EVpack-fuse MEV55C & MEV50A

500VDC max, L/R less than 2.5ms, 5 - 800A

BATTERY FUSES

BATTERY PACK FUSES



EVpack-fure 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-fure 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 MEV55C has specifically engineered and tested to provide best-in-class protection performance for auxiliary circuits: Up to 550VDC, Current rating (In)= 5 to 50A, Interrupting Rating (IR) = 20kA,L/R \leq 1ms, Minimum Breaking Capacity (MBC) as low as 2xIn for a perfect matching with cable protection.

The MEV50A has been specifically engineered and tested to provide best-in-class protection performance for main battery and on-board charging protection: Up to 500VDC, Current rating (In)= 60 to 800A, Interrupting Rating (IR) = 30kA, L/R \leq 2.5ms, Minimum Breaking Capacity (MBC) as low as 2xIn for a perfect matching with DC contactor.

TECHNICAL DATA OVERVIEW

Voltage	Up to 550VDC
L/R	≤ 1ms MEV55C ≤ 2.5ms MEV50A
Ampere Range (A)	5 800 A
Operating temperature	-40°C - 125°C
I.R	Up to 30kA

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): 5 to 800A
- Interrupting Rating (IR) for MEV55C: 20kA @550VDC, L/R \leq 1ms
- Interrupting Rating (IR) for MEV50A: 30kA @500VDC, L/R \leq 2.5ms

APPLICATIONS

- EV/HEV
- Battery pack protection
- Battery Disconnect Unit (BDU)
- Battery Management Systm (BMS)
- Battery Junction Box for auxiliaries
- On-Board Charging

STANDARDS

- Complies to Automotive IATF 16949:2016 Quality System
- IEC 60 269-4
- ISO 8820-8



Battery Fuses / DS-DCMEV5055-03-0324-EN





PRODUCT RANGE



MEV55C Ferrule Fuse

MEV55C30

Catalog number	Rated voltage	Rated current In	DC Min. breaking capacity (MBC)	DC Max. time to clear MBC	Power dissi- pation at 0.5 I _n	Package	Weight
MEV55C5	600VAC/550VDC	5 A	10 A	10 s	0.25 W	80	7.5 g
MEV55C6	600VAC/550VDC	6 A	12 A	10 s	0.29 W	80	7.5 g
MEV55C7	600VAC/550VDC	7 A	14 A	10 s	0.31 W	80	7.5 g
MEV55C8	600VAC/550VDC	8 A	16 A	10 s	0.4 W	80	7.5 g
MEV55C10	600VAC/550VDC	10 A	20 A	10 s	0.45 W	80	7.5 g
MEV55C12	600VAC/550VDC	12 A	24 A	10 s	0.47 W	80	7.5 g
MEV55C15	600VAC/550VDC	15 A	30 A	100 s	0.49 W	80	7.5 g
MEV55C20	600VAC/550VDC	20 A	40 A	100 s	0.56 W	80	7.5 g
MEV55C25	600VAC/550VDC	25 A	50 A	100 s	0.63 W	80	7.5 g
MEV55C30	600VAC/550VDC	30 A	60 A	100 s	0.68 W	80	7.5 g
MEV55C30/40	600VAC/550VDC	40 A	150 A	10 s	0.63 W	80	7.5 g
MEV55C30/50	600VAC/550VDC	50 A	180 A	10 s	1 W	80	7.5 g

MEV55C -S Surface Mount Fuse

MEV55C -P PC Board Mount



MEV55C30-S

Rated voltage	Rated current In	DC Min. breaking capacity (MBC)	DC Max. time to clear MBC	Power dissi- pation at 0.5 In	Package	Weight
600VAC/550VDC	5 A	10 A	10 s	0.25 W	80	9.9 g
600VAC/550VDC	6 A	12 A	10 s	0.29 W	80	9.9 g
600VAC/550VDC	7 A	14 A	10 s	0.31 W	80	9.9 g
600VAC/550VDC	8 A	16 A	10 s	0.4 W	80	9.9 g
600VAC/550VDC	10 A	20 A	10 s	0.45 W	80	9.9 g
600VAC/550VDC	12 A	24 A	10 s	0.47 W	80	9.9 g
600VAC/550VDC	15 A	30 A	100 s	0.49 W	80	9.9 g
600VAC/550VDC	20 A	40 A	100 s	0.56 W	80	9.9 g
600VAC/550VDC	25 A	50 A	100 s	0.63 W	80	9.9 g
600VAC/550VDC	30 A	60 A	100 s	0.68 W	80	9.9 g
600VAC/550VDC	40 A	150 A	10 s	0.63 W	80	9.9 g
600VAC/550VDC	50 A	180 A	10 s	1 W	80	9.9 g
	500VAC/550VDC 500VAC/550VDC 500VAC/550VDC 500VAC/550VDC 500VAC/550VDC 500VAC/550VDC 500VAC/550VDC 500VAC/550VDC 500VAC/550VDC 500VAC/550VDC 500VAC/550VDC	Nated voltage In S00VAC/550VDC 5 A S00VAC/550VDC 6 A S00VAC/550VDC 7 A S00VAC/550VDC 7 A S00VAC/550VDC 10 A S00VAC/550VDC 10 A S00VAC/550VDC 12 A S00VAC/550VDC 15 A S00VAC/550VDC 20 A S00VAC/550VDC 25 A S00VAC/550VDC 30 A S00VAC/550VDC 40 A	In Dreaking capacity (MBC) S00VAC/550VDC 5 A 10 A S00VAC/550VDC 6 A 12 A S00VAC/550VDC 7 A 14 A S00VAC/550VDC 8 A 16 A S00VAC/550VDC 10 A 20 A S00VAC/550VDC 12 A 24 A S00VAC/550VDC 15 A 30 A S00VAC/550VDC 20 A 40 A S00VAC/550VDC 25 A 50 A S00VAC/550VDC 30 A 60 A S00VAC/550VDC 25 A 50 A S00VAC/550VDC 30 A 60 A S00VAC/550VDC 40 A 150 A	Nated voltage In Dreaking capacity (MBC) clear MBC S00VAC/550VDC 5 A 10 A 10 s S00VAC/550VDC 6 A 12 A 10 s S00VAC/550VDC 7 A 14 A 10 s S00VAC/550VDC 7 A 14 A 10 s S00VAC/550VDC 8 A 16 A 10 s S00VAC/550VDC 10 A 20 A 10 s S00VAC/550VDC 12 A 24 A 10 s S00VAC/550VDC 15 A 30 A 100 s S00VAC/550VDC 25 A 50 A 100 s S00VAC/550VDC 25 A 50 A 100 s S00VAC/550VDC 30 A 60 A 100 s S00VAC/550VDC 25 A 50 A 100 s S00VAC/550VDC 30 A 60 A 100 s S00VAC/550VDC 40 A 150 A 10 s	Nated voltage In Dreaking capacity (MBC) clear MBC pation at 0.5 In S00VAC/550VDC 5 A 10 A 10 s 0.25 W S00VAC/550VDC 6 A 12 A 10 s 0.29 W S00VAC/550VDC 7 A 14 A 10 s 0.31 W S00VAC/550VDC 7 A 14 A 10 s 0.4 W S00VAC/550VDC 8 A 16 A 10 s 0.4 W S00VAC/550VDC 10 A 20 A 10 s 0.45 W S00VAC/550VDC 12 A 24 A 10 s 0.47 W S00VAC/550VDC 15 A 30 A 100 s 0.49 W S00VAC/550VDC 20 A 40 A 100 s 0.63 W S00VAC/550VDC 25 A 50 A 100 s 0.63 W S00VAC/550VDC 30 A 60 A 100 s 0.63 W S00VAC/550VDC 40 A 150 A 10 s 0.63 W	Nated voltage In Dreaking capacity (MBC) clear MBC pation at 0.5 In Package 300 VAC/550 VDC 5 A 10 A 10 s 0.25 W 80 300 VAC/550 VDC 6 A 12 A 10 s 0.29 W 80 300 VAC/550 VDC 7 A 14 A 10 s 0.31 W 80 300 VAC/550 VDC 7 A 14 A 10 s 0.4 W 80 300 VAC/550 VDC 8 A 16 A 10 s 0.4 W 80 300 VAC/550 VDC 10 A 20 A 10 s 0.45 W 80 300 VAC/550 VDC 12 A 24 A 10 s 0.49 W 80 300 VAC/550 VDC 15 A 30 A 100 s 0.49 W 80 300 VAC/550 VDC 25 A 50 A 100 s 0.63 W 80 300 VAC/550 VDC 25 A 50 A 100 s 0.63 W 80 300 VAC/550 VDC 20 A 40 A 100 s 0.68 W 80 300 VAC/550 VDC 30 A

E Stantin

MEV55C30-P

Catalog number	Rated voltage	Rated current In	DC Min. breaking capacity (MBC)	DC Max. time to clear MBC	Power dissi- pation at 0.5 In	Package	Weight
MEV55C5-P	600VAC/550VDC	5 A	10 A	10 ms	0.25 W	100	9.9 g
MEV55C6-P	600VAC/550VDC	6 A	12 A	10 s	0.29 W	100	9.9 g
MEV55C7-P	600VAC/550VDC	7 A	14 A	10 s	0.31 W	100	9.9 g
MEV55C8-P	600VAC/550VDC	8 A	16 A	10 s	0.4 W	100	9.9 g
MEV55C10-P	600VAC/550VDC	10 A	20 A	10 s	0.45 W	100	9.9 g
MEV55C12-P	600VAC/550VDC	12 A	24 A	10 s	0.5 W	100	9.9 g
MEV55C15-P	600VAC/550VDC	15 A	30 A	100 s	0.45 W	100	9.9 g
MEV55C20-P	600VAC/550VDC	20 A	40 A	100 s	0.54 W	100	9.9 g
MEV55C25-P	600VAC/550VDC	25 A	50 A	100 s	0.59 W	100	9.9 g
MEV55C30-P	600VAC/550VDC	30 A	60 A	100 s	0.65 W	100	9.9 g
MEV55C30/40-P	600VAC/550VDC	40 A	150 A	10 s	0.63 W	100	9.9 g
MEV55C30/50-P	600VAC/550VDC	50 A	180 A	10 s	1.1 W	100	9.9 g

Battery Fuses / DS-DCMEV5055-03-0324-EN





PRODUCT RANGE



MEV50A Size 38

MEV50A600-38G

Catalog number	Rated voltage DC	Rated current In	Pre-arcing I ² t	Clearing I²t at Rated Voltage	Power dissi- pation at 0.5 In	Min. breaking capacity (MBC)	Max. time to clear MBC	Package	Weight
MEV50A300-38G	500 V	300 A	18440 A²s	143000 A²s	7.3 W	1500 A	0.5 s	8	0.17 kg
MEV50A350-38G	500 V	350 A	25900 A ² s	190000 A²s	8.7 W	1750 A	0.5 s	8	0.17 kg
MEV50A400-38G	500 V	400 A	32780 A²s	255000 A ² s	10.6 W	2000 A	0.5 s	8	0.17 kg
MEV50A450-38G	500 V	450 A	40470 A ² s	310000 A ² s	12.7 W	2000 A	0.5 s	8	0.17 kg
MEV50A500-38G	500 V	500 A	51210 A²s	400000 A ² s	14.1 W	2000 A	1 s	8	0.17 kg
MEV50A600-38G	500 V	600 A	73750 A²s	565000 A²s	17.6 W	2000 A	3.3 s	8	0.17 kg



MEV50A Size 20

MEV50A150-20G



MEV50A Size 25

MEV50A Size 30

MEV50A150-25G



MEV50A400-30G

voltage DC	Rated current I _n		at Rated Voltage	pation at 0.5 In		to clear	Package	Weight
500 V	60 A	230 A²s	2000 A²s	1.7 W	120 A	6 s	30	41 g
500 V	70 A	390 A²s	3400 A²s	2.2 W	140 A	20 s	30	41 g
500 V	80 A	510 A²s	4400 A ² s	2.4 W	160 A	26 s	30	41 g
500 V	100 A	910 A²s	7800 A²s	3.6 W	200 A	33 s	30	41 g
500 V	125 A	1420 A²s	12500 A ² s	3.9 W	250 A	36 s	30	41 g
500 V	150 A	2050 A²s	17500 A²s	4.8 W	300 A	39 s	30	41 g
	voltage DC 500 V 500 V 500 V 500 V 500 V	voltage DC Rated current In 500 V 60 A 500 V 70 A 500 V 80 A 500 V 100 A 500 V 125 A	voltage DC Rated current In Pre-arcing it 500 V 60 A 230 A ² s 500 V 70 A 390 A ² s 500 V 80 A 510 A ² s 500 V 100 A 910 A ² s 500 V 125 A 1420 A ² s	voltage DC Rated current In Pre-arcing I²t at Rated Voltage 500 V 60 A 230 A²s 2000 A²s 500 V 70 A 390 A²s 3400 A²s 500 V 70 A 390 A²s 3400 A²s 500 V 80 A 510 A²s 4400 A²s 500 V 100 A 910 A²s 7800 A²s 500 V 125 A 1420 A²s 12500 A²s	voltage DC Rated current In Pre-arcing it at Rated Voltage pation at 0.5 In 500 V 60 A 230 A²s 2000 A²s 1.7 W 500 V 70 A 390 A²s 3400 A²s 2.2 W 500 V 80 A 510 A²s 4400 A²s 2.4 W 500 V 100 A 910 A²s 7800 A²s 3.6 W 500 V 125 A 1420 A²s 12500 A²s 3.9 W	voltage DC Rated current In Pre-arcing it at Rated Voltage pation at 0.5 In Min. breaking capacity (MBC) 500 V 60 A 230 A²s 2000 A²s 1.7 W 120 A 500 V 70 A 390 A²s 3400 A²s 2.2 W 140 A 500 V 80 A 510 A²s 4400 A²s 2.4 W 160 A 500 V 100 A 910 A²s 7800 A²s 3.6 W 200 A 500 V 125 A 1420 A²s 12500 A²s 3.9 W 250 A	voltage DC Rated current In Pre-arcing it at Rated Voltage pation at 0.5 In Min. breaking capacity (MBC) to clear MBC 500 V 60 A 230 A²s 2000 A²s 1.7 W 120 A 6 s 500 V 70 A 390 A²s 3400 A²s 2.2 W 140 A 20 s 500 V 80 A 510 A²s 4400 A²s 2.4 W 160 A 26 s 500 V 100 A 910 A²s 7800 A²s 3.6 W 200 A 33 s 500 V 125 A 1420 A²s 12500 A²s 3.9 W 250 A 36 s	voltage DC Rated current In Pre-arcing it at Rated Voltage pation at 0.5 In Min. breaking capacity (MBC) to clear MBC Package 500 V 60 A 230 A²s 2000 A²s 1.7 W 120 A 6 s 30 500 V 70 A 390 A²s 3400 A²s 2.2 W 140 A 20 s 30 500 V 80 A 510 A²s 4400 A²s 2.4 W 160 A 26 s 30 500 V 100 A 910 A²s 7800 A²s 3.6 W 200 A 33 s 30 500 V 125 A 1420 A²s 12500 A²s 3.9 W 250 A 36 s 30

Catalog number	Rated voltage DC	Rated current In	Pre-arcing I ² t	Clearing I²t at Rated Voltage	Power dissi- pation at 0.5 In	Min. breaking capacity (MBC)	Max. time to clear MBC	Package	Weight
MEV50A100-25G	500 V	100 A	1420 A²s	12500 A²s	2.4 W	500 A	0.5 s	12	75 g
MEV50A125-25G	500 V	125 A	2790 A²s	24000 A²s	2.9 W	625 A	0.5 s	12	75 g
MEV50A150-25G	500 V	150 A	4610 A ² s	51000 A²s	3.1 W	750 A	0.5 s	12	75 g
MEV50A175-25G	500 V	175 A	6470 A²s	60500 A²s	3.7 W	875 A	0.5 s	12	75 g
MEV50A200-25G	500 V	200 A	8190 A ² s	70000 A²s	4.3 W	1000 A	0.5 s	12	75 g
MEV50A250-25G	500 V	250 A	12800 A²s	110000 A ² s	6.3 W	1250 A	0.5 s	12	75 g

Power dissi-Max. time to clear MBC Rated Clearing I²t at Rated Voltage Catalog number capacity (MBC) Package at 0.5 In MEV50A150-30G 500 V 150 A 4610 A²s 36500 A²s 3.5 W 750 A 0.5 s 0.1 kg 12 MEV50A200-30G 500 V 200 A 8190 A²s 65000 A²s 4.7 W 1000 A 0.5 s 0.1 kg 12 MEV50A250-30G 500 V 250 A 12800 A²s 105000 A²s 6.2 W 1250 A 0.5 s 12 0.1 kg MEV50A300-30G 500 V 300 A 18440 A²s 146000 A²s 7.5 W 1500 A 0.5 s 12 0.1 kg MEV50A350-30G 500 V 350 A 25900 A²s 205000 A²s 8.8 W 1750 A 0.5 s 12 0.1 kg MEV50A400-30G 500 V 400 A 32780 A²s 260000 A²s 10.9 W 2000 A 0.5 s 12 0.1 kg



MEV50A Size 45

Catalog number	Rated voltage DC	Rated current I _n	Pre-arcing I ² t	Clearing I ² t at Rated Voltage	Power dissi- pation at 0.5 In	Min. breaking capacity (MBC)	Max. time to clear MBC	Package	Weight
MEV50A400-45G	500 V	400 A	32780 A ² s	255000 A²s	10.7 W	2000 A	0.5 s	4	0.24 kg
MEV50A450-45G	500 V	450 A	40470 A ² s	310000 A²s	12.9 W	2000 A	0.5 s	4	0.24 kg
MEV50A500-45G	500 V	500 A	51210 A ² s	400000 A ² s	14.4 W	2000 A	1 s	4	0.24 kg
MEV50A550-45G	500 V	550 A	61970 A ² s	475000 A ² s	16.6 W	2000 A	1.5 s	4	0.24 kg
MEV50A600-45G	500 V	600 A	73750 A²s	565000 A²s	18.2 W	2000 A	3.5 s	4	0.24 kg
MEV50A700-45GMT	500 V	700 A	68050 A²s	651000 A²s	19.9 W	2500 A	6 s	4	0.27 kg
MEV50A800-45GMT	500 V	800 A	88890 A ² s	850000 A ² s	21.6 W	2500 A	16.5 s	4	0.27 kg

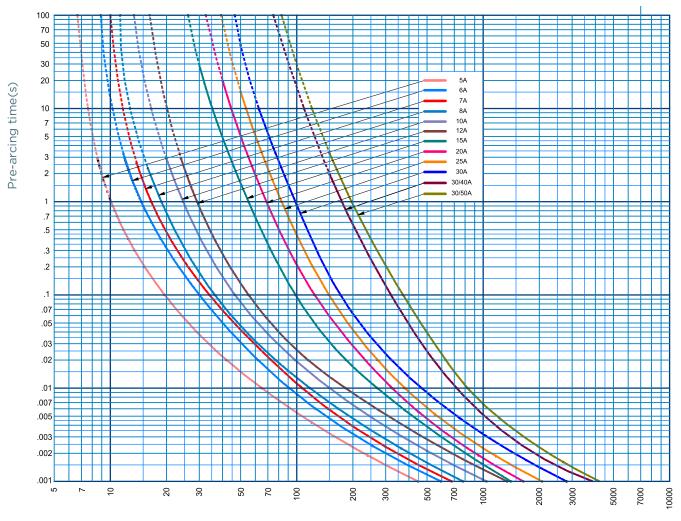
Power loss data is collected using IEC 60 269-1 standard conductor size and may differ from real world application

Battery Fuses / DS-DCMEV5055-03-0324-EN





MEV55C, -S, -P



Available DC Current - 1ms Time Constant (A)

Battery Fuses / DS-DCMEV5055-03-0324-EN

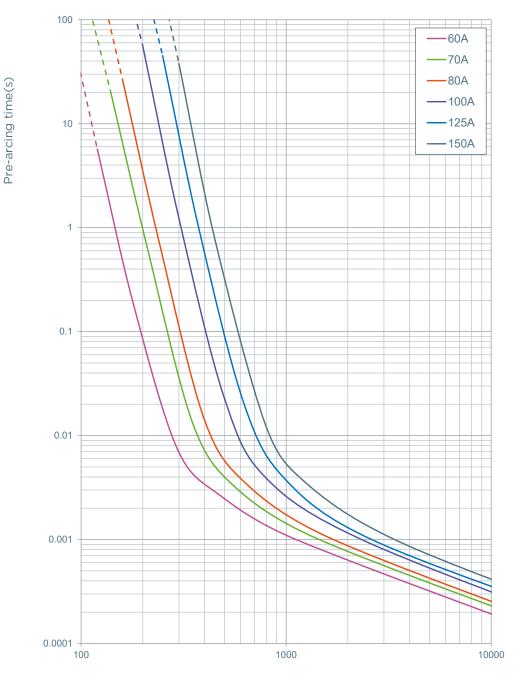


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4

MEV50A-20G (60A to 150A)



Available DC Current - 1ms Time Constant (A)

Battery Fuses / DS-DCMEV5055-03-0324-EN

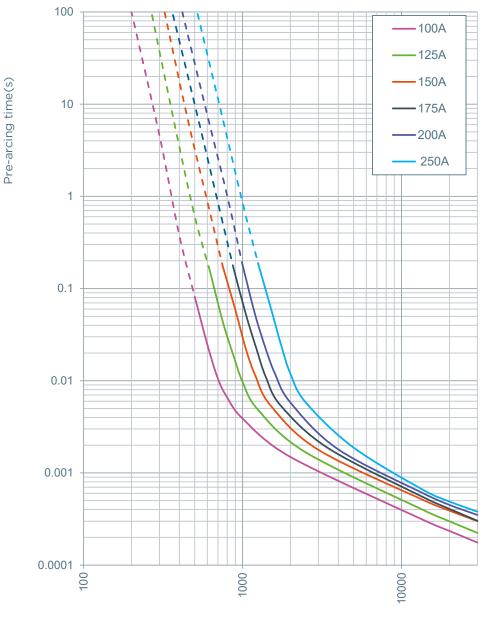


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5

MEV50A-25G (100A to 250A)



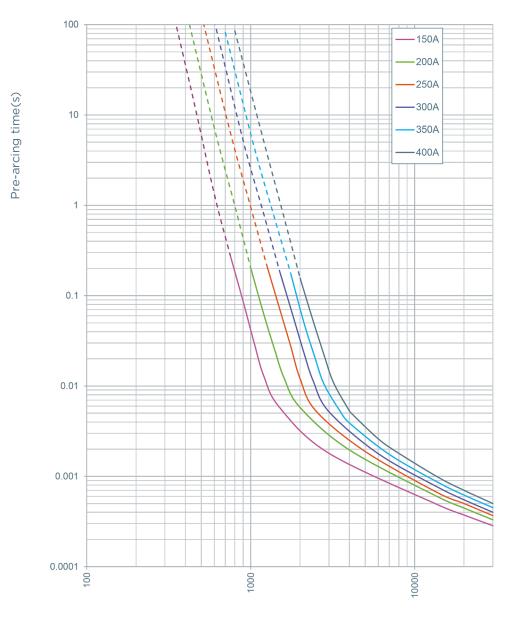
Available DC Current - 1ms Time Constant (A)

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MEV50A-30G (150A to 400A)



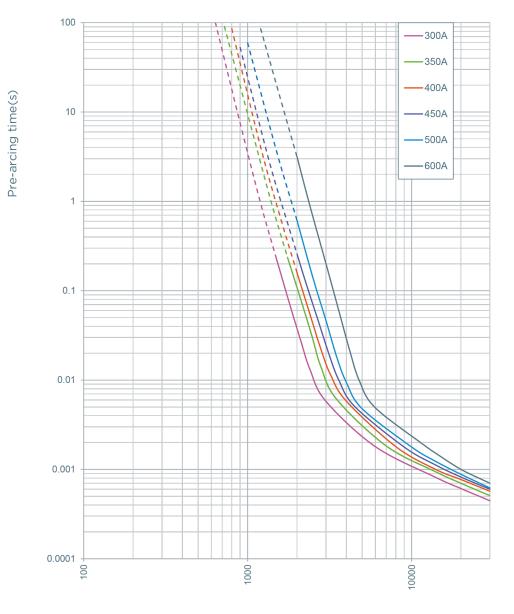
Available DC Current - 1ms Time Constant (A)

Battery Fuses / DS-DCMEV5055-03-0324-EN

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MEV50A-38G (300A to 600A)



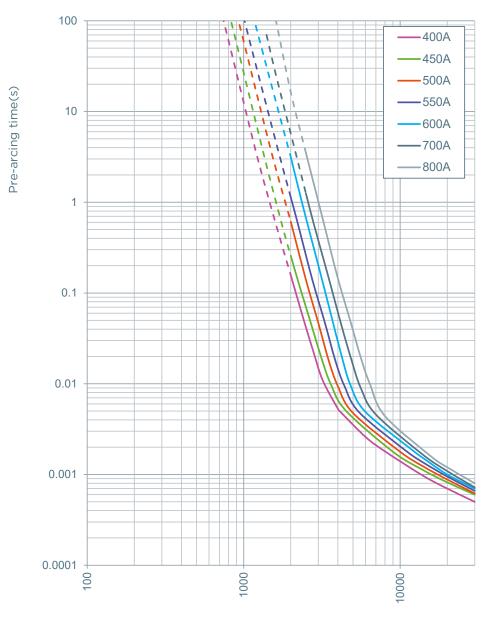
Available DC Current - 1ms Time Constant (A)

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MEV50A-45G (400A to 800A)



Available DC Current - 1ms Time Constant (A)

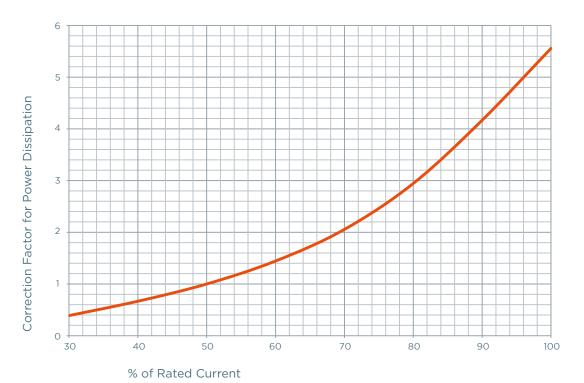
Battery Fuses / DS-DCMEV5055-03-0324-EN

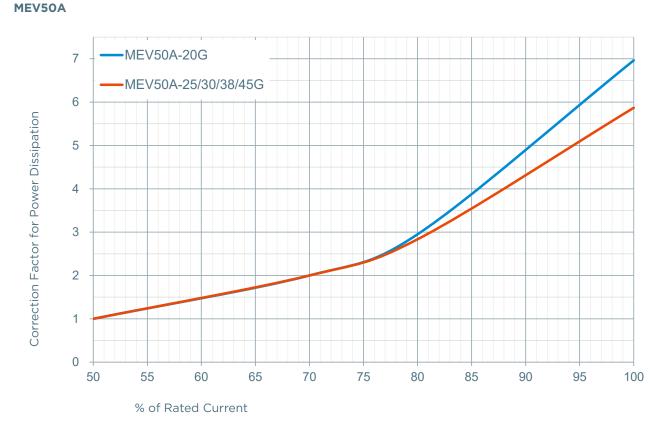
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POWER DISSIPATION

MEV55C, -S, -P





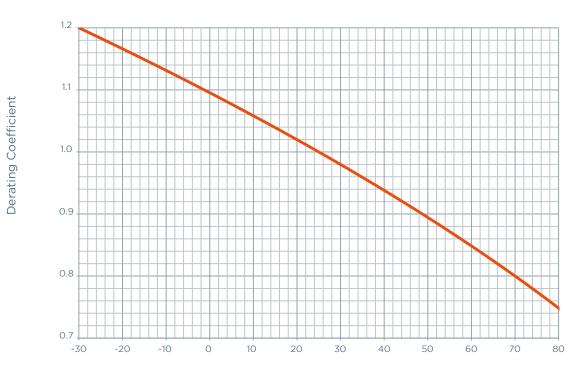
Battery Fuses / DS-DCMEV5055-03-0324-EN

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TEMPERATURE DERATING

MEV55C, -S, -P



Ambient Temperature C°

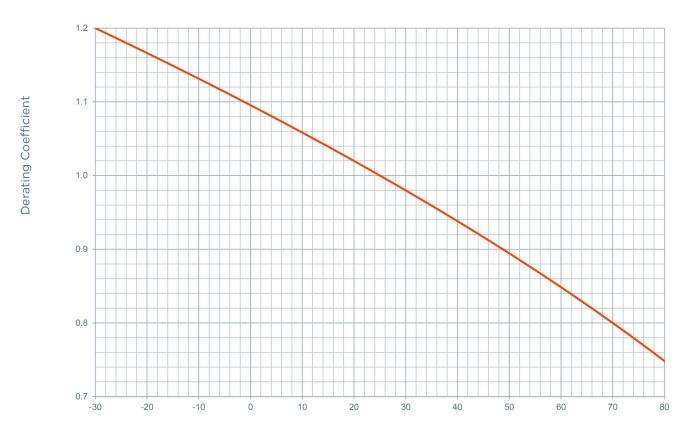
Battery Fuses / DS-DCMEV5055-03-0324-EN





TEMPERATURE DERATING

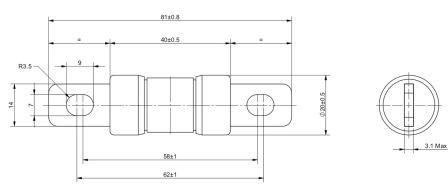
MEV50A



Ambient Temperature C°







Dimensions in mm

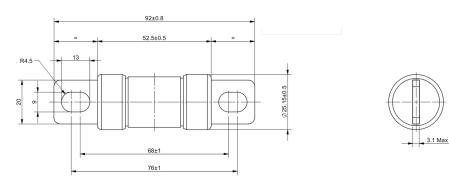
Battery Fuses / DS-DCMEV5055-03-0324-EN





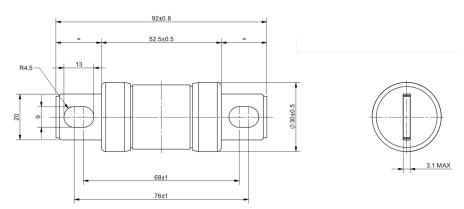
DIMENSIONS

MEV50A-25G



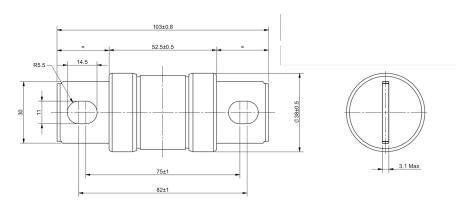
Dimensions in mm

MEV50A-30G



Dimensions in mm

MEV50A-38G



Dimensions in mm

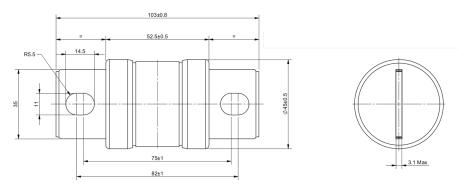
Battery Fuses / DS-DCMEV5055-03-0324-EN





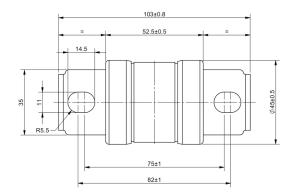
DIMENSIONS

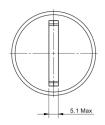
MEV50A-45G



Dimensions in mm

MEV50A-45GMT





Dimensions in mm

MEV55C Ferrule Fuse (5-50A)



Dimensions in mm



Battery Fuses / DS-DCMEV5055-03-0324-EN

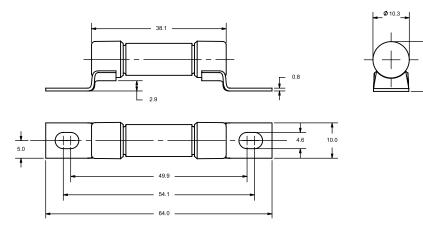
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EVpack-fuje MEV55C & MEV50A 500VDC max, L/R less than 2.5ms, 5 - 800A

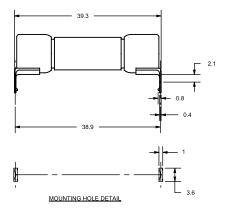
DIMENSIONS

MEV55C -S Surface Mount Fuse (5-50A)



Dimensions in mm

MEV55C -P PC Board Mount (5-50A)



15.7 6.9 **E** 2 2.9

Ø 10.3

Dimensions in mm

Recommended Mounting Torque and Bolt Size MEV50A

Fuse size	Mounting Torque	Bolt Size
Ø 20mm	6 N m	M6
Ø 25mm	15 N m	M8
Ø 30mm	15 N m	M8
Ø 38mm	20 N m	M10
Ø 45mm	20 N m	M10

Battery Fuses / DS-DCMEV5055-03-0324-EN





DIMENSIONS

Recommended Mounting Torque and Bolt Size MEV55C

	Tightening	Torque			
Fuse Type	Mounting Style	Fuse Rating	Thread Size	N-m	in-lbs
MEV55C	Surface mount (-S)	5 - 50A	8-32 or M4 Bolt	4,7	42

Battery Fuses / DS-DCMEV5055-03-0324-EN



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