

EVpack-fuse MEV50

500 VDC Max., L/R less than or equal 2.5ms, 60 - 800A

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 500VDC, Current rating (In)= 60 to 800A, Interrupting Rating (IR) = 30kA, L/R \leq 2.5ms, Minimum Breaking Capacity (MBC) < 2kA for a perfect matching with DC contactor.

TECHNICAL DATA OVERVIEW

Voltage DC	500 VDC
Ampere Range (A)	60 ... 800 A
Speed/Characteristic	aR

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): 60 to 800A
- Interrupting Rating (IR): 30kA @ 500VDC, L/R < 2.5ms

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 / disconnect / switch
- Maintenance Safety Disconnect (MSD)

STANDARDS

- IEC 60 269 -1 and -4
- IEC 60 269-7 (expected release in 2021)
- ISO 8820-8
- JASO D622



PRODUCT RANGE



MEV50A150-20G

MEV50A Size 20

Catalog number	Rated voltage DC (IEC)	Rated voltage DC (UL)	Rated current I_n	Pre-arcing I^2t	Power dissipation at 0.5 I_n	Min. breaking capacity (MBC)	Max. time to clear MBC	Package	Weight
MEV50A60-20G	500 V	500 V	60 A	185 A ² s	1.7 W	300 A	0.3 s	30	45 g
MEV50A70-20G	500 V	500 V	70 A	320 A ² s	2 W	350 A	0.3 s	30	45 g
MEV50A80-20G	500 V	500 V	80 A	415 A ² s	2.4 W	400 A	0.3 s	30	45 g
MEV50A100-20G	500 V	500 V	100 A	735 A ² s	2.8 W	500 A	0.3 s	30	45 g
MEV50A125-20G	500 V	500 V	125 A	1150 A ² s	3.5 W	625 A	0.3 s	30	45 g
MEV50A150-20G	500 V	500 V	150 A	1650 A ² s	6.9 W	750 A	0.3 s	30	45 g



MEV50A150-25G

MEV50A Size 25

Catalog number	Rated voltage DC (IEC)	Rated voltage DC (UL)	Rated current I_n	Pre-arcing I^2t	Power dissipation at 0.5 I_n	Min. breaking capacity (MBC)	Max. time to clear MBC	Package	Weight
MEV50A100-25G	500 V	500 V	100 A	1150 A ² s	2.8 W	500 A	0.5 s	12	75 g
MEV50A125-25G	500 V	500 V	125 A	2250 A ² s	3.5 W	625 A	0.5 s	12	75 g
MEV50A150-25G	500 V	500 V	150 A	3720 A ² s	6.9 W	750 A	0.5 s	12	75 g
MEV50A200-25G	500 V	500 V	200 A	6600 A ² s	9.4 W	1000 A	0.5 s	12	75 g
MEV50A250-25G	500 V	500 V	250 A	10350 A ² s	12.3 W	1250 A	0.5 s	12	75 g



MEV50A400-30G

MEV50A Size 30

Catalog number	Rated voltage DC (IEC)	Rated voltage DC (UL)	Rated current I_n	Pre-arcing I^2t	Power dissipation at 0.5 I_n	Min. breaking capacity (MBC)	Max. time to clear MBC	Package	Weight
MEV50A150-30G	500 V	500 V	150 A	3700 A ² s	6.9 W	750 A	0.5 s	12	0.1 kg
MEV50A200-30G	500 V	500 V	200 A	6600 A ² s	9.4 W	1000 A	0.5 s	12	0.1 kg
MEV50A250-30G	500 V	500 V	250 A	10350 A ² s	12.3 W	1250 A	0.5 s	12	0.1 kg
MEV50A300-30G	500 V	500 V	300 A	14900 A ² s	15 W	1500 A	0.5 s	12	0.1 kg
MEV50A350-30G	500 V	500 V	350 A	20900 A ² s	17.5 W	1750 A	0.5 s	12	0.1 kg
MEV50A400-30G	500 V	500 V	400 A	26500 A ² s	21.8 W	2000 A	0.5 s	12	0.1 kg



MEV50A600-38G

MEV50A Size 38

Catalog number	Rated voltage DC (IEC)	Rated voltage DC (UL)	Rated current I_n	Pre-arcing I^2t	Power dissipation at 0.5 I_n	Min. breaking capacity (MBC)	Max. time to clear MBC	Package	Weight
MEV50A300-38G	500 V	500 V	300 A	15000 A ² s	15 W	1500 A	0.5 s	8	0.15 kg
MEV50A350-38G	500 V	500 V	350 A	20000 A ² s	17.5 W	1750 A	0.5 s	8	0.15 kg
MEV50A400-38G	500 V	500 V	400 A	26500 A ² s	21.8 W	2000 A	0.5 s	8	0.15 kg
MEV50A450-38G	500 V	500 V	450 A	32600 A ² s	25.7 W	2000 A	0.5 s	8	0.15 kg
MEV50A500-38G	500 V	500 V	500 A	41300 A ² s	28.8 W	2000 A	1 s	8	0.15 kg
MEV50A600-38G	500 V	500 V	600 A	59500 A ² s	36.3 W	2000 A	3.3 s	8	0.15 kg



MEV50A600-45G

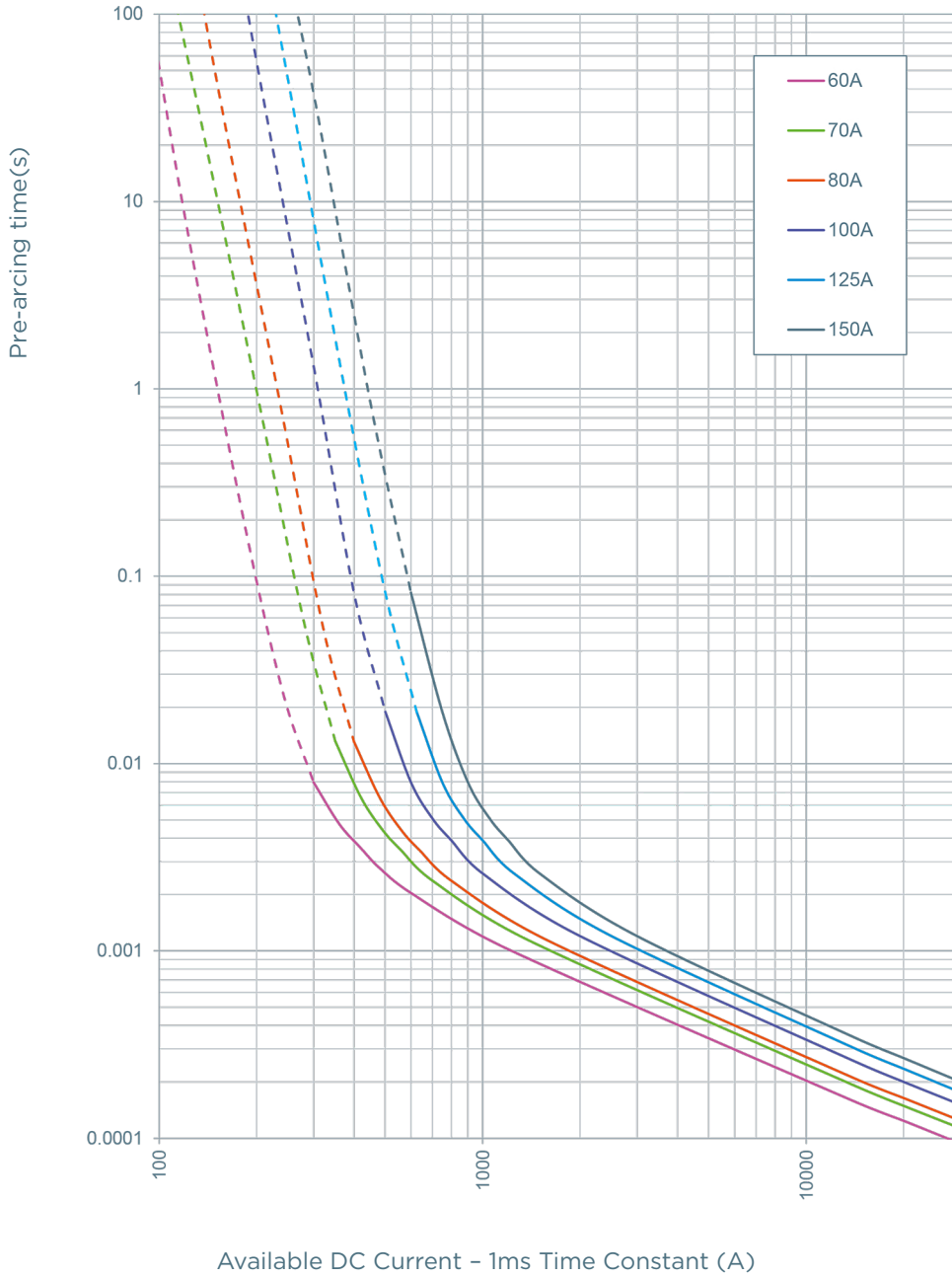
MEV50A Size 45

Catalog number	Rated voltage DC (IEC)	Rated voltage DC (UL)	Rated current I_n	Pre-arcing I^2t	Power dissipation at 0.5 I_n	Min. breaking capacity (MBC)	Max. time to clear MBC	Package	Weight
MEV50A400-45G	500 V	500 V	400 A	26500 A ² s	21.4 W	2000 A	0.5 s	4	0.24 kg
MEV50A450-45G	500 V	500 V	450 A	32600 A ² s	25.7 W	2000 A	0.5 s	4	0.24 kg
MEV50A500-45G	500 V	500 V	500 A	42000 A ² s	28.8 W	2000 A	1 s	4	0.24 kg
MEV50A550-45G	500 V	500 V	550 A	50000 A ² s	33 W	2000 A	1.5 s	4	0.24 kg
MEV50A600-45G	500 V	500 V	600 A	59500 A ² s	36.3 W	2000 A	3.5 s	4	0.24 kg
MEV50A700-45GST	500 V	500 V	700 A	68500 A ² s	24.5 W	2000 A	6 s	4	0.24 kg
MEV50A800-45GST	500 V	500 V	800 A	89000 A ² s	27.6 W	2500 A	16.5 s	4	0.24 kg

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

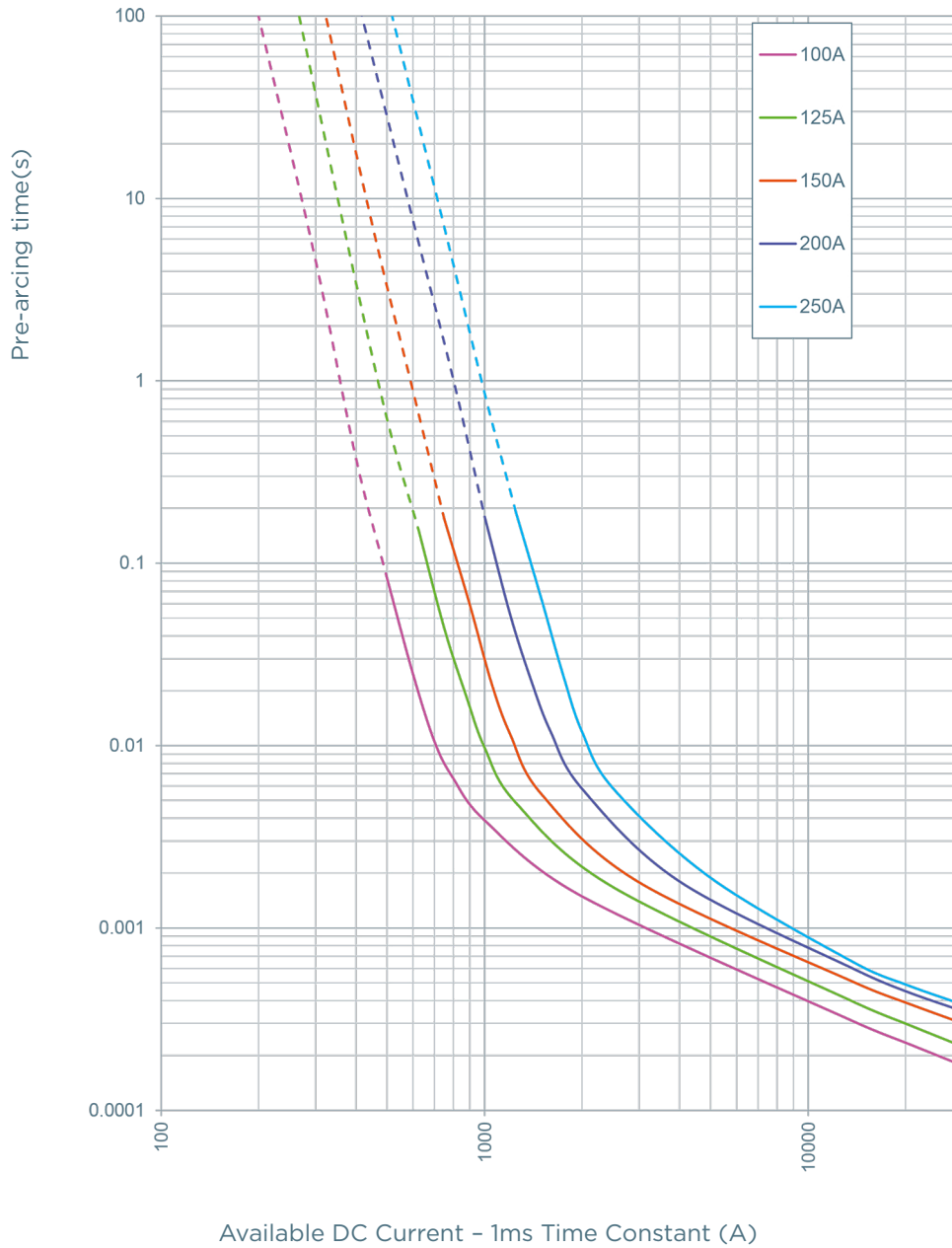
TIME CURRENT CHARACTERISTIC CURVES

MEV50A-20G (60A to 150A)



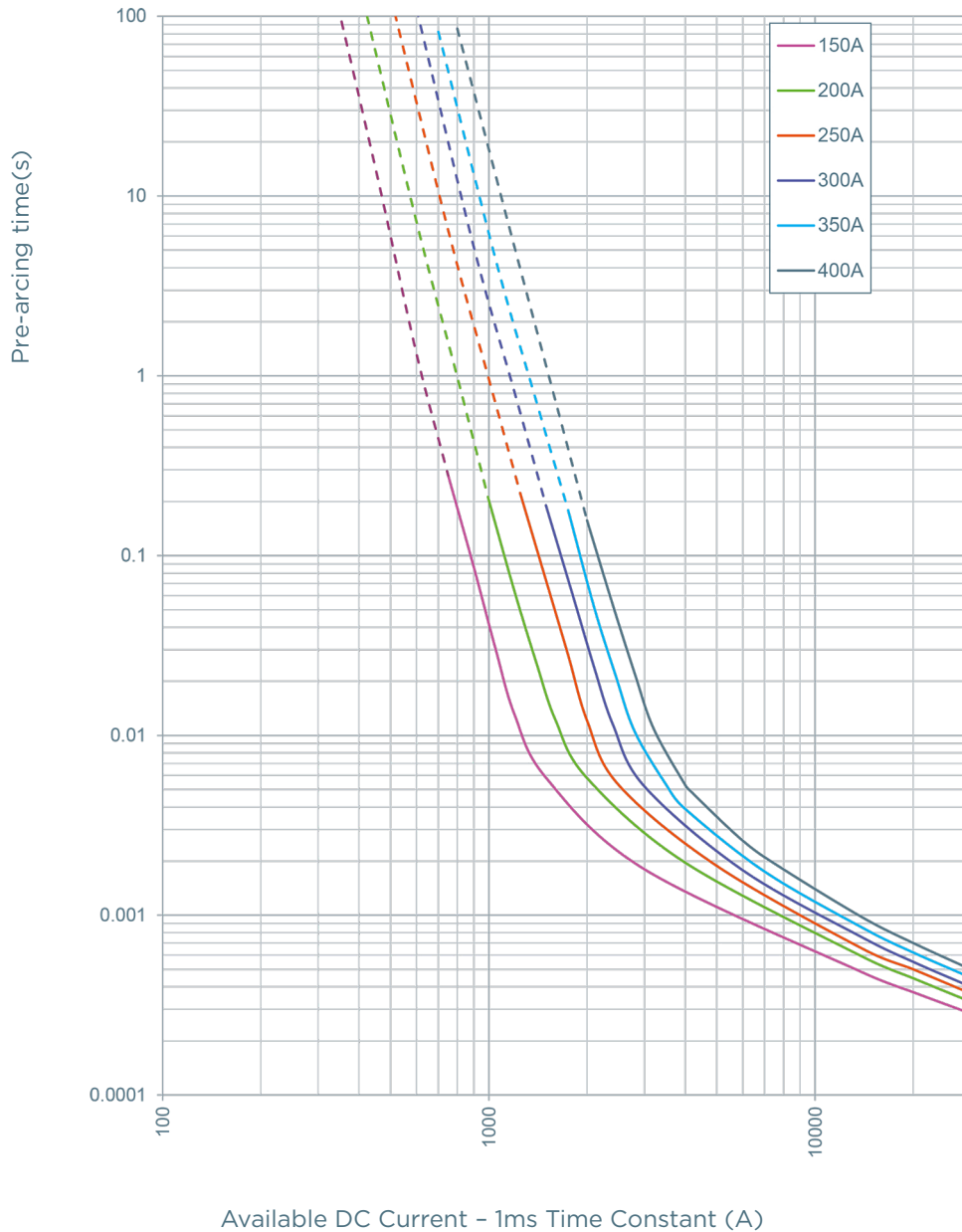
TIME CURRENT CHARACTERISTIC CURVES

MEV50A-25G (100A to 250A)



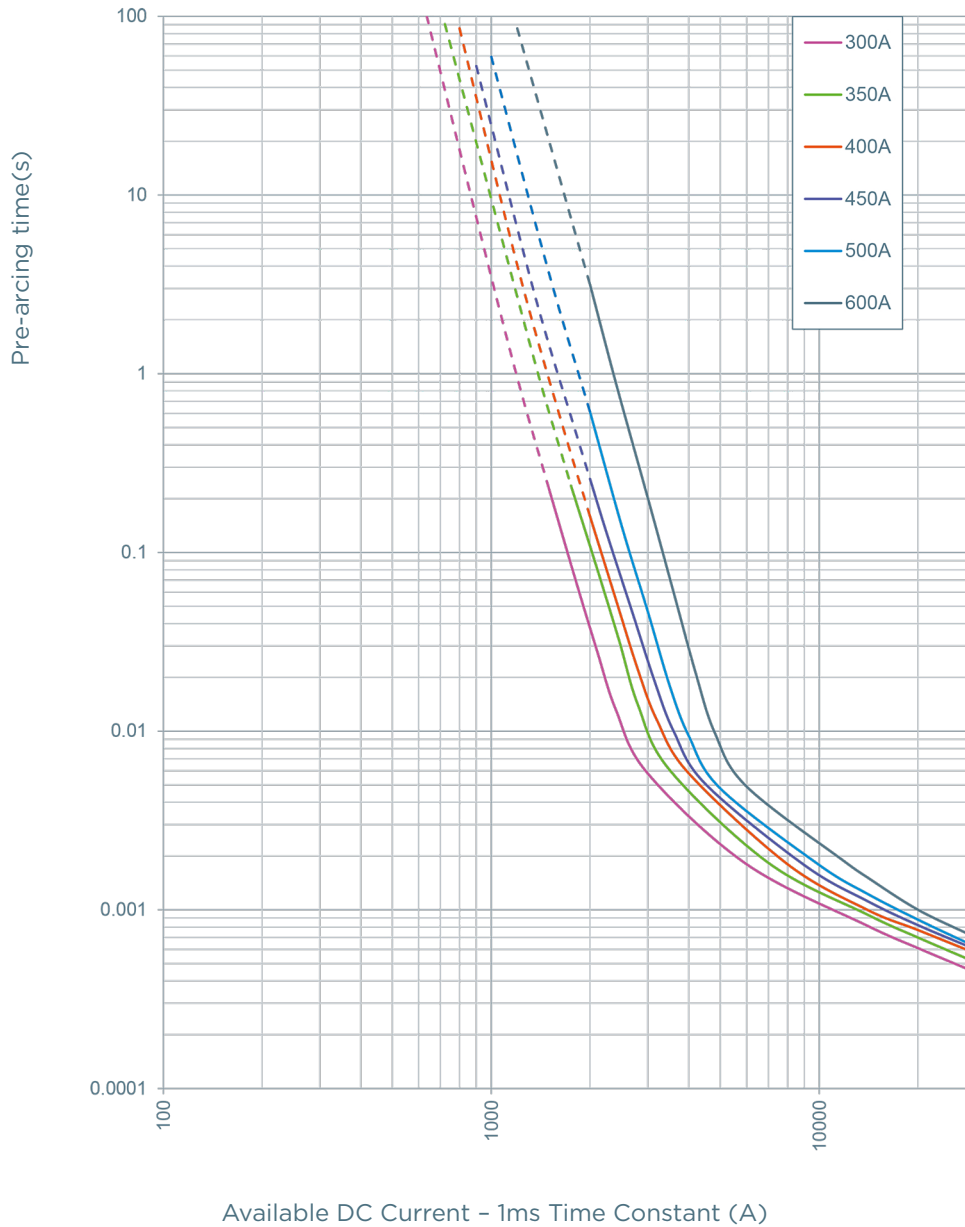
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MEV50A-30G (150A to 400A)



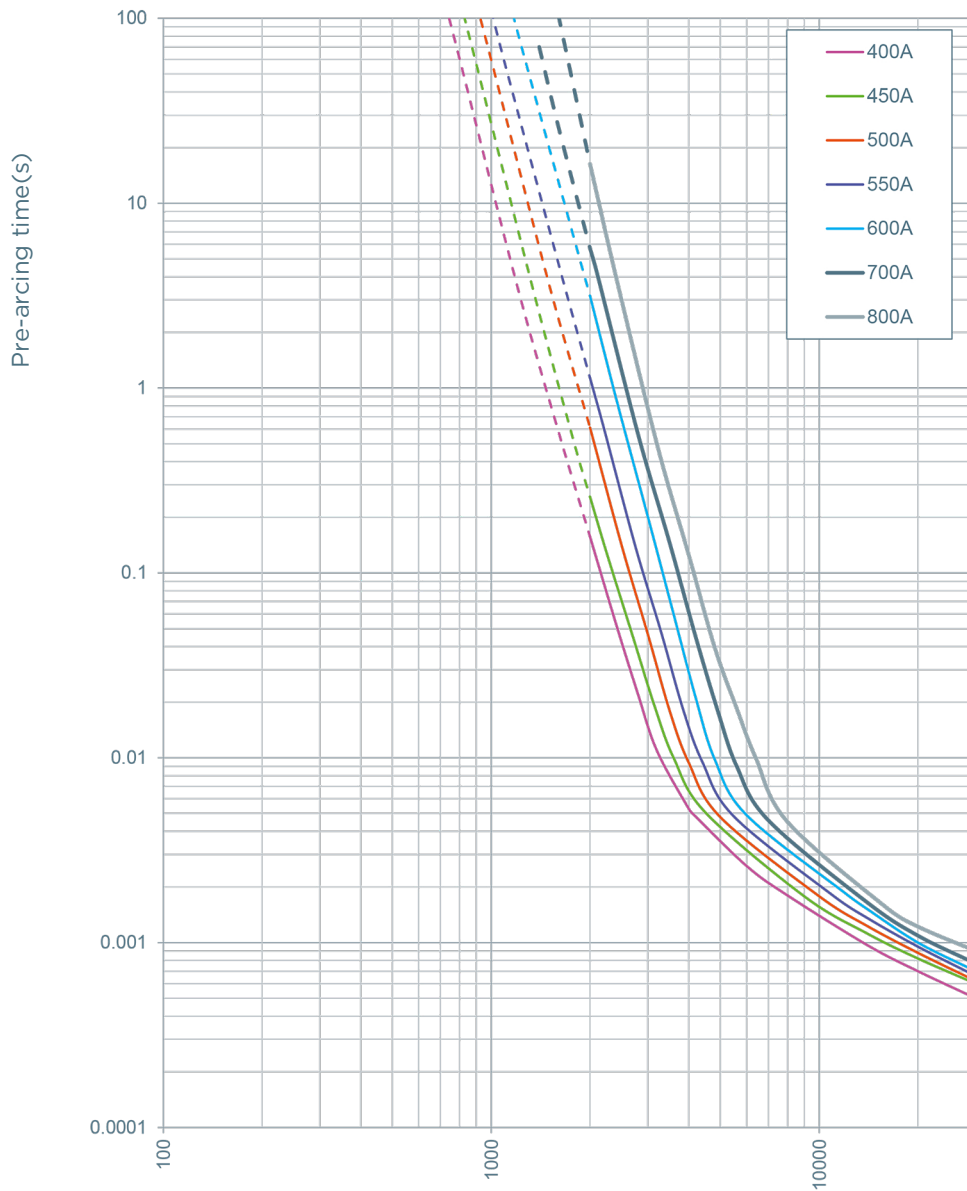
TIME CURRENT CHARACTERISTIC CURVES

MEV50A-38G (300A to 600A)



TIME CURRENT CHARACTERISTIC CURVES

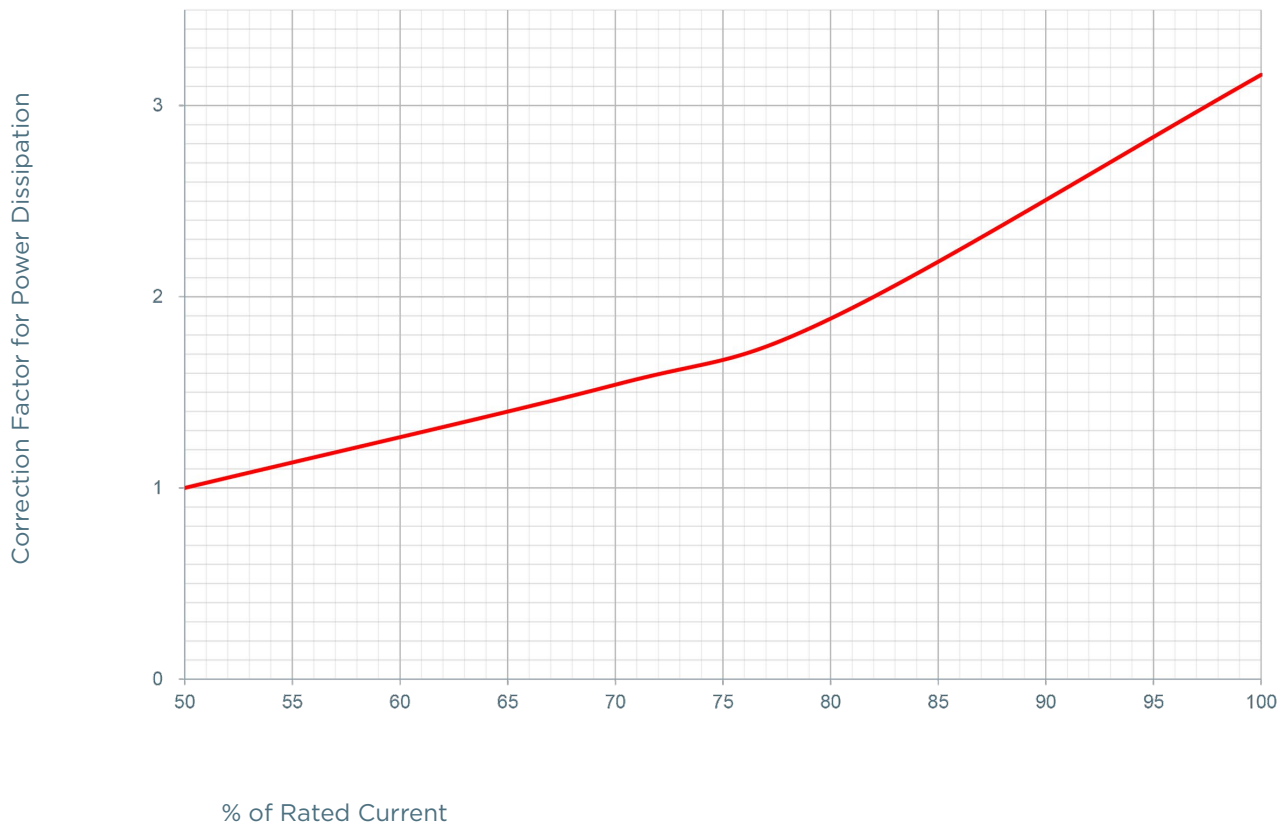
MEV50A-45G (400A to 800A)



Available DC Current - 1ms Time Constant (A)

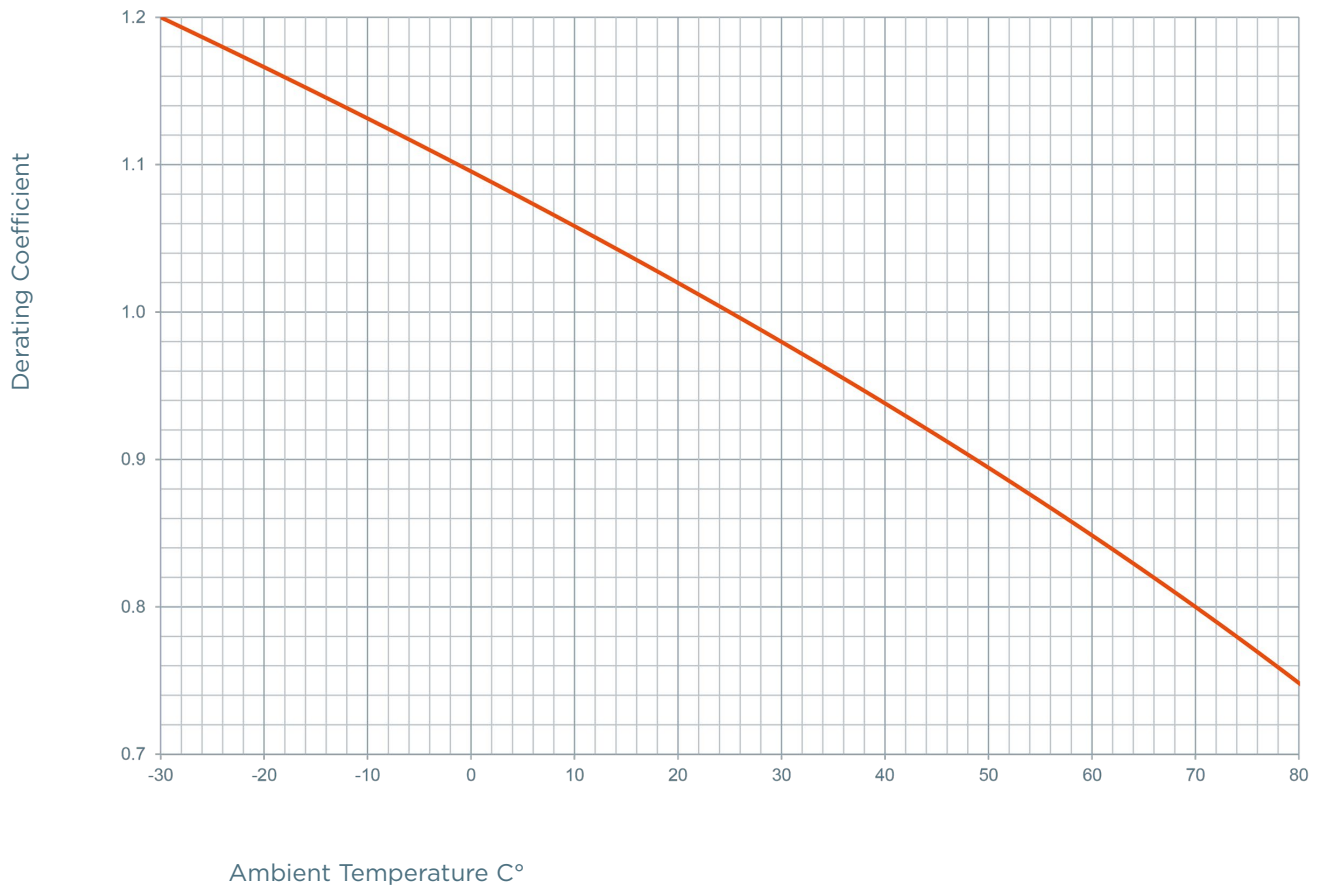
POWER DISSIPATION

MEV50A



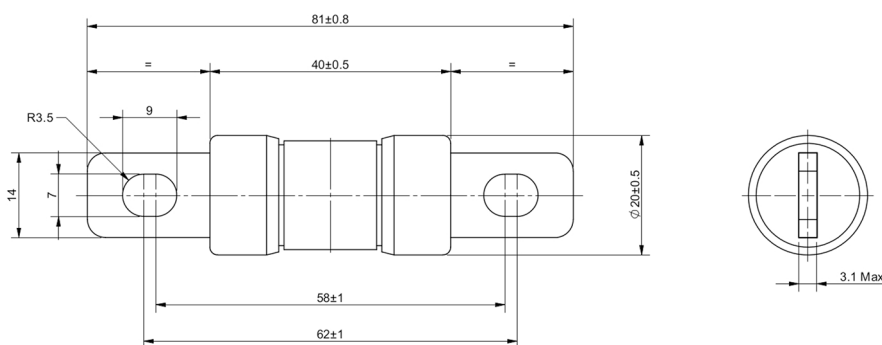
TEMPERATURE DERATING

MEV50A



DIMENSIONS

MEV50A-20G



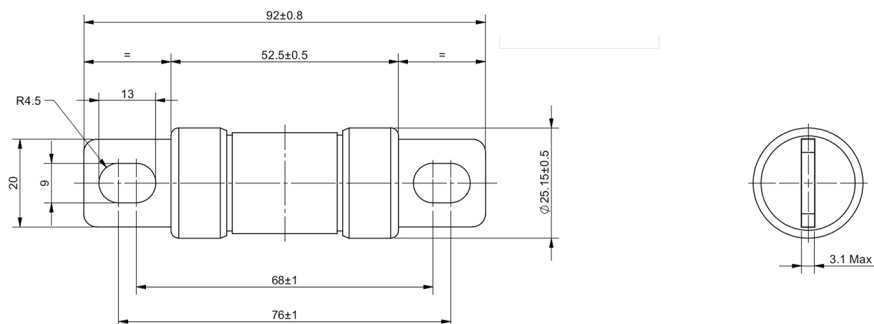
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EVpack-fuse MEV50

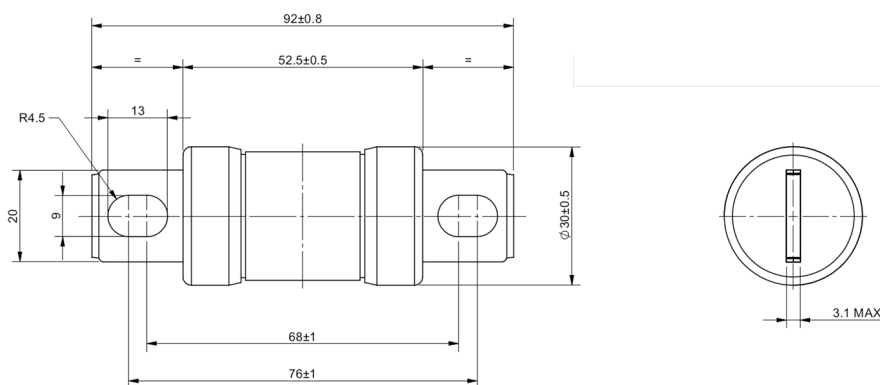
500 VDC Max., L/R less than or equal 2.5ms, 60 - 800A

DIMENSIONS

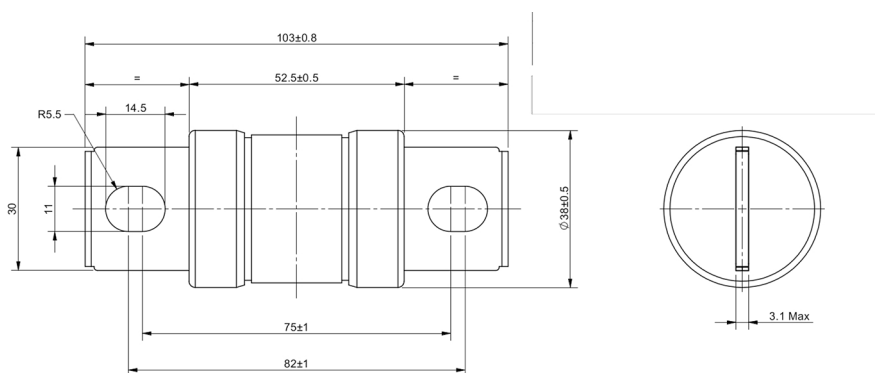
MEV50A-25G



MEV50A-30G

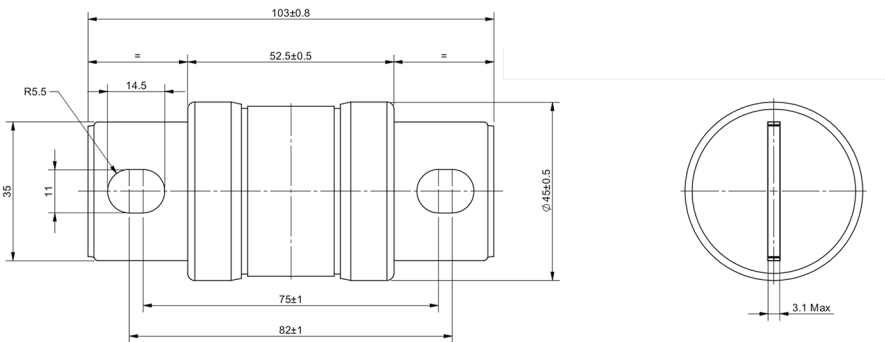


MEV50A-38G

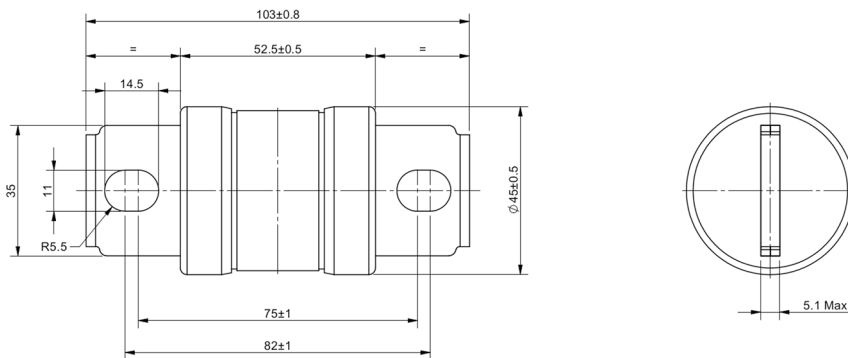


DIMENSIONS

MEV50A-45G



MEV50A-45GST



Recommended Mounting Torque and Bolt Size

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