

# EVpack-fuse MEV100

1,000 VDC Max., 8 - 300A

## BATTERY FUSES

### BATTERY PACK FUSES



**EVpack-fuse** line-up belongs to Mersen's DC Over-Current protection (O.C.P.) portfolio specifically developed to address on-board electric and hybrid vehicles applications.

**EVpack-fuse** provides the ultimate protection by offering reliable clearing of DC fault currents in challenging environments and complies with the high-quality requirements of the automotive industry.

The MEV100C has specifically engineered and tested to provide best-in-class protection performance for auxiliary circuits: Up to 1000VDC, Current rating (In)= 5 to 30A, Interrupting Rating (IR) = 50kA, L/R  $\leq$  1ms, Minimum Breaking Capacity (MBC) = 2xIn for a perfect matching with cable protection.

The MEV100A has been specifically engineered and tested to provide best-in-class protection performance for main battery and on-board charging protection: Up to 1000VDC, Current rating (In)= 60 to 300A, Interrupting Rating (IR) = 100kA, L/R  $\leq$  2.5ms, Minimum Breaking Capacity (MBC) < 3kA or a perfect matching with DC contactor.

## TECHNICAL DATA OVERVIEW

Voltage DC	1000 VDC
L/R	$\leq$ 3.7ms
Ampere Range (A)	8 ... 300 A
I.R	50kA MEV100C 100kA MEV100A

## 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): 8 to 300A
- Interrupting Rating (IR): 20kA @ 1,000 VDC, L/R  $\leq$  1ms
- Self Certified IR = 100kA, 1000VDC, L/R  $\leq$  3.7ms (UL Recognition Pending)

## APPLICATIONS

- EV/HEV
- Battery pack protection
- Battery Disconnect Unit (BDU)
- Battery Management System (BMS)
- Battery Junction Box for auxiliaries
- On-board charger

## STANDARDS

- Complies to Automotive IATF 16949:2016 Quality System
- Power Cycling & Vibration JASO D622



EV pack-fuse

## PRODUCT RANGE

### MEV100C -S Surface Mount



MEV100C30-S

Catalog number	Rated voltage DC	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	50 kA	0.23 W	16 A	100 s	80	9.9 g
MEV100C10-S	1000 V	10 A	50 kA	0.32 W	20 A	100 s	80	9.9 g
MEV100C12-S	1000 V	12 A	50 kA	0.42 W	24 A	100 s	80	9.9 g
MEV100C15-S	1000 V	15 A	50 kA	0.63 W	30 A	100 s	80	9.9 g
MEV100C20-S	1000 V	20 A	50 kA	0.92 W	40 A	100 s	80	9.9 g
MEV100C25-S	1000 V	25 A	50 kA	1.1 W	50 A	100 s	80	9.9 g
MEV100C30-S	1000 V	30 A	50 kA	1.2 W	60 A	100 s	80	9.9 g

### MEV100A Round Body Fuse



MEV100A300-4

Catalog number	Rated voltage DC	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

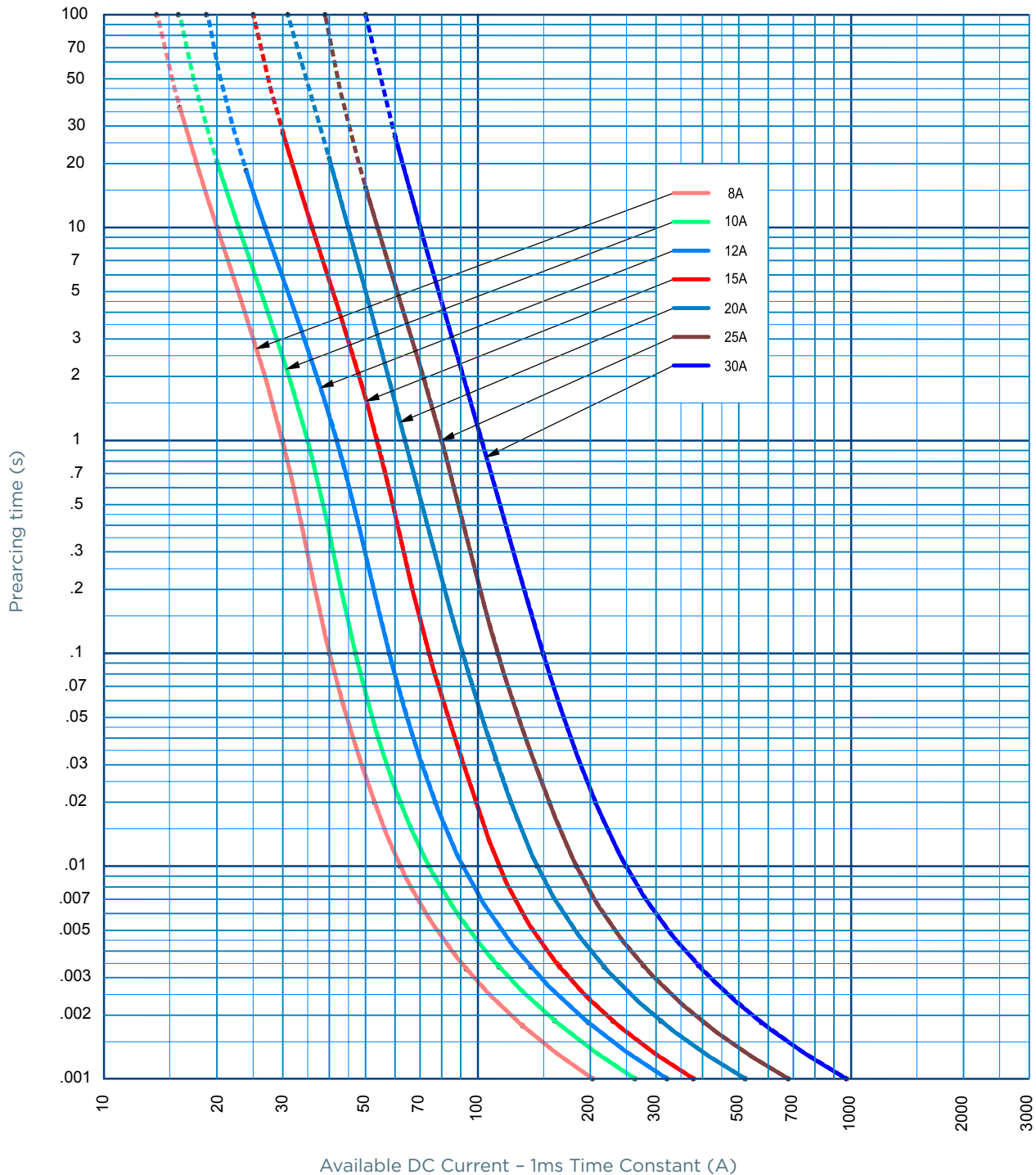


MEV100A50-4Y

Catalog number	Rated voltage DC	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

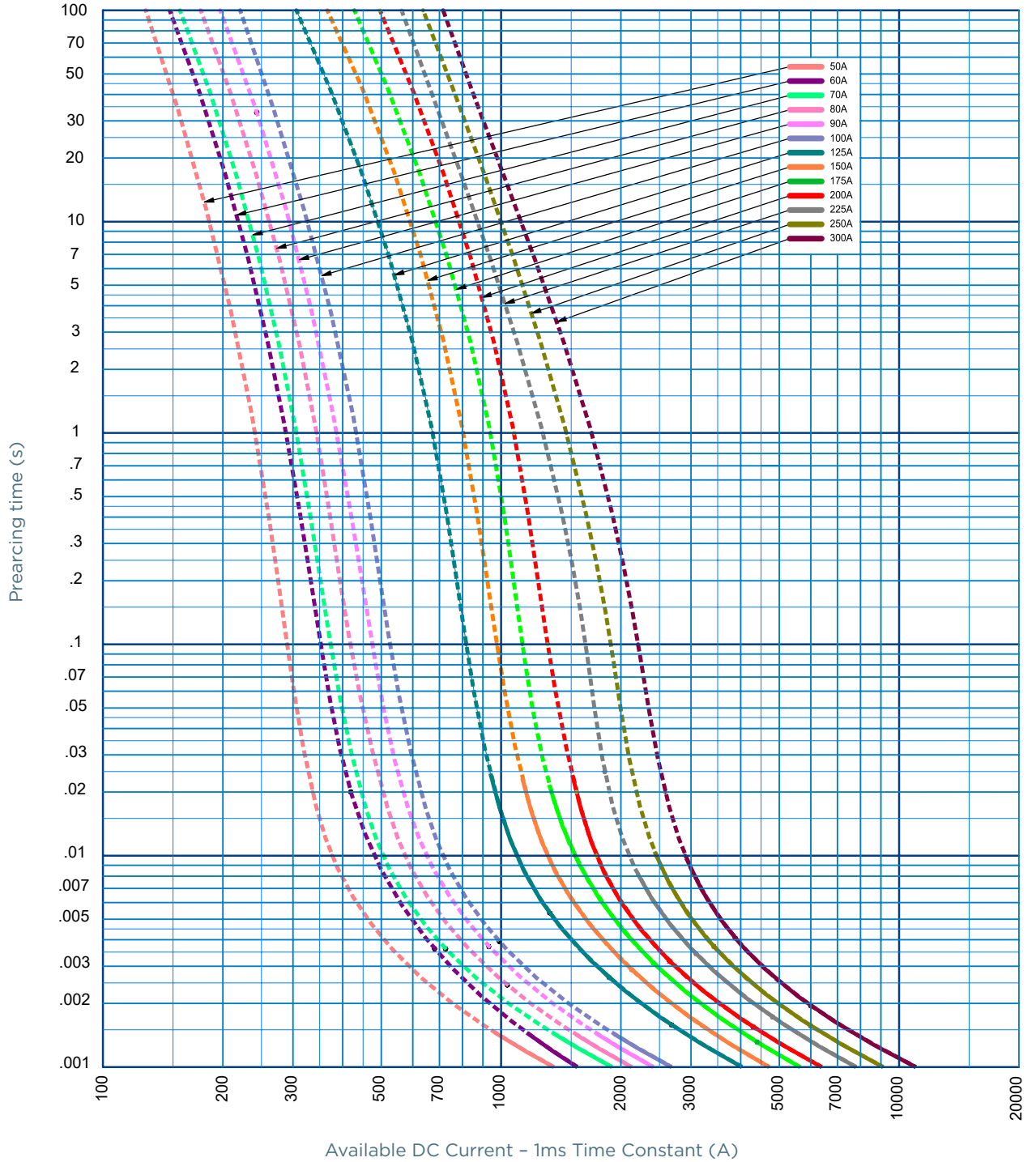
## TIME CURRENT CHARACTERISTIC CURVES

### MEV100C-S



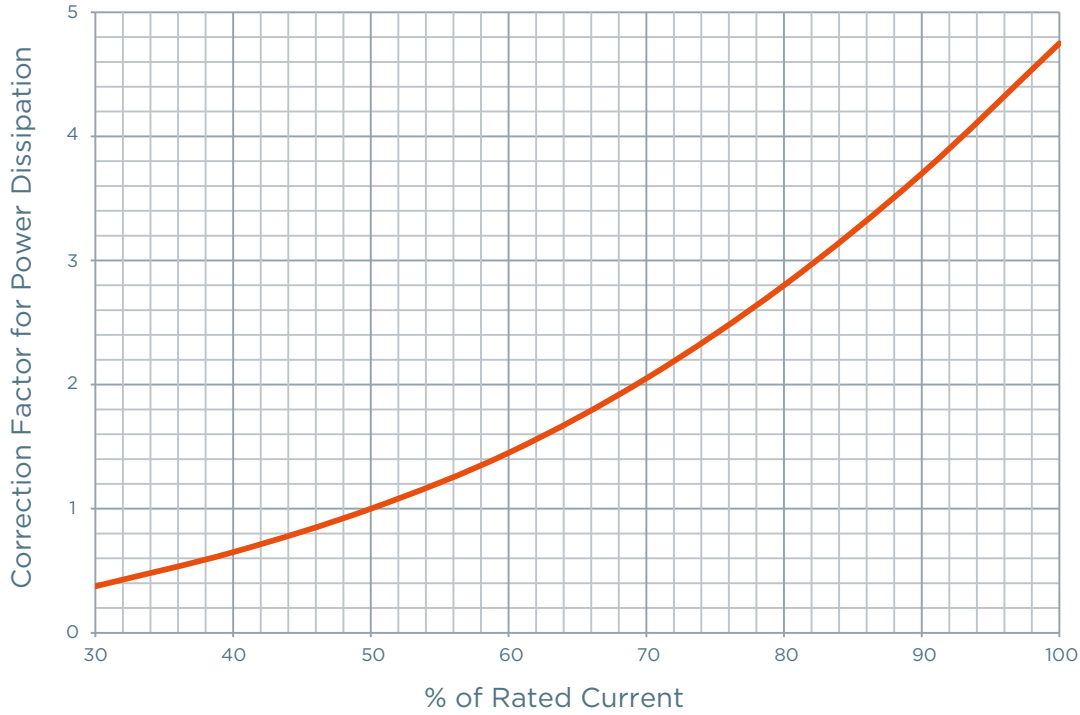
## TIME CURRENT CHARACTERISTIC CURVES

### MEV100A

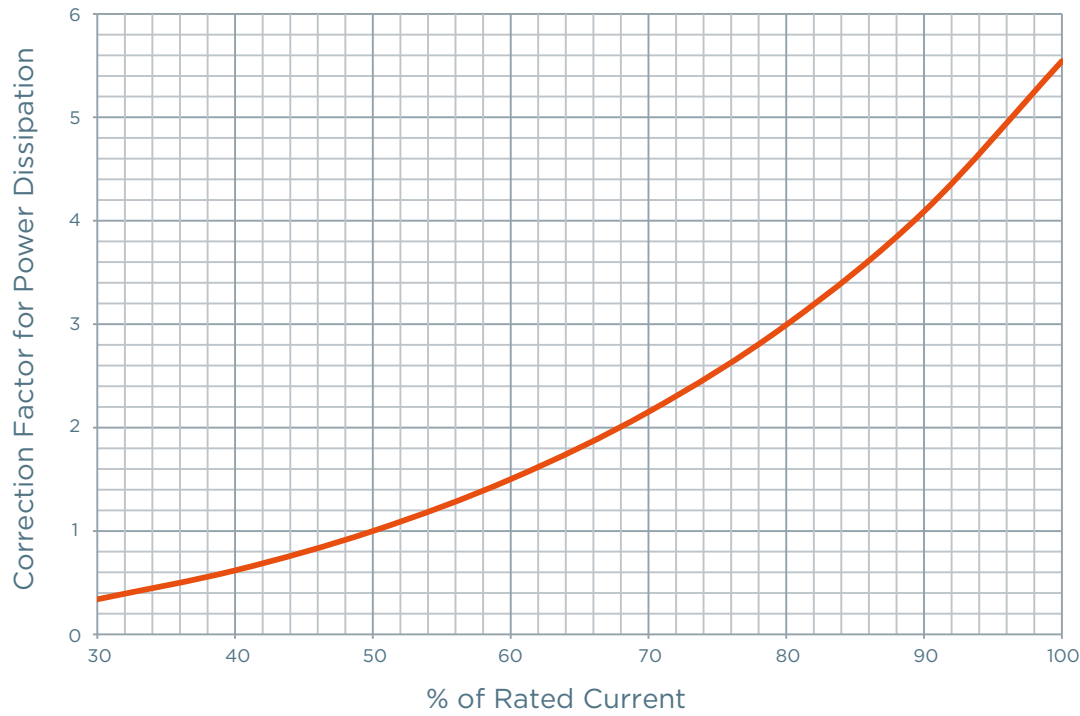


## POWER DISSIPATION

### MEV100C-S

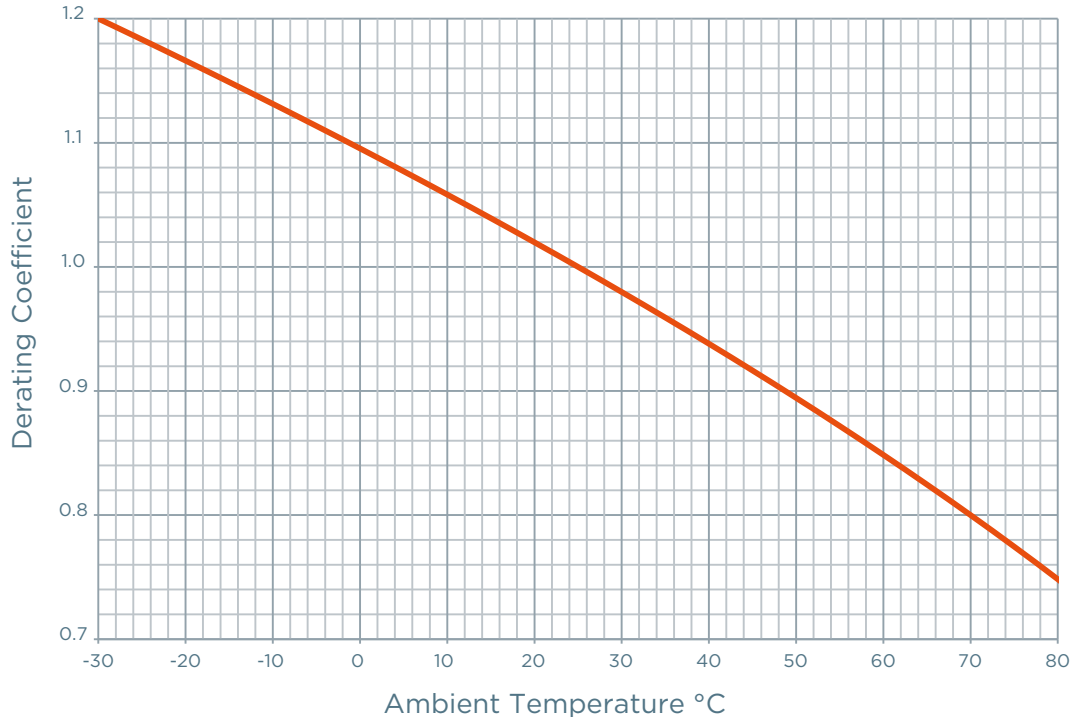


### MEV100A



## TEMPERATURE DERATING

### MEV100C-S & MEV100A



## DIMENSIONS

### Recommended Mounting Torque and Bolt Size

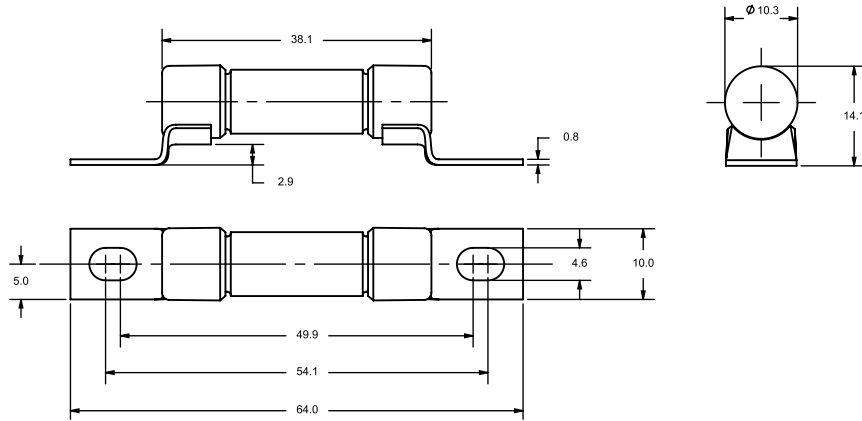
Fuse Type	Mounting Style	Fuse Rating	Thread Size	Tightening Torque	
				N-m	in-lbs
<b>MEV100C</b>	Surface mount (-S)	8 - 30A	8-32 or M4 Bolt	4.7	42
<b>MEV100A</b>	Blade mount (-4)	50 - 200A	5/16-18	10	90
		225 - 300A	3/8-24	20	180
	Blade mount (-4Y)	50 - 200A	M8	13	115

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## DIMENSIONS

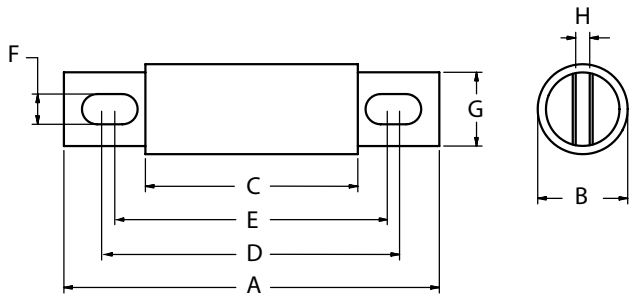
### MEV100C -S Surface Mount Fuse (8-30A)



Dimensions in mm

### MEV100A (50-300A)

Dimensions in mm



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