

# ABAT5M

## BATTERY FUSES

### BATTERY PACK FUSES



Mersen's ABAT line up is the latest addition to our DC Over-Current protection (O.C.P.) portfolio developed to address Battery Electrical Storage System safety.

The ABAT5M fuses has been specifically designed for 500 VDC applications with current ratings from 60 to 800 A and according to the IEC 60 269-7 fuse standard for battery protection.

Along with the ability to withstand heavy duty cycling and low power losses improving system reliability and efficiency, it makes them ideal for battery energy storage systems.

### TECHNICAL DATA OVERVIEW

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

### 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

- Electrical Energy Storage
- Battery pack protection
- Battery module protection
- Stationary battery charger
- For EV applications, refer to the MEV50A range

### STANDARDS

- IEC 60 269-7
- cURus Recognized UL 248-13 (File: E523293)



## PRODUCT RANGE

### ABAT5M Size 20



ABAT5M150-20G

Catalog number	Rated voltage DC (IEC)	Rated voltage DC (UL)	Rated current $I_n$	Pre-arcing $I^2t$	Clearing $I^2t$ at Rated Voltage	Power dissipation at 0.8 $I_n$	Min. breaking capacity (MBC)	Max. time to clear MBC	Package	Weight
ABAT5M60-20G	500 V	500 V	60 A	230 A <sup>2</sup> s	2000 A <sup>2</sup> s	6 W	120 A	6 s	30	41 g
ABAT5M70-20G	500 V	500 V	70 A	390 A <sup>2</sup> s	3400 A <sup>2</sup> s	7 W	140 A	20 s	30	41 g
ABAT5M80-20G	500 V	500 V	80 A	510 A <sup>2</sup> s	4400 A <sup>2</sup> s	8 W	160 A	26 s	30	41 g
ABAT5M100-20G	500 V	500 V	100 A	910 A <sup>2</sup> s	7800 A <sup>2</sup> s	11 W	200 A	33 s	30	41 g
ABAT5M125-20G	500 V	500 V	125 A	1420 A <sup>2</sup> s	12500 A <sup>2</sup> s	12 W	250 A	36 s	30	41 g
ABAT5M150-20G	500 V	500 V	150 A	2050 A <sup>2</sup> s	17500 A <sup>2</sup> s	15 W	300 A	39 s	30	41 g

### ABAT5M Size 25



ABAT5M250-25G

Catalog number	Rated voltage DC (IEC)	Rated voltage DC (UL)	Rated current $I_n$	Pre-arcing $I^2t$	Clearing $I^2t$ at Rated Voltage	Power dissipation at 0.8 $I_n$	Min. breaking capacity (MBC)	Max. time to clear MBC	Package	Weight
ABAT5M100-25G	500 V	500 V	100 A	1420 A <sup>2</sup> s	12500 A <sup>2</sup> s	7 W	500 A	0.5 s	12	75 g
ABAT5M125-25G	500 V	500 V	125 A	2790 A <sup>2</sup> s	24000 A <sup>2</sup> s	9 W	625 A	0.5 s	12	75 g
ABAT5M150-25G	500 V	500 V	150 A	4610 A <sup>2</sup> s	51000 A <sup>2</sup> s	9 W	750 A	0.5 s	12	75 g
ABAT5M175-25G	500 V	500 V	175 A	6470 A <sup>2</sup> s	60500 A <sup>2</sup> s	11 W	875 A	0.5 s	12	75 g
ABAT5M200-25G	500 V	500 V	200 A	8190 A <sup>2</sup> s	70000 A <sup>2</sup> s	13 W	1000 A	0.5 s	12	75 g
ABAT5M250-25G	500 V	500 V	250 A	12800 A <sup>2</sup> s	110000 A <sup>2</sup> s	18 W	1250 A	0.5 s	12	75 g

### ABAT5M Size 30



ABAT5M400-30G

Catalog number	Rated voltage DC (IEC)	Rated voltage DC (UL)	Rated current $I_n$	Pre-arcing $I^2t$	Clearing $I^2t$ at Rated Voltage	Power dissipation at 0.8 $I_n$	Min. breaking capacity (MBC)	Max. time to clear MBC	Package	Weight
ABAT5M150-30G	500 V	500 V	150 A	4610 A <sup>2</sup> s	36500 A <sup>2</sup> s	10 W	750 A	0.5 s	12	0.1 kg
ABAT5M200-30G	500 V	500 V	200 A	8190 A <sup>2</sup> s	65000 A <sup>2</sup> s	14 W	1000 A	0.5 s	12	0.1 kg
ABAT5M250-30G	500 V	500 V	250 A	12800 A <sup>2</sup> s	105000 A <sup>2</sup> s	18 W	1250 A	0.5 s	12	0.1 kg
ABAT5M300-30G	500 V	500 V	300 A	18440 A <sup>2</sup> s	146000 A <sup>2</sup> s	22 W	1500 A	0.5 s	12	0.1 kg
ABAT5M350-30G	500 V	500 V	350 A	25900 A <sup>2</sup> s	205000 A <sup>2</sup> s	25 W	1750 A	0.5 s	12	0.1 kg
ABAT5M400-30G	500 V	500 V	400 A	32780 A <sup>2</sup> s	260000 A <sup>2</sup> s	31 W	2000 A	0.5 s	12	0.1 kg

### ABAT5M Size 38



ABAT5M600-38G

Catalog number	Rated voltage DC (IEC)	Rated voltage DC (UL)	Rated current $I_n$	Pre-arcing $I^2t$	Clearing $I^2t$ at Rated Voltage	Power dissipation at 0.8 $I_n$	Min. breaking capacity (MBC)	Max. time to clear MBC	Package	Weight
ABAT5M300-38G	500 V	500 V	300 A	18440 A <sup>2</sup> s	143000 A <sup>2</sup> s	21 W	1500 A	0.5 s	8	0.17 kg
ABAT5M350-38G	500 V	500 V	350 A	25900 A <sup>2</sup> s	190000 A <sup>2</sup> s	25 W	1750 A	0.5 s	8	0.17 kg
ABAT5M400-38G	500 V	500 V	400 A	32780 A <sup>2</sup> s	255000 A <sup>2</sup> s	30 W	2000 A	0.5 s	8	0.17 kg
ABAT5M450-38G	500 V	500 V	450 A	40470 A <sup>2</sup> s	310000 A <sup>2</sup> s	36 W	2000 A	0.5 s	8	0.17 kg
ABAT5M500-38G	500 V	500 V	500 A	51210 A <sup>2</sup> s	400000 A <sup>2</sup> s	40 W	2000 A	1 s	8	0.17 kg
ABAT5M600-38G	500 V	500 V	600 A	73750 A <sup>2</sup> s	565000 A <sup>2</sup> s	50 W	2000 A	3.3 s	8	0.17 kg

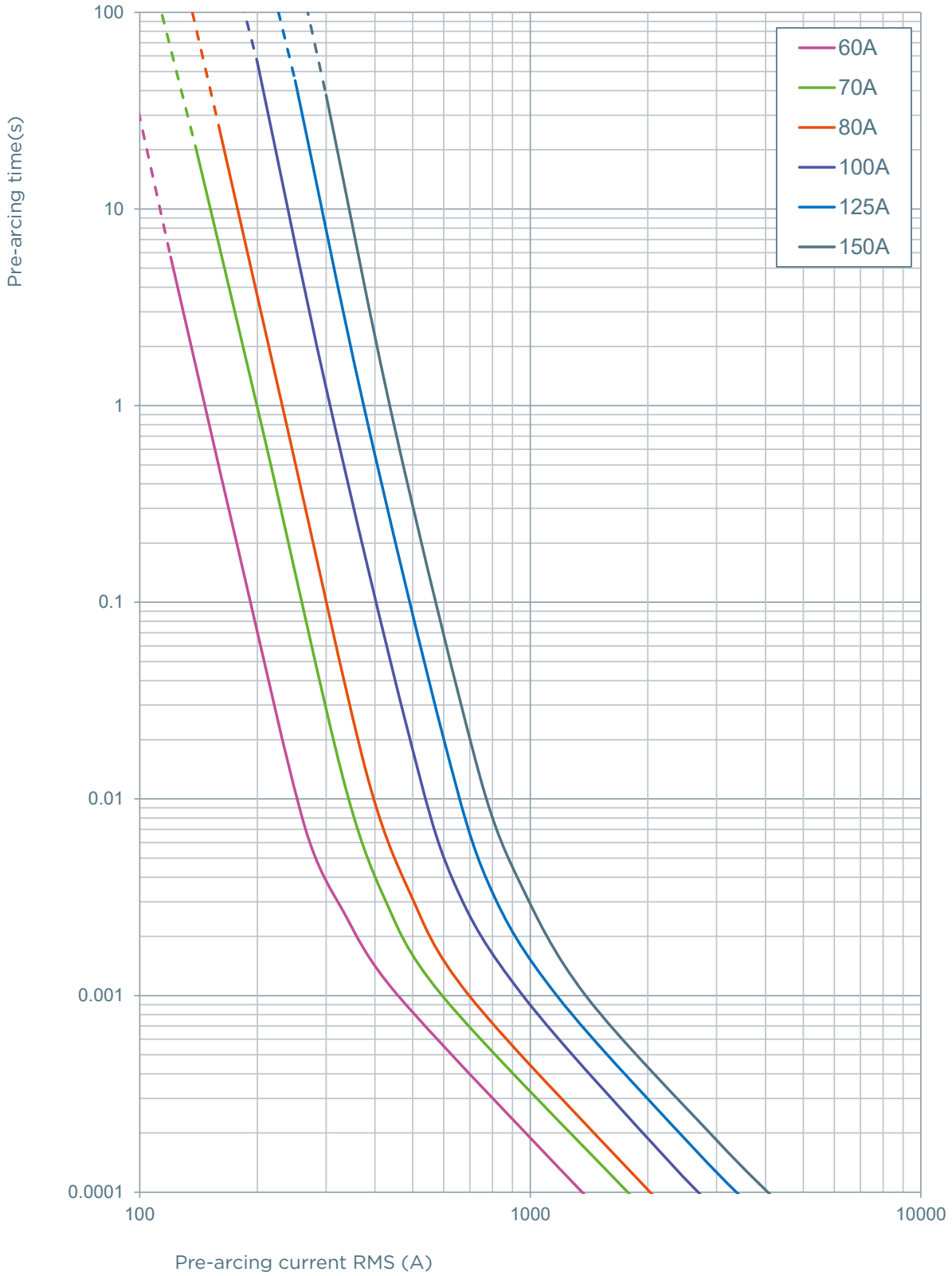
## PRODUCT RANGE

### ABAT5M Size 45

Catalog number	Rated voltage DC (IEC)	Rated voltage DC (UL)	Rated current $I_n$	Pre-arcing $I^2t$	Clearing $I^2t$ at Rated Voltage	Power dissipation at 0.8 $I_n$	Min. breaking capacity (MBC)	Max. time to clear MBC	Package	Weight
ABAT5M400-45G	500 V	500 V	400 A	32780 A <sup>2</sup> s	255000 A <sup>2</sup> s	31 W	2000 A	0.5 s	4	0.24 kg
ABAT5M450-45G	500 V	500 V	450 A	40470 A <sup>2</sup> s	310000 A <sup>2</sup> s	37 W	2000 A	0.5 s	4	0.24 kg
ABAT5M500-45G	500 V	500 V	500 A	51210 A <sup>2</sup> s	400000 A <sup>2</sup> s	41 W	2000 A	1 s	4	0.24 kg
ABAT5M550-45G	500 V	500 V	550 A	61970 A <sup>2</sup> s	475000 A <sup>2</sup> s	47 W	2000 A	1.5 s	4	0.24 kg
ABAT5M600-45G	500 V	500 V	600 A	73750 A <sup>2</sup> s	565000 A <sup>2</sup> s	52 W	2000 A	3.5 s	4	0.24 kg
ABAT5M700-45GMT	500 V	500 V	700 A	68050 A <sup>2</sup> s	651000 A <sup>2</sup> s	70 W	2500 A	6 s	4	0.27 kg
ABAT5M800-45GMT	500 V	500 V	800 A	88890 A <sup>2</sup> s	850000 A <sup>2</sup> s	79 W	2500 A	16.5 s	4	0.27 kg

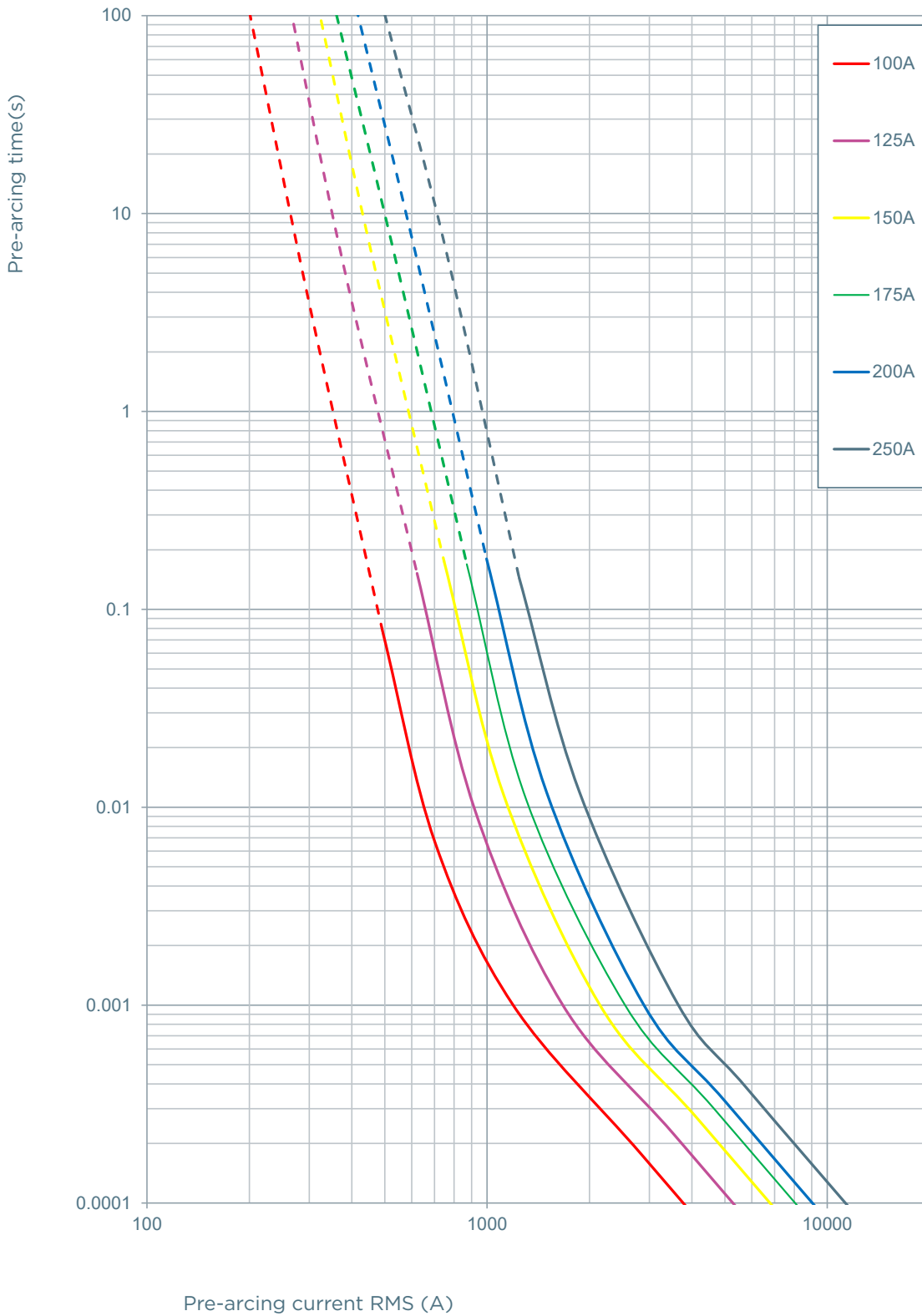
## TIME CURRENT CHARACTERISTIC CURVES

### ABAT5M-20G (60A to 150A)



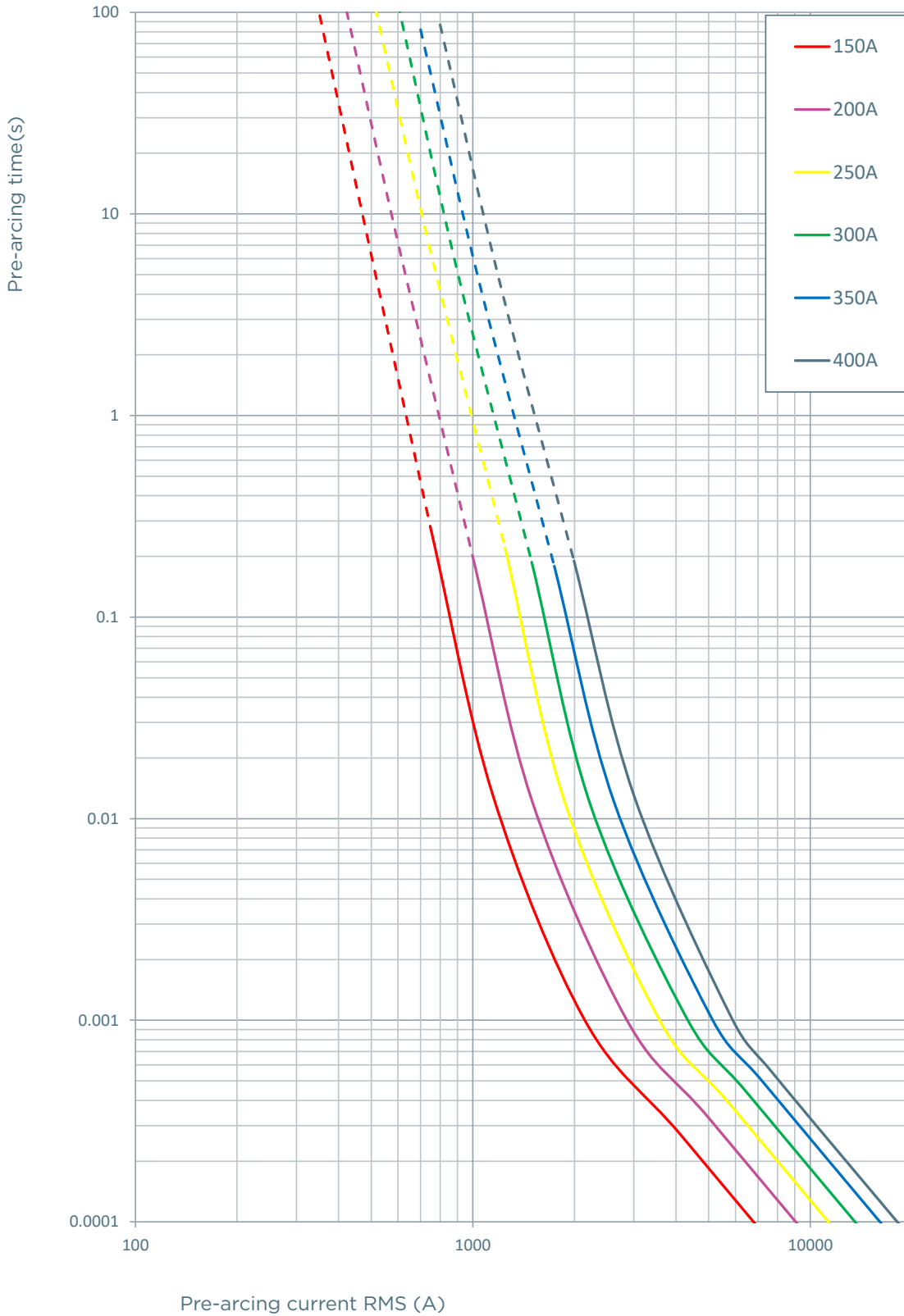
## TIME CURRENT CHARACTERISTIC CURVES

### ABAT5M-25G (100A to 250A)



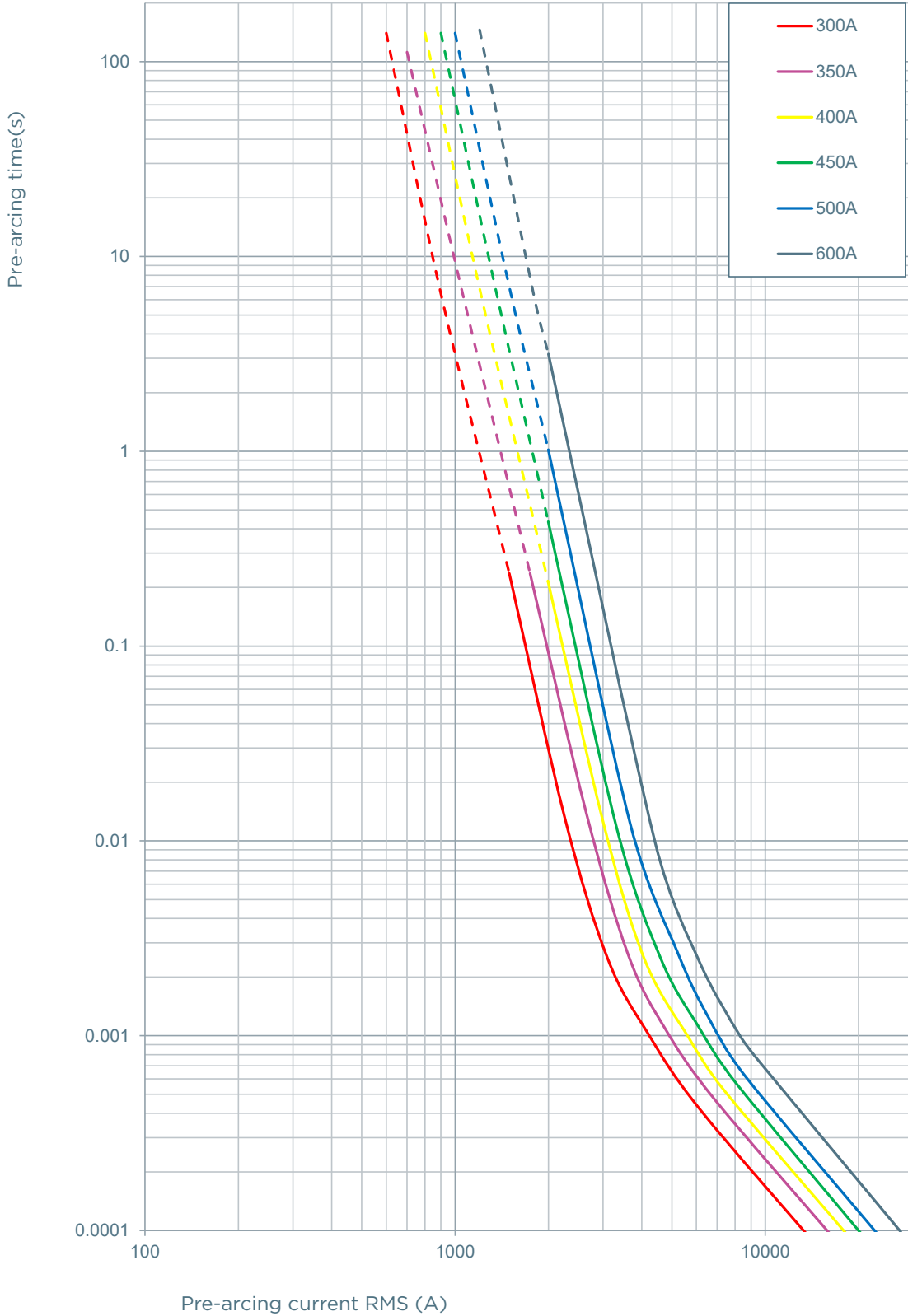
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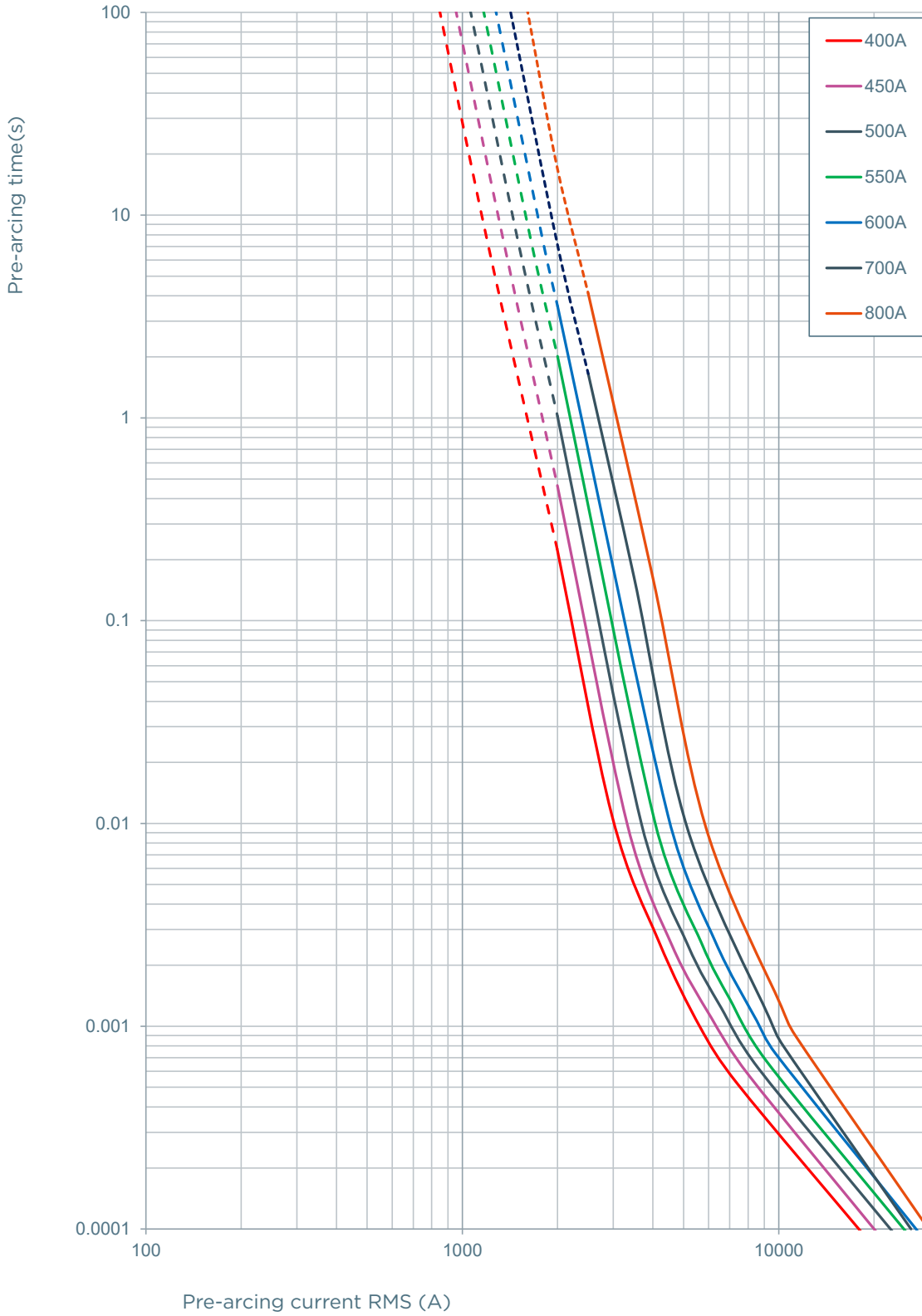
## TIME CURRENT CHARACTERISTIC CURVES

### ABAT5M-38G (300A to 600A)



## TIME CURRENT CHARACTERISTIC CURVES

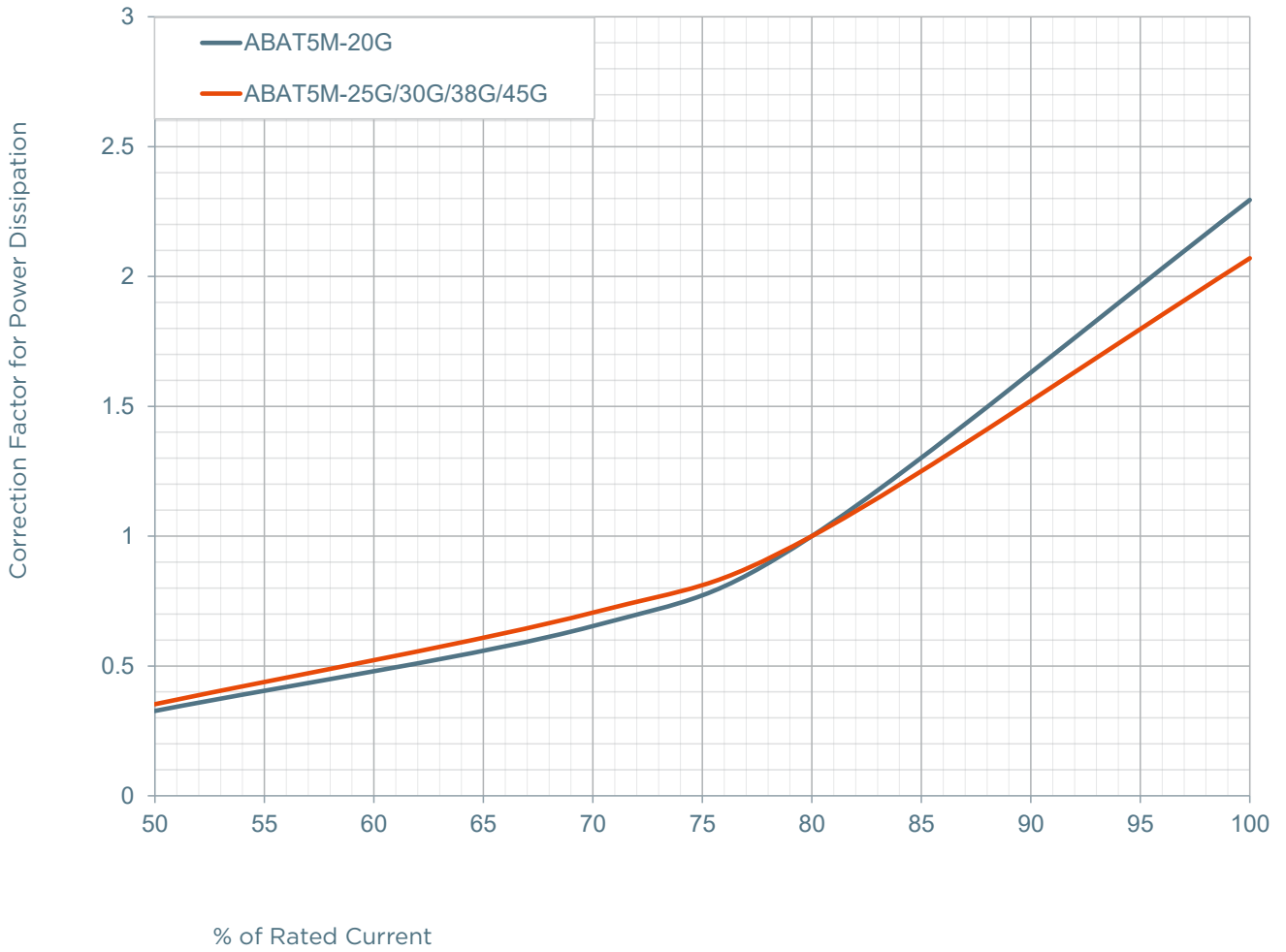
### ABAT5M-45G (400A to 800A)





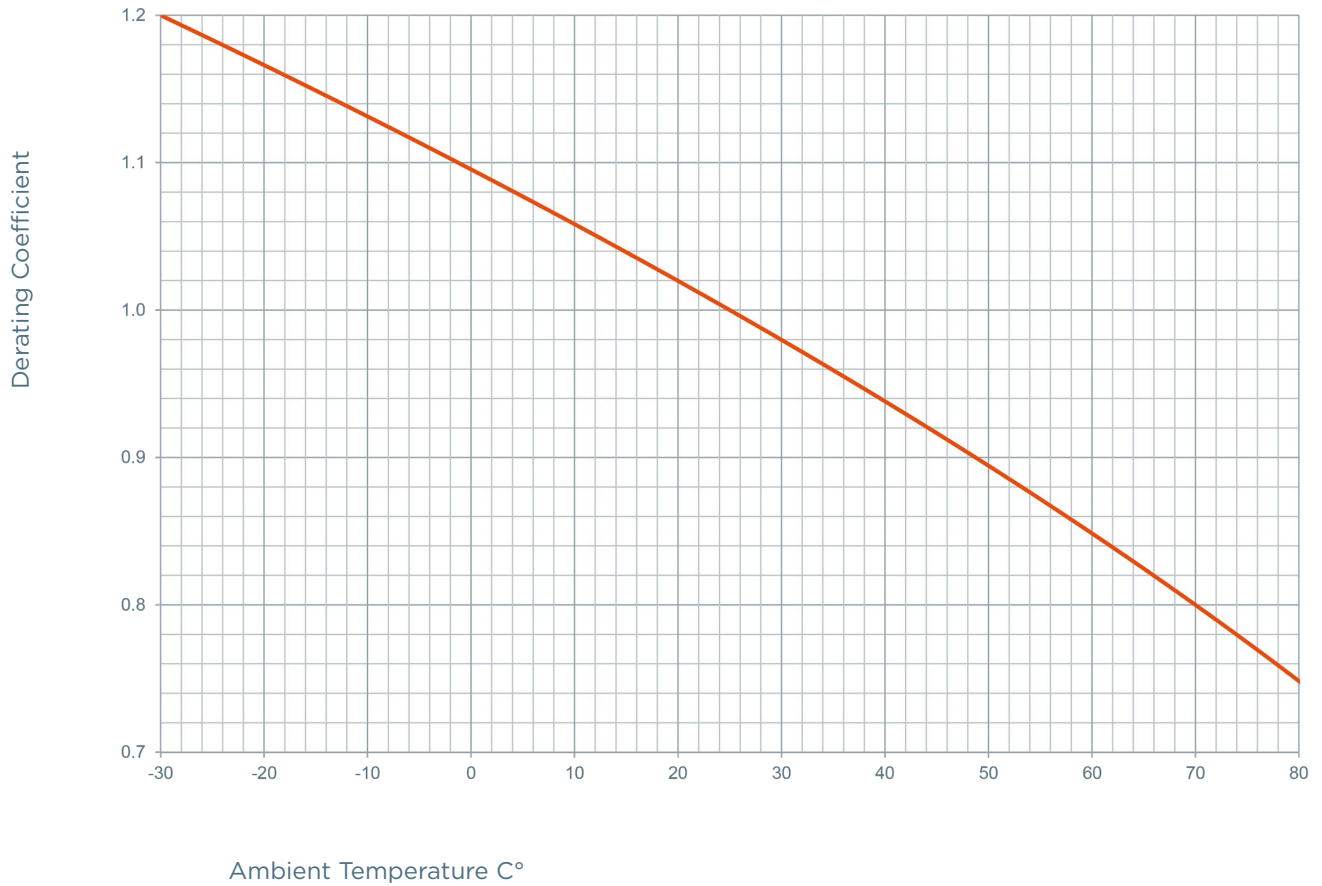
## POWER DISSIPATION

### ABAT5M



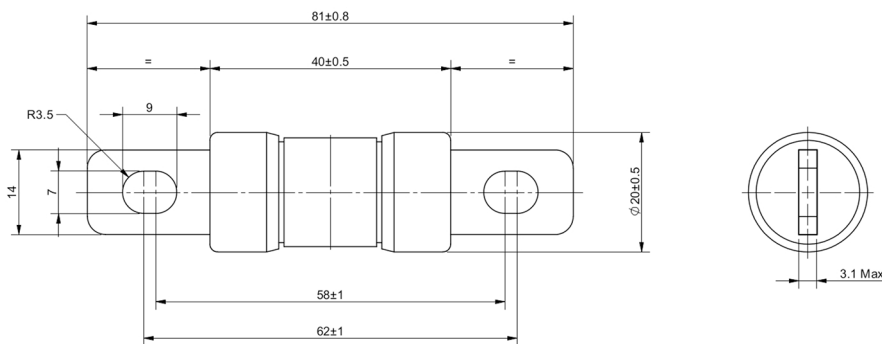
## TEMPERATURE DERATING

### ABAT5M



## DIMENSIONS

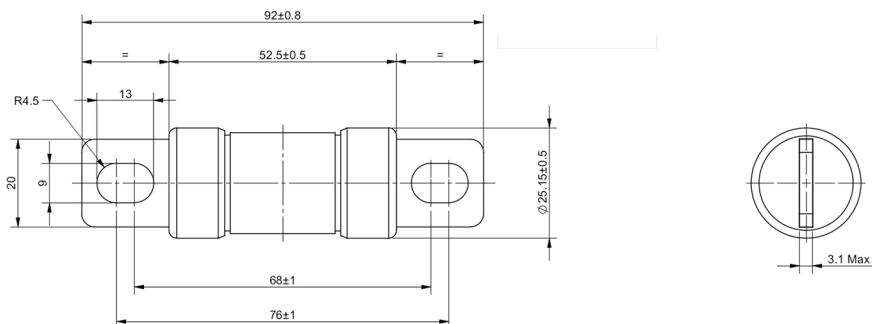
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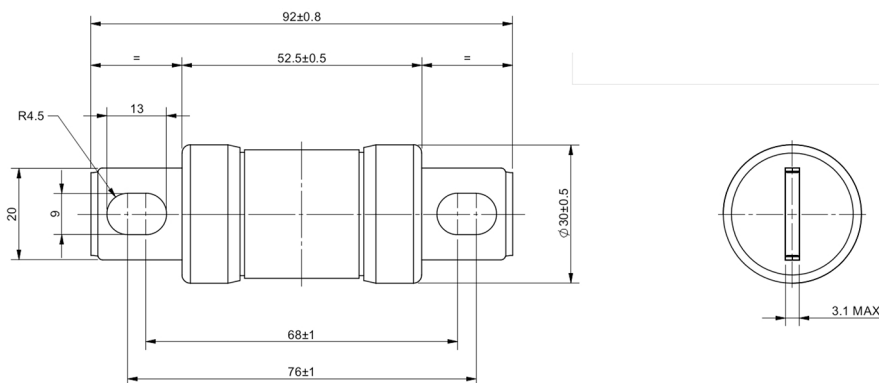
# ABAT5M

## DIMENSIONS

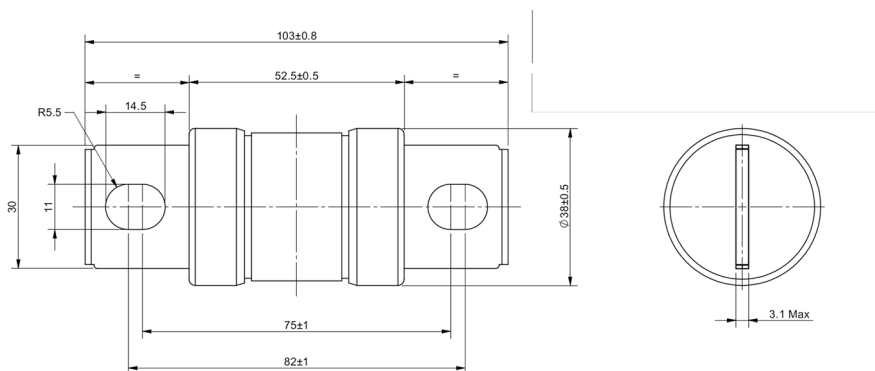
### ABAT5M-25G



### ABAT5M-30G



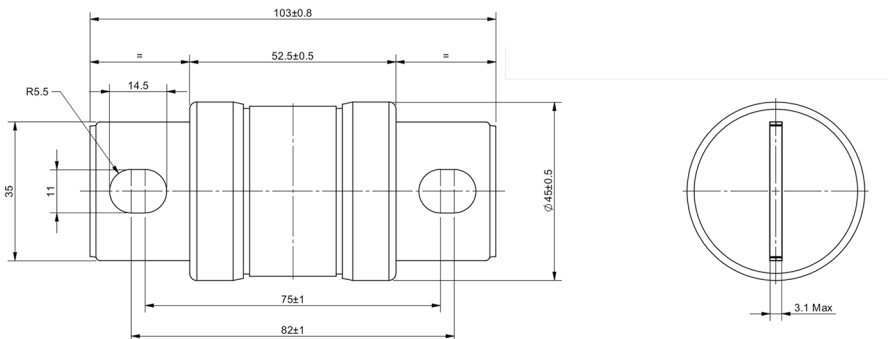
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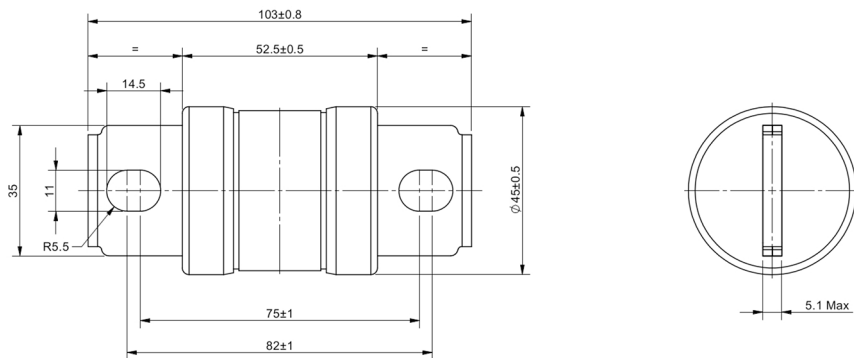
# ABAT5M

## DIMENSIONS

### ABAT5M-45G



### ABAT5M-45GMT



### Recommended Mounting Torque and Bolt Size

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