

# EVpack-fuse MEV100

1,000 VDC Max., L/R ≤ 1ms, 8 - 600A

## BATTERY FUSES

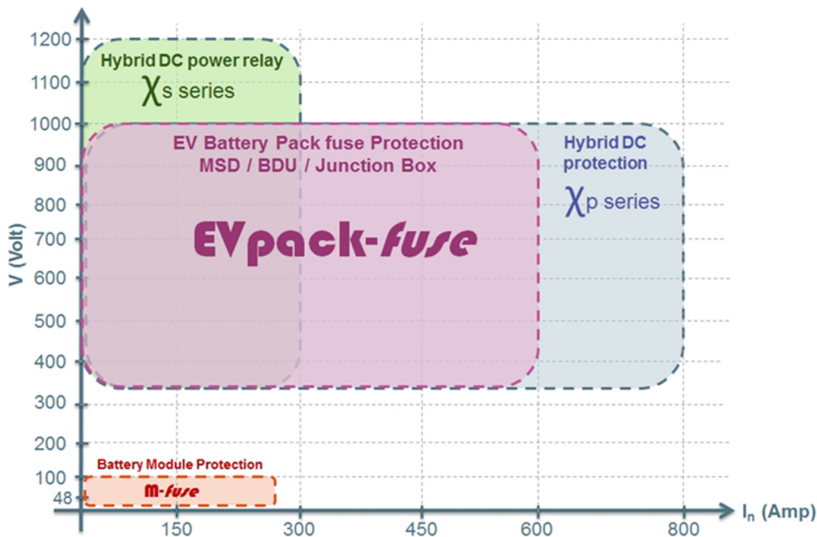
### BATTERY PACK FUSES



**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 1,000VDC, Current rating (I<sub>n</sub>)= 8 to 600A, Interrupting Rating (IR) = 20kA, L/R ≤ 1ms, Minimum Breaking Capacity (MBC) < 3kA for a perfect matching with DC contactor.



## 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 (I<sub>n</sub>): 8 to 600A
- Interrupting Rating (IR): 20kA @ 1,000 VDC, L/R ≤ 1ms
- Self Certified IR = 100kA, 1000VDC, L/R = 3.7ms (UL Recognition Pending)

## 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
- IATF - ISO/TS 16949 Quality management undergoing certification



EV pack-fuse

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## PRODUCT RANGE

### MEV100C Ferrule Fuse



MEV100C30

Catalog number	Rated voltage DC (UL)	Rated current I <sub>n</sub>	Rated breaking capacity DC	Power dissipation at 0.5 I <sub>n</sub>	Min. breaking capacity (MBC)	Max. time to clear MBC	Package	Weight
MEV100C8	1000 V	8 A	20 kA	0.23 W	16 A	100 s	10	7.5 g
MEV100C10	1000 V	10 A	20 kA	0.32 W	20 A	100 s	10	7.5 g
MEV100C12	1000 V	12 A	20 kA	0.42 W	24 A	100 s	10	7.5 g
MEV100C15	1000 V	15 A	20 kA	0.63 W	30 A	100 s	10	7.5 g
MEV100C20	1000 V	20 A	20 kA	0.92 W	40 A	100 s	10	7.5 g
MEV100C25	1000 V	25 A	20 kA	1.1 W	50 A	100 s	10	7.5 g
MEV100C30	1000 V	30 A	20 kA	1.2 W	60 A	100 s	10	7.5 g

### MEV100C -S Surface Mount



MEV100C30-S

Catalog number	Rated voltage DC (UL)	Rated current I <sub>n</sub>	Rated breaking capacity DC	Power dissipation at 0.5 I <sub>n</sub>	Min. breaking capacity (MBC)	Max. time to clear MBC	Package	Weight
MEV100C8-S	1000 V	8 A	20 kA	0.23 W	16 A	100 s	10	9.9 g
MEV100C10-S	1000 V	10 A	20 kA	0.32 W	20 A	100 s	10	9.9 g
MEV100C12-S	1000 V	12 A	20 kA	0.42 W	24 A	100 s	10	9.9 g
MEV100C15-S	1000 V	15 A	20 kA	0.63 W	30 A	100 s	10	9.9 g
MEV100C20-S	1000 V	20 A	20 kA	0.92 W	40 A	100 s	10	9.9 g
MEV100C25-S	1000 V	25 A	20 kA	1.1 W	50 A	100 s	10	9.9 g
MEV100C30-S	1000 V	30 A	20 kA	1.2 W	60 A	100 s	10	9.9 g

### MEV100A Round Body Fuse



MEV100A300-4

Catalog number	Rated voltage DC (UL)	Rated current I <sub>n</sub>	Rated breaking capacity DC	Power dissipation at 0.5 I <sub>n</sub>	Min. breaking capacity (MBC)	Max. time to clear MBC	Package	Weight
MEV100A50-4	1000 V	50 A	100 kA	1.8 W	960 A	40 ms	5	0.12 kg
MEV100A60-4	1000 V	60 A	100 kA	2.2 W	1160 A	40 ms	5	0.12 kg
MEV100A70-4	1000 V	70 A	100 kA	2.7 W	1350 A	40 ms	5	0.12 kg
MEV100A80-4	1000 V	80 A	100 kA	3.2 W	1540 A	40 ms	5	0.12 kg
MEV100A90-4	1000 V	90 A	100 kA	3.6 W	1730 A	40 ms	5	0.12 kg
MEV100A100-4	1000 V	100 A	100 kA	4.3 W	1920 A	40 ms	5	0.12 kg
MEV100A125-4	1000 V	125 A	100 kA	4 W	940 A	80 ms	5	0.19 kg
MEV100A150-4	1000 V	150 A	100 kA	5.2 W	1130 A	80 ms	5	0.19 kg
MEV100A175-4	1000 V	175 A	100 kA	6.3 W	1320 A	80 ms	5	0.19 kg
MEV100A200-4	1000 V	200 A	100 kA	7.4 W	1510 A	80 ms	5	0.19 kg
MEV100A225-4	1000 V	225 A	100 kA	6.7 W	2200 A	80 ms	5	0.30 kg
MEV100A250-4	1000 V	250 A	100 kA	7.6 W	2430 A	80 ms	5	0.30 kg
MEV100A300-4	1000 V	300 A	100 kA	9.5 W	2920 A	80 ms	5	0.30 kg

### MEV100A Round Body Fuse for Metric Screws

Catalog number	Rated voltage DC (UL)	Rated current I <sub>n</sub>	Rated breaking capacity DC	Power dissipation at 0.5 I <sub>n</sub>	Min. breaking capacity (MBC)	Max. time to clear MBC	Package	Weight
MEV100A50-4Y	1000 V	50 A	100 kA	1.8 W	960 A	40 ms	5	0.12 kg
MEV100A60-4Y	1000 V	60 A	100 kA	2.2 W	1160 A	40 ms	5	0.12 kg
MEV100A70-4Y	1000 V	70 A	100 kA	2.7 W	1350 A	40 ms	5	0.12 kg
MEV100A80-4Y	1000 V	80 A	100 kA	3.2 W	1540 A	40 ms	5	0.12 kg
MEV100A90-4Y	1000 V	90 A	100 kA	3.6 W	1730 A	40 ms	5	0.12 kg
MEV100A100-4Y	1000 V	100 A	100 kA	4.3 W	1920 A	40 ms	5	0.12 kg
MEV100A125-4Y	1000 V	125 A	100 kA	4 W	940 A	80 ms	5	0.19 kg
MEV100A150-4Y	1000 V	150 A	100 kA	5.2 W	1130 A	80 ms	5	0.19 kg
MEV100A175-4Y	1000 V	175 A	100 kA	6.3 W	1320 A	80 ms	5	0.19 kg
MEV100A200-4Y	1000 V	200 A	100 kA	7.4 W	1510 A	80 ms	5	0.19 kg

## PRODUCT RANGE



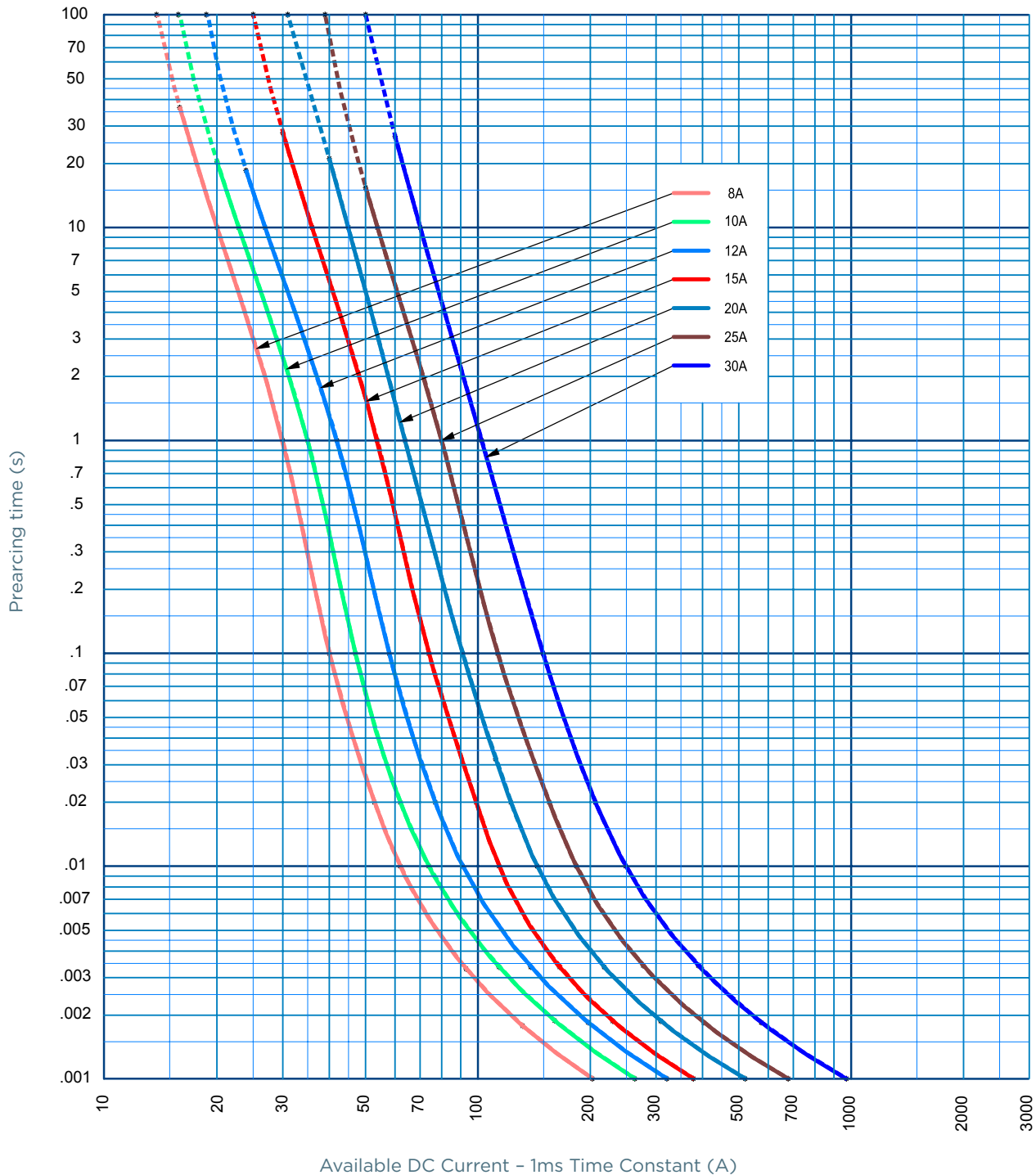
MEV100J400-4

### MEV100J Round Body Fuse

Catalog number	Rated voltage DC (UL)	Rated current I <sub>n</sub>	Rated breaking capacity DC	Power dissipation at 0.5 I <sub>n</sub>	Min. breaking capacity (MBC)	Max. time to clear MBC	Package	Weight
MEV100J350-4	1000 V	350 A	20 kA	9 W	700 A	180 s	1	0.86 kg
MEV100J400-4	1000 V	400 A	20 kA	10.4 W	800 A	180 s	1	0.86 kg
MEV100J450-4	1000 V	450 A	20 kA	11.2 W	900 A	235 s	1	1.34 kg
MEV100J500-4	1000 V	500 A	20 kA	11.6 W	1000 A	280 s	1	1.34 kg
MEV100J600-4	1000 V	600 A	20 kA	16.4 W	1200 A	200 s	1	1.34 kg

## TIME CURRENT CHARACTERISTIC CURVES

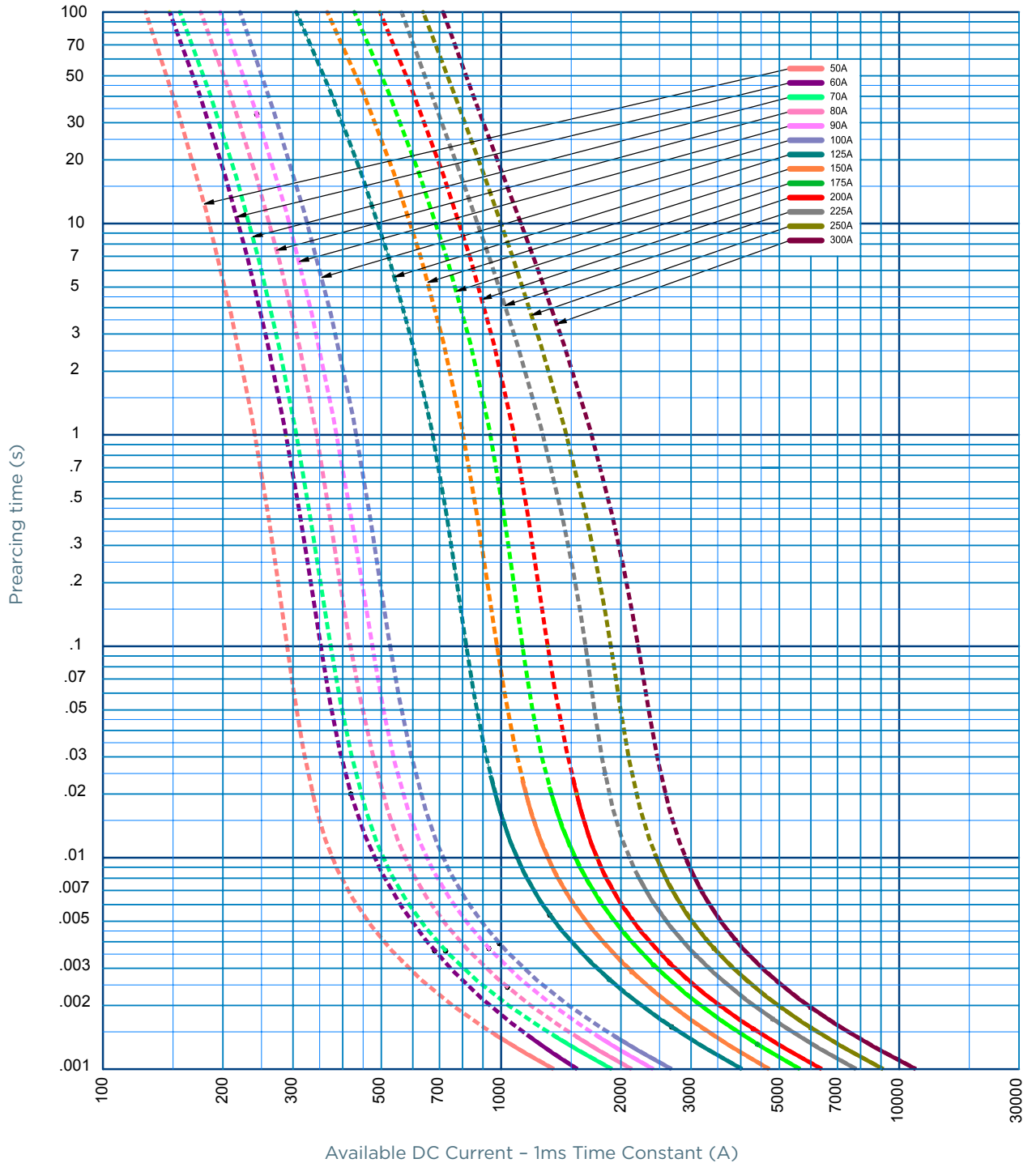
MEV100C, -S



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TIME CURRENT CHARACTERISTIC CURVES

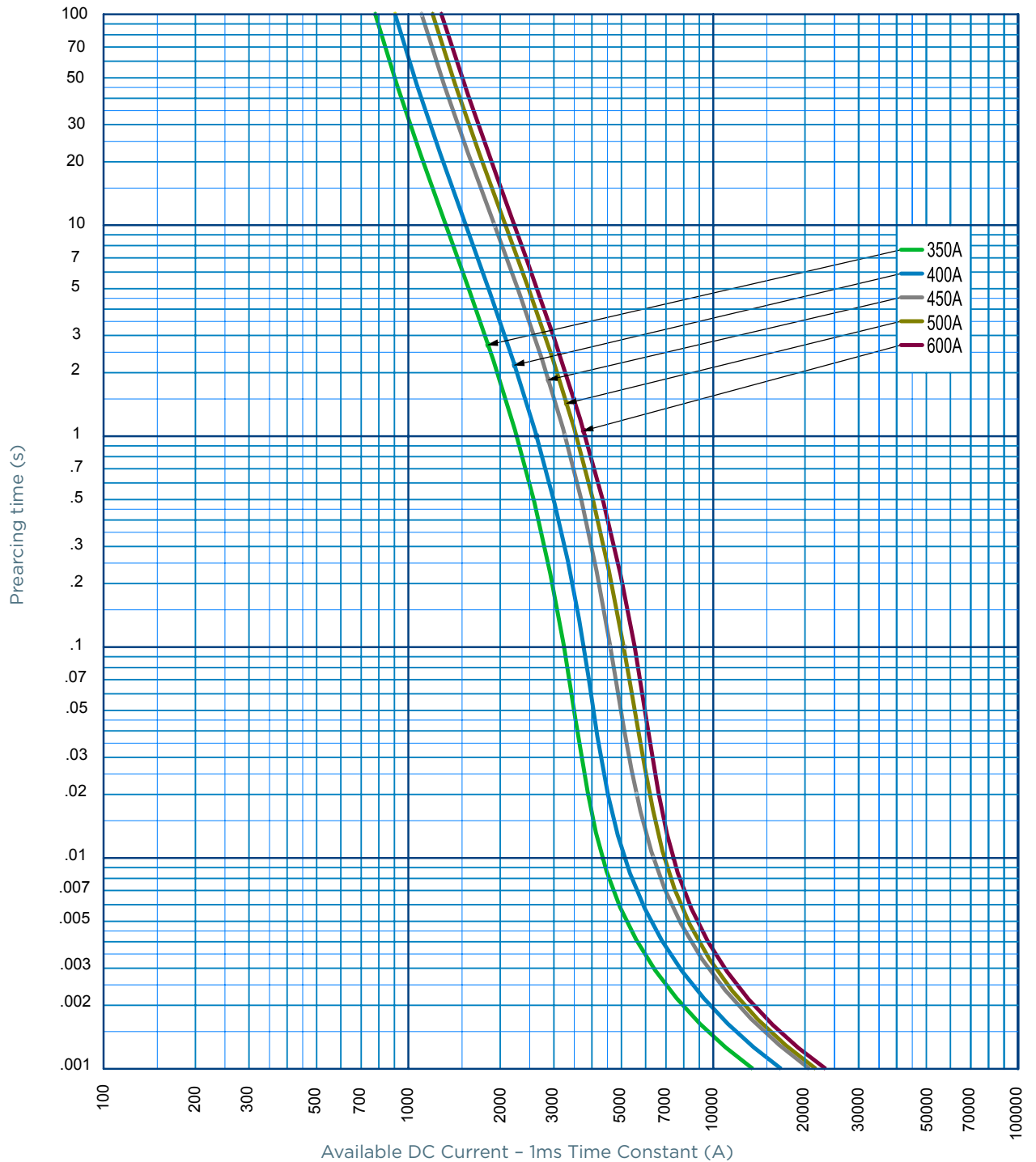
MEV100A



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## TIME CURRENT CHARACTERISTIC CURVES

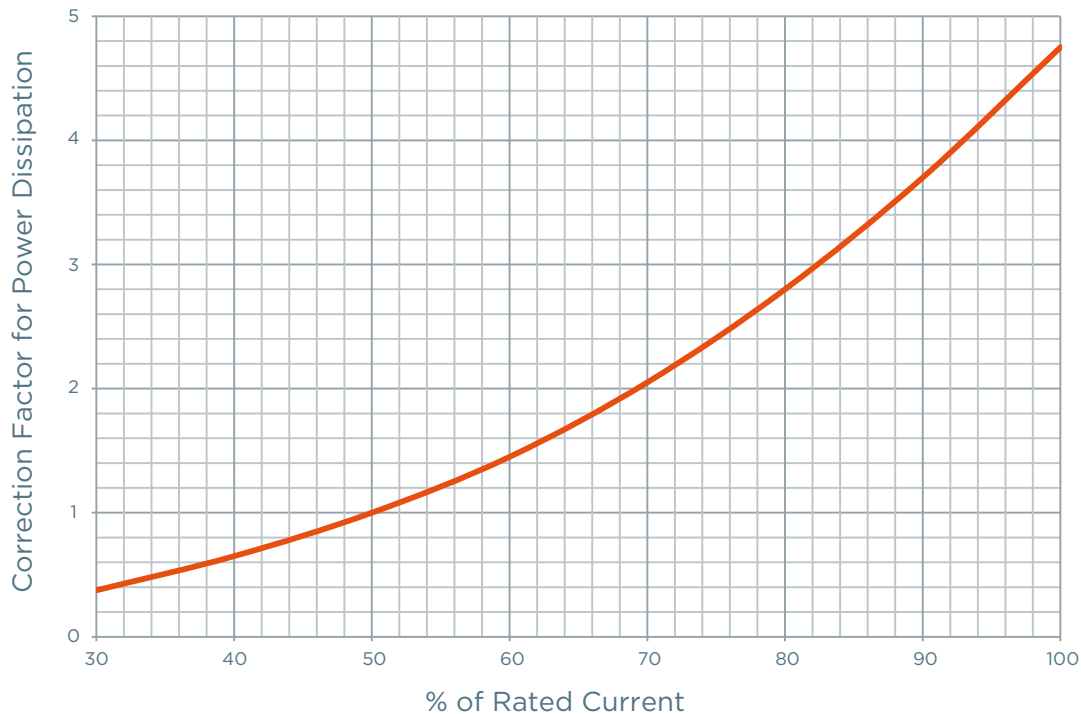
### MEV100J



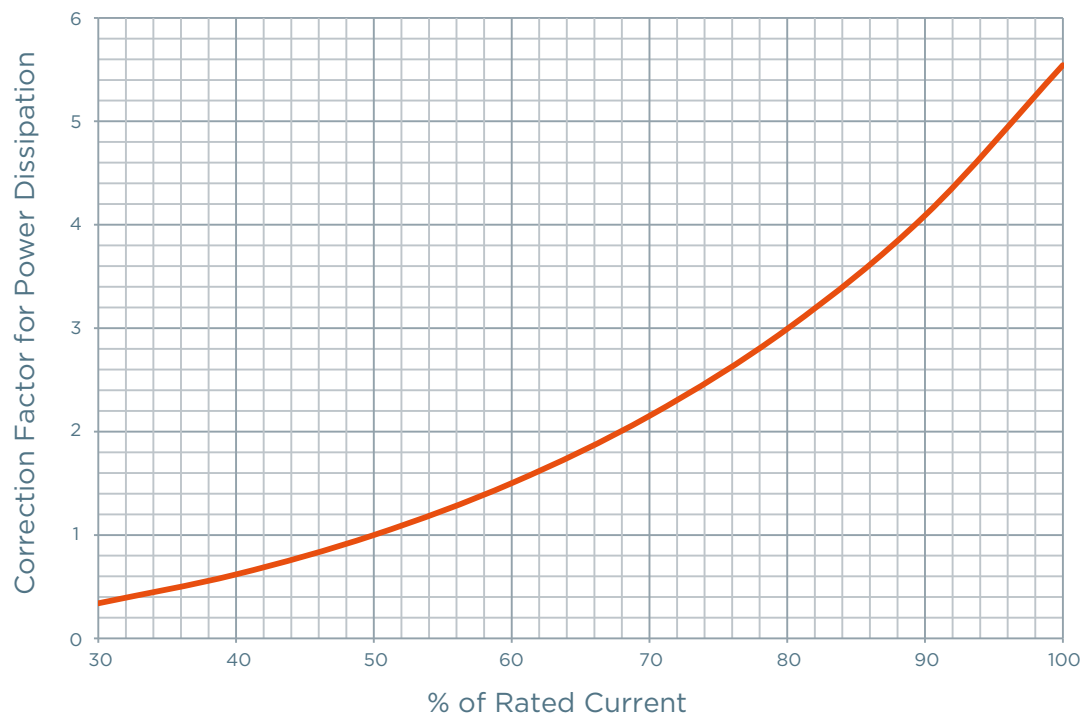
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## POWER DISSIPATION

### MEV100C, -S



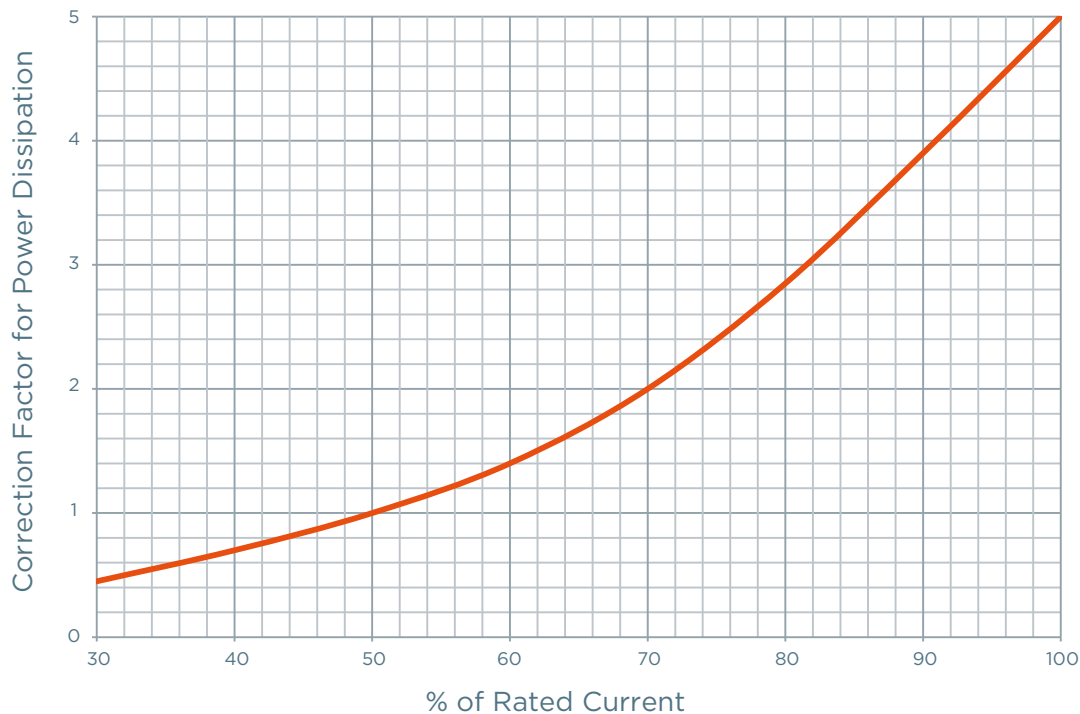
### MEV100A



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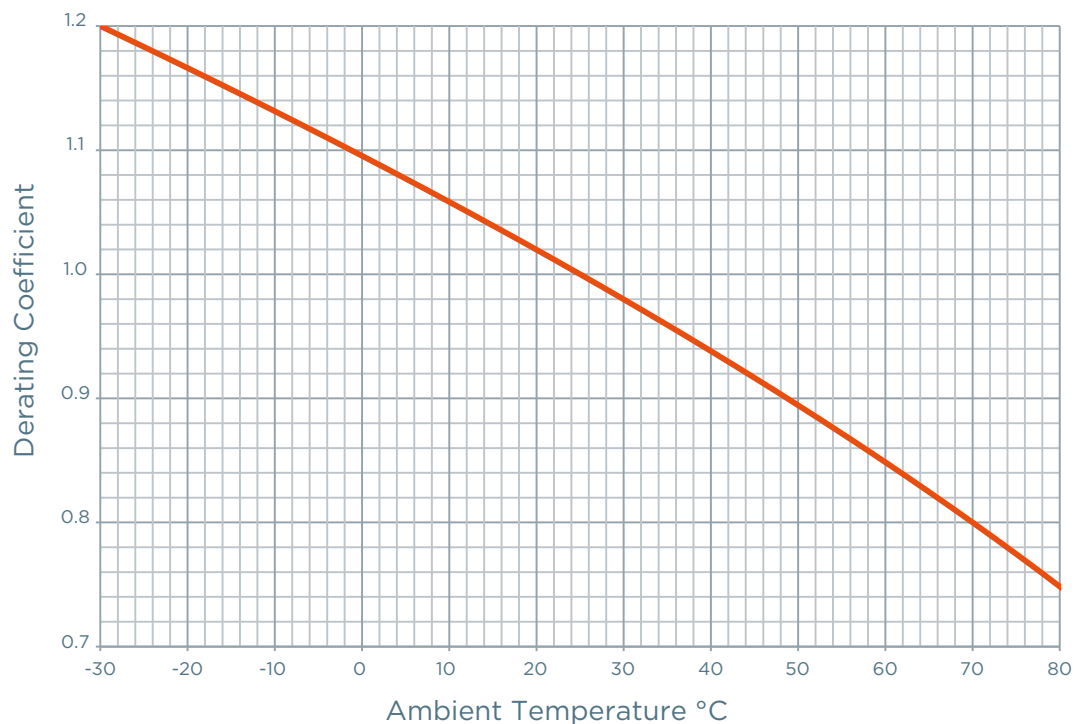
## POWER DISSIPATION

### MEV100J



## TEMPERATURE DERATING

### MEV100C, MEV100C-S & MEV100A & MEV100J



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## DIMENSIONS

### Recommended Mounting Torque and Bolt Size

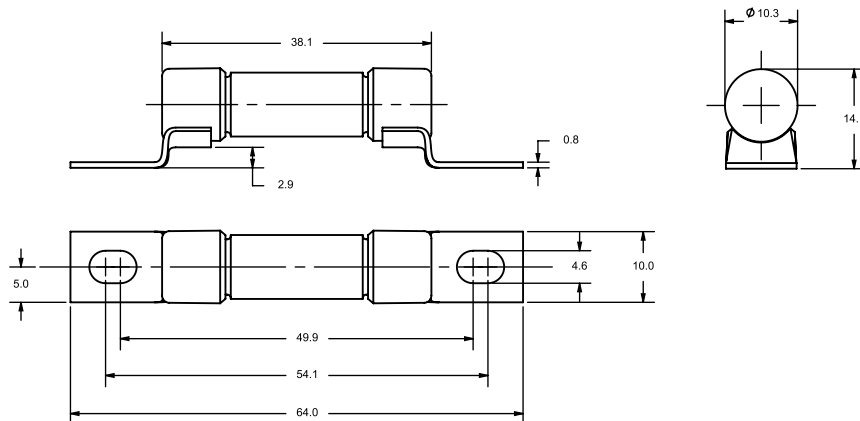
Fuse Type	Mounting Style	Fuse Rating	Thread Size	Tightening Torque	
				N-m	in-lbs
MEV100C	Surface mount (-S)	8 - 30A	1/4-20	4	50
MEV100A	Blade mount (-4)	50 - 200A	5/16-18	10	90
		225 - 300A	3/8-24	20	180
MEV100J	Blade mount (-4Y)	50 - 200A	M8	13	115
		350 - 400A	3/8-24	20	180
MEV100J	Blade mount (-4)	450 - 600A	1/2-20	42	375

### MEV100C Ferrule Fuse (8-30A)



Dimensions in mm

### MEV100C -S Surface Mount Fuse (8-30A)



Dimensions in mm

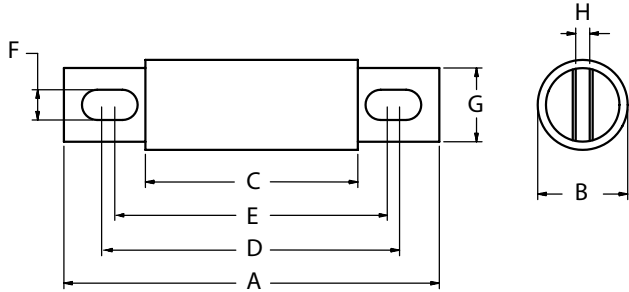
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## DIMENSIONS

### MEV100A (50-300A) & MEV100J (350-600A)



Dimensions in mm

Article Number	A	B	C	D	E	F	G	H
MEV100A50-4 to 100-4 (inch. / mm)	4,38 111	1 25,4	2,88 73	3,69 93,6	3,5 88,9	0,31 7,9	0,75 19	0,13 3,2
MEV100A50-4Y to 100-4Y (inch. / mm)	4,38 111	1 25,4	2,88 73	3,69 93,6	3,5 88,9	0,35 9	0,75 19	0,13 3,2
MEV100A125-4 to 200-4 (inch. / mm)	4,38 111	1,22 31	2,88 73	3,69 93,6	3,56 90,5	0,31 7,9	1 25,4	0,19 4,8
MEV100A125-4Y to 200-4Y (inch. / mm)	4,38 111	1,22 31	2,88 73	3,69 93,6	3,56 90,5	0,35 9	1 25,4	0,19 4,8
MEV100A225-4 to 300-4 (inch. / mm)	5,09 129	1,5 38,1	2,84 72,2	4,16 106	3,53 89,7	0,4 10,3	1 25,4	0,25 6,4
MEV100J350 to 400 (inch. / mm)	7,13 181	2,13 54	3,38 85,9	5,81 137,2	5,25 129,5	0,41 10,4	1,63 41,4	0,25 6,4
MEV100J450 to 600 (inch. / mm)	8 203,2	2 50,8	3,75 95,3	6,19 157,2	5,81 147,6	0,53 13,5	2 50,8	0,38 9,7

## ACCESSORIES



P243C



1SC250

### Fuse blocks

Catalog number	Item number	Rated DC voltage	Application DC Fuses	Contact Materials	Tightening torque (max.)	Weight
<b>P243 Fuse blocks</b>						
P243C	P243C	1000 V	MEV100A fuses from 35 to 200A	Tin-plated Copper	4.1 N-m	0.12 kg
<b>P266 Fuse blocks</b>						
P266A	P266A	1000 V	MEV100A fuses from 225 to 600A	Stainless Steel	20.3 N-m	0.39 kg
<b>1SC/IMSC Modular Fuse blocks</b>						
1SCM8	1SCM8	1000 V	MEV70A, MEV100A fuses up to 400A	Zinc-Plated Steel	6.8 N-m	68 g
1SC250	1SC250	1000 V	MF-A, MEV70A, MEV100A fuses up to 400A	Zinc-Plated Steel	6.9 N-m	68 g
1SC375	1SC375	1000 V	MF-A, MEV70A, MEV100A fuses up to 800A	Zinc-Plated Steel	21.7 N-m	68 g
1SCM10	1SCM10	1000 V	MF-A, MEV70A, MEV100A fuses up to 800A	Zinc-Plated Steel	21.5 N-m	68 g