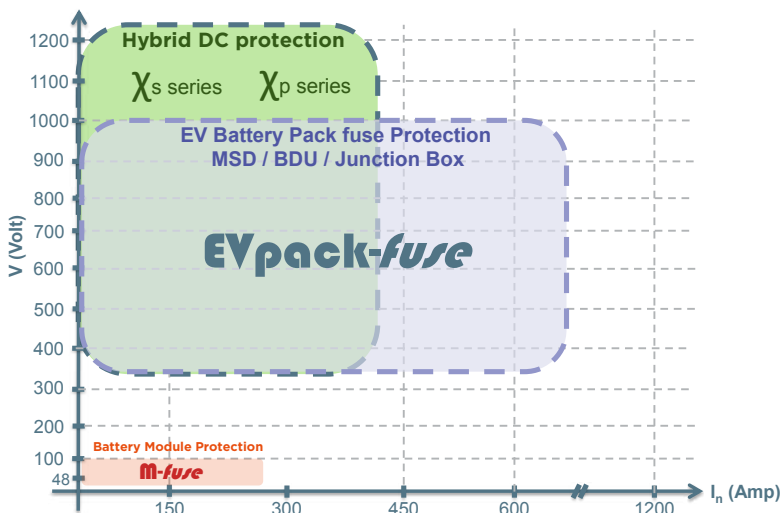
EV pack-fuse

EVpack-fuse line-up belongs to the new DC Over-Current protection (O.C.P.) range developed by MERSEN to address specific needs in EV/HEV and Battery Electrical Storage System

EVpack-fuse provides the ultimate protection of the battery pack offering reliable clearing of DC fault currents.

It has been specifically engineered and tested to provide DC applications best-in-class protection performance: Up to 700VDC, Current rating (In)= 35 to 600A, Interrupting Rating (IR) = 20kA, L/R ≤ 1ms, Minimum Breaking Capacity (MBC) < 3kA for a perfect matching with DC contactor in addition to withstanding high inrush current auxiliary applications (e.g. air conditioning...) with MEV70V.

## Typical usage of EVpack-fuse in Mersen DC protection family



## PRODUCT RANGE



MEV70V100-S

### MEV70V -S Surface Mount Fuse

| Catalog number | Rated DC voltage | Rated current I <sub>n</sub> | Power dissipation at 0.5 I <sub>n</sub> | Min. breaking capacity (MBC) | Max. time to clear MBC | Weight |
|----------------|------------------|------------------------------|---|------------------------------|------------------------|--------|
| MEV70V35-S     | 700 V            | 35 A                         | 0.86 W                                  | 125 A                        | 5 s                    | 9.9 g  |
| MEV70V40-S     | 700 V            | 40 A                         | 0.82 W                                  | 150 A                        | 5 s                    | 9.9 g  |
| MEV70V50-S     | 700 V            | 50 A                         | 1.2 W                                   | 175 A                        | 5 s                    | 9.9 g  |
| MEV70V60-S     | 700 V            | 60 A                         | 1.47 W                                  | 200 A                        | 5 s                    | 9.9 g  |
| MEV70V70-S     | 700 V            | 70 A                         | 1.89 W                                  | 200 A                        | 30 s                   | 59 g   |
| MEV70V80-S     | 700 V            | 80 A                         | 1.75 W                                  | 270 A                        | 30 s                   | 59 g   |
| MEV70V100-S    | 700 V            | 100 A                        | 2 W                                     | 330 A                        | 30 s                   | 59 g   |
| MEV70V125-S    | 700 V            | 125 A                        | 2.74 W                                  | 1500 A                       | 150 ms                 | 59 g   |
| MEV70V150-S    | 700 V            | 150 A                        | 3.54 W                                  | 1500 A                       | 200 ms                 | 59 g   |
| MEV70V160-S    | 700 V            | 160 A                        | 3.75 W                                  | 1500 A                       | 300 ms                 | 59 g   |
| MEV70V175-S    | 700 V            | 175 A                        | 4.63 W                                  | 1500 A                       | 420 ms                 | 59 g   |



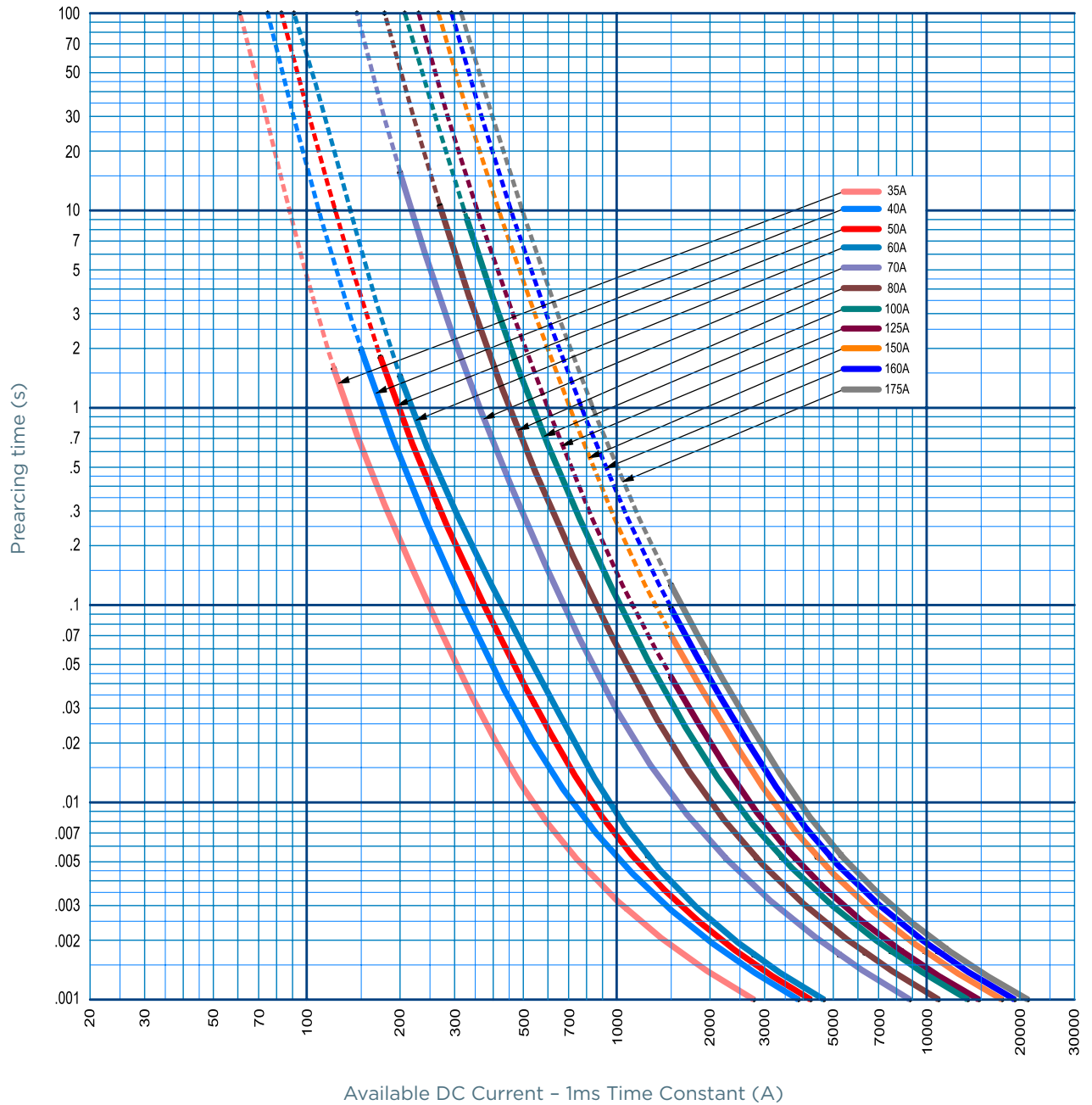
MEV70A600-4

### MEV70A Round Body Fuse

| Catalog number | Rated DC voltage | Rated current I <sub>n</sub> | Power dissipation at 0.5 I <sub>n</sub> | Min. breaking capacity (MBC) | Max. time to clear MBC | Weight |
|----------------|------------------|------------------------------|---|------------------------------|------------------------|--------|
| MEV70A50-4     | 700 V            | 50 A                         | 1.4 W                                   | 380 A                        | 50 ms                  | 99 g   |
| MEV70A60-4     | 700 V            | 60 A                         | 1.8 W                                   | 460 A                        | 50 ms                  | 99 g   |
| MEV70A70-4     | 700 V            | 70 A                         | 2.2 W                                   | 540 A                        | 50 ms                  | 99 g   |
| MEV70A80-4     | 700 V            | 80 A                         | 2.5 W                                   | 610 A                        | 50 ms                  | 99 g   |
| MEV70A90-4     | 700 V            | 90 A                         | 2.7 W                                   | 690 A                        | 50 ms                  | 99 g   |
| MEV70A100-4    | 700 V            | 100 A                        | 3.1 W                                   | 760 A                        | 50 ms                  | 99 g   |
| MEV70A125-4    | 700 V            | 125 A                        | 3.8 W                                   | 870 A                        | 60 ms                  | 165 g  |
| MEV70A150-4    | 700 V            | 150 A                        | 4.5 W                                   | 1040 A                       | 60 ms                  | 165 g  |
| MEV70A175-4    | 700 V            | 175 A                        | 5.2 W                                   | 1210 A                       | 60 ms                  | 165 g  |
| MEV70A200-4    | 700 V            | 200 A                        | 5.9 W                                   | 1380 A                       | 60 ms                  | 165 g  |
| MEV70A225-4    | 700 V            | 225 A                        | 6.7 W                                   | 1190 A                       | 140 ms                 | 260 g  |
| MEV70A250-4    | 700 V            | 250 A                        | 7.4 W                                   | 1320 A                       | 140 ms                 | 260 g  |
| MEV70A300-4    | 700 V            | 300 A                        | 8.8 W                                   | 1580 A                       | 140 ms                 | 260 g  |
| MEV70A350-4    | 700 V            | 350 A                        | 10.2 W                                  | 1840 A                       | 140 ms                 | 260 g  |
| MEV70A400-4    | 700 V            | 400 A                        | 11.7 W                                  | 2100 A                       | 140 ms                 | 260 g  |
| MEV70A450-4    | 700 V            | 450 A                        | 12.4 W                                  | 2200 A                       | 360 ms                 | 517 g  |
| MEV70A500-4    | 700 V            | 500 A                        | 13.9 W                                  | 2460 A                       | 360 ms                 | 517 g  |
| MEV70A600-4    | 700 V            | 600 A                        | 16.6 W                                  | 2950 A                       | 360 ms                 | 517 g  |

## TIME CURRENT CHARACTERISTIC CURVES

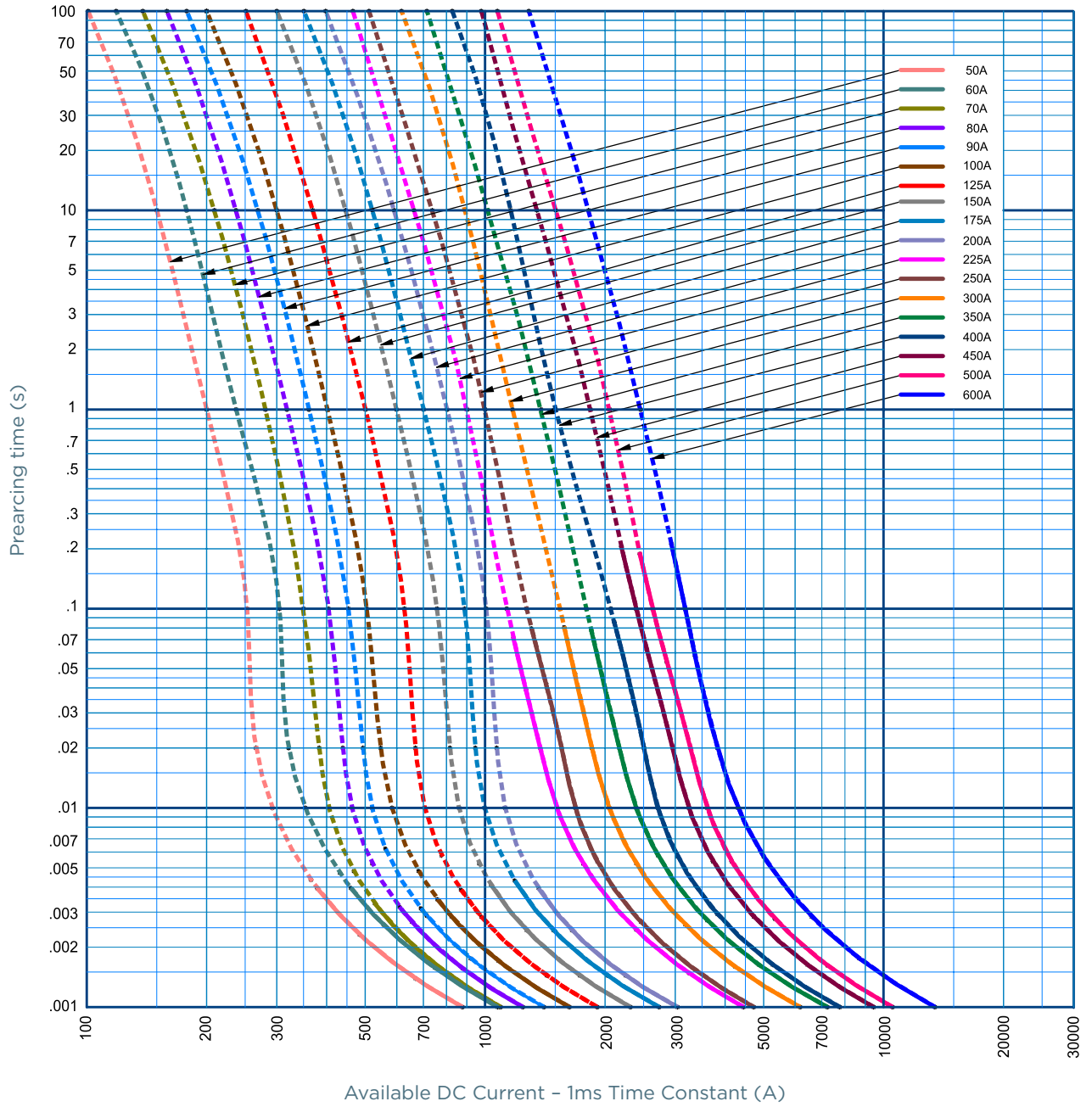
### MEV70V-S



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TIME CURRENT CHARACTERISTIC CURVES

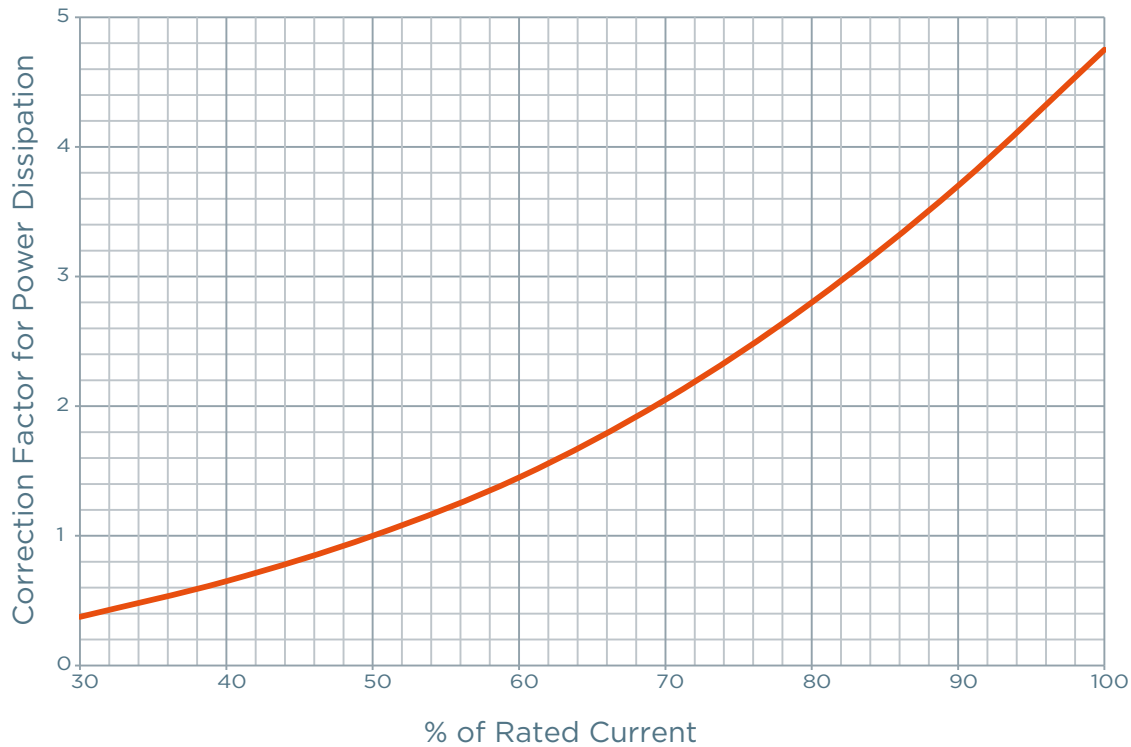
MEV70A



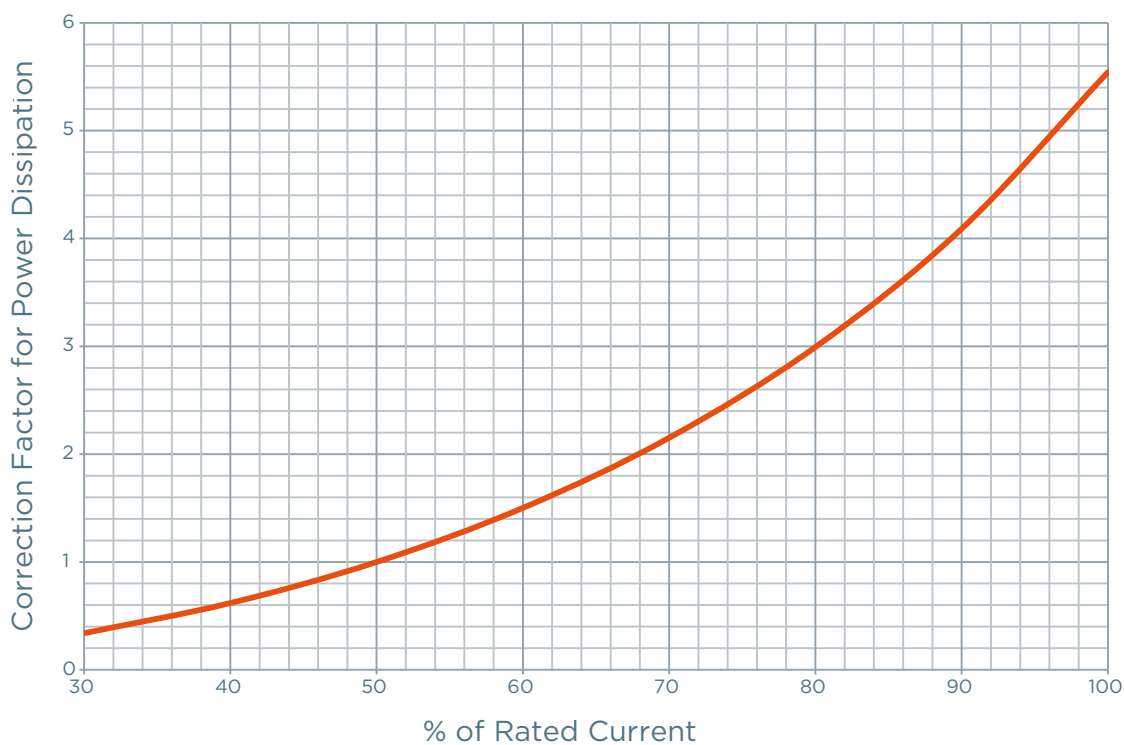
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## POWER DISSIPATION

### MEV70V-S



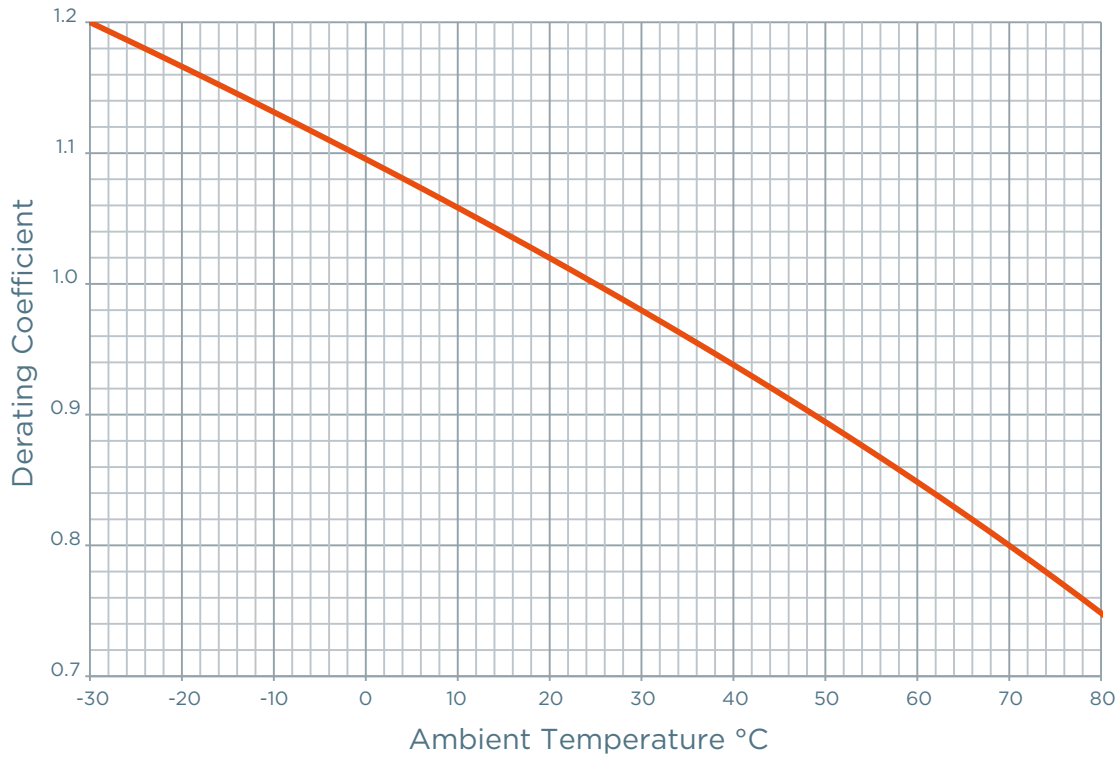
### MEV70A



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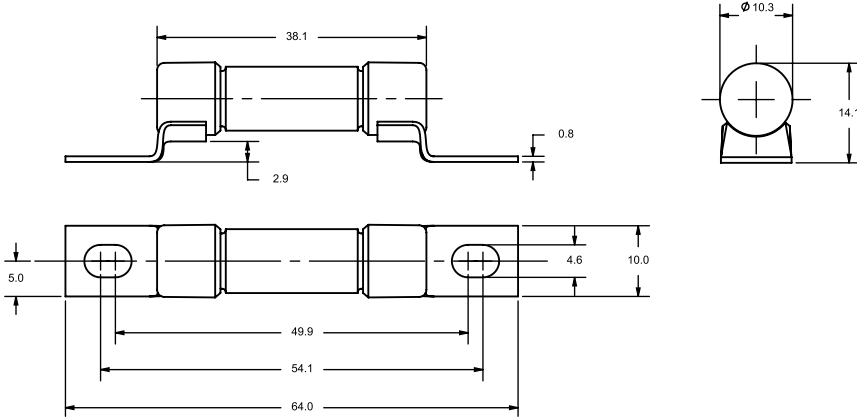
## TEMPERATURE DERATING

### MEV70V-S & MEV70A



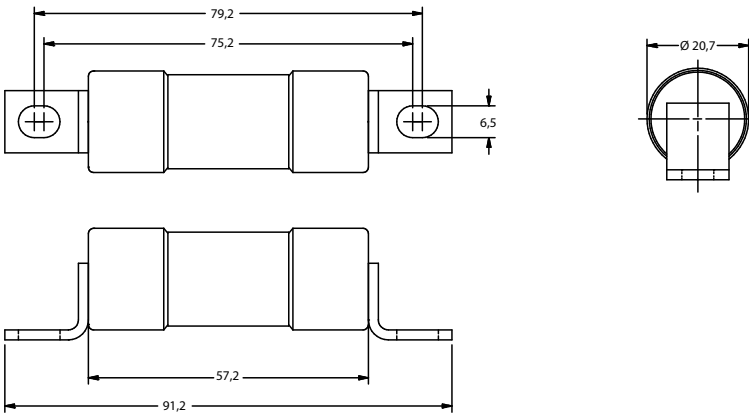
## DIMENSIONS

### MEV70V -S (35-60A)



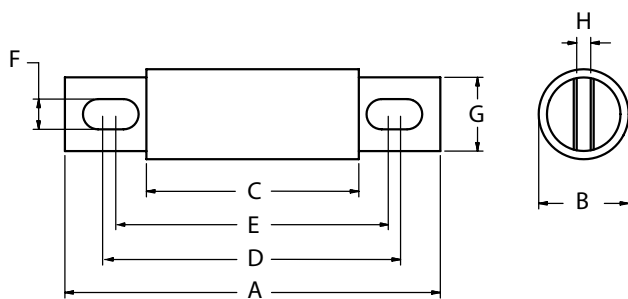
Dimensions in mm

### MEV70V -S (70-175A)



Dimensions in mm

### MEV70A -4 (50-600A)



| Article Number                   | A            | B           | C            | D            | E             | F            | G           | H           |
|----------------------------------|--------------|-------------|--------------|--------------|---------------|--------------|-------------|-------------|
| MEV70A50 to 100<br>(inch. / mm)  | 3,63<br>92,2 | 1<br>25,4   | 2,13<br>54,1 | 2,94<br>74,7 | 2,75<br>69,85 | 0,31<br>7,9  | 0,5<br>19   | 0,13<br>3,2 |
| MEV70A125 to 200<br>(inch. / mm) | 3,63<br>92,2 | 1,22<br>31  | 2,13<br>54,1 | 2,94<br>74,7 | 2,81<br>71,4  | 0,31<br>7,9  | 1<br>25,4   | 0,19<br>4,8 |
| MEV70A225 to 400<br>(inch. / mm) | 4,34<br>110  | 1,5<br>38,1 | 2,09<br>53,1 | 3,41<br>86,6 | 2,78<br>70,6  | 0,41<br>10,4 | 1<br>25,4   | 0,25<br>6,4 |
| MEV70A450 to 600<br>(inch. / mm) | 4,47<br>114  | 2<br>50,8   | 2,22<br>56,4 | 3,53<br>89,7 | 2,91<br>73,9  | 0,41<br>10,4 | 1,5<br>38,1 | 0,25<br>6,4 |