

MDC10A - DC Distribution Fuse

1000VDC/750VAC 10x38mm Auxiliary Fuse

SPECIAL PURPOSE

FOR DC DISTRIBUTION



MDC
DC Distribution Series

With the evolution of DC distribution and new technologies on the horizon, Mersen's MDC DC Distribution Series is the product line to help customers achieve ultimate protection for today and tomorrow. The product portfolio allows system integrators and OEM manufacturers to select fuses easily for the protection of DC distribution in a variety of applications.

The MDC Series incorporates proven fuse technologies which provide optimal current limitation while achieving maximum performance. The MDC portfolio is designed to easily allow customers to choose fuses where coordination with other DC components is critical, eliminating unnecessary downtime.

Technical Data Overview	
Volts	1000VDC/750VAC
Amps	1A-30A
IR	65kA @ 1000VDC 100kA @ 750VAC
AC MBC	2.0 x In @ Rated Voltage
DC MBC	1.3 x In @ Rated Voltage (1-7A) L/R ≤ 1ms 2.0 x In @ Rated Voltage (8-30A) L/R ≤ 1ms

FEATURES/BENEFITS

- Designed for DC applications
- Low watt losses
- High cycling performance
- Low & high current interrupting capability
- Ultra compact size

APPLICATIONS





- DC Distribution
- DC Cabling and Bus
- DC Auxiliary Circuits
- Electrical Energy Storage
- EV Charging
- Critical Power
- UPS Protection

APPROVALS/STANDARDS

- UL Recognized Component File E60314



CATALOG NUMBERS

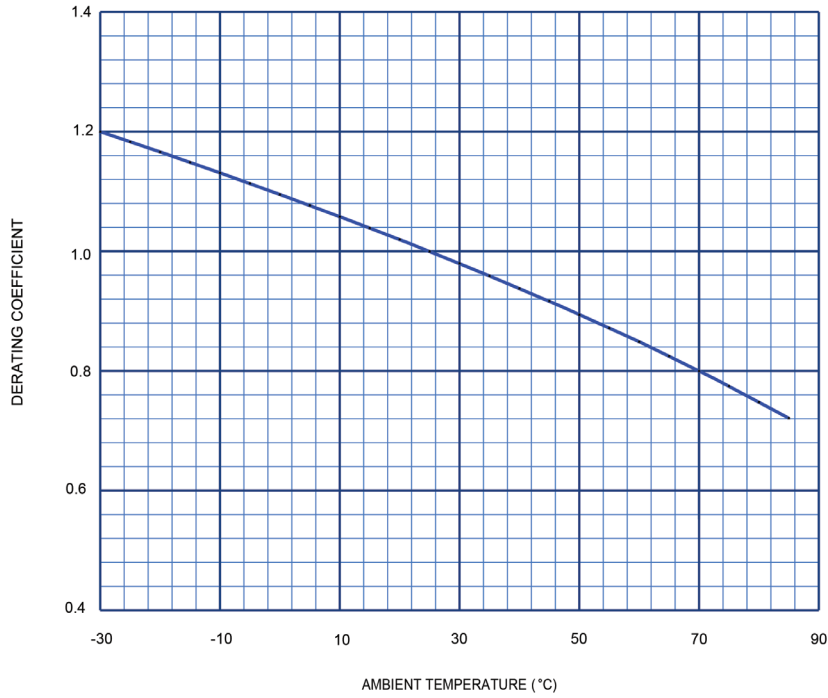
Ferrule					Surface Mount				
									
									
MDC10A30					MDC10A30S				
Catalog Number		Rated Voltage (VAC)	Rated Voltage (VDC)	Rated Current (A)	DC Min. Breaking Capacity (MBC)*	DC Max Interrupting Rating (kA)	Melting I ² t (A ² s)	Clearing I ² t at 1000VDC, 10kA (A ² s)	DC Time Constant L/R (ms)
MDC10A1	MDC10A1S	750	1000	1	2	50	1.2	19	≤1
MDC10A2	MDC10A2S	750	1000	2	4	50	10.4	120	≤1
MDC10A3	MDC10A3S	750	1000	3	6	50	3.1	130	≤1
MDC10A3-1/2	MDC10A3-1/2S	750	1000	3-1/2	8	50	10.4	220	≤1
MDC10A4	MDC10A4S	750	1000	4	10	50	22	330	≤1
MDC10A5	MDC10A5S	750	1000	5	12	50	49	410	≤1
MDC10A6	MDC10A6S	750	1000	6	14	50	65	630	≤1
MDC10A8	MDC10A8S	750	1000	8	16	50	6.5	105	≤1
MDC10A10	MDC10A10S	750	1000	10	20	50	10	127	≤1
MDC10A12	MDC10A12S	750	1000	12	24	50	17	215	≤1
MDC10A15	MDC10A15S	750	1000	15	30	50	26	495	≤1
MDC10A20	MDC10A20S	750	1000	20	40	50	49	755	≤1
MDC10A25	MDC10A25S	750	1000	25	50	50	132	1650	≤1
MDC10A30	MDC10A30S	750	1000	30	60	50	197	1850	≤1

*Fuse Minimum Breaking Capacity (MBC): the smallest current the fuse has been tested to safely clear at a given voltage and time constant

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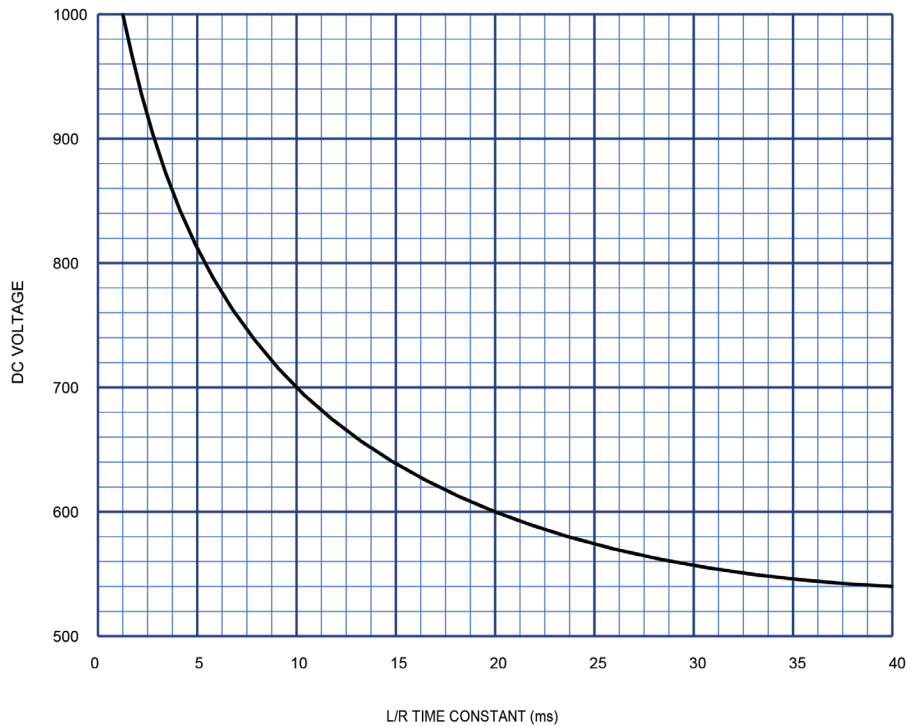
AMPERE RATING VS AMBIENT TEMPERATURE

MDC10A



DC VOLTAGE CAPABILITY VS CIRCUIT L/R TIME CONSTANT (rms)

MDC10A



MDC10A - DC Distribution Fuse

1000VDC/750VAC 10x38mm Auxiliary Fuse

**SPECIAL
PURPOSE**

**I²t DATA AT 750VAC, 200KA SYM. RMS
AMPS, 20% POWER FACTOR**

MDC10A

Ampere Rating	Melting I ² t [A ² s] [calculated]	Clearing I ² t [A ² s]
5	5	87
8	6.5	113
10	10	173
12	17	295
15	26	335
20	41	529
25	69	891
30	132	1705

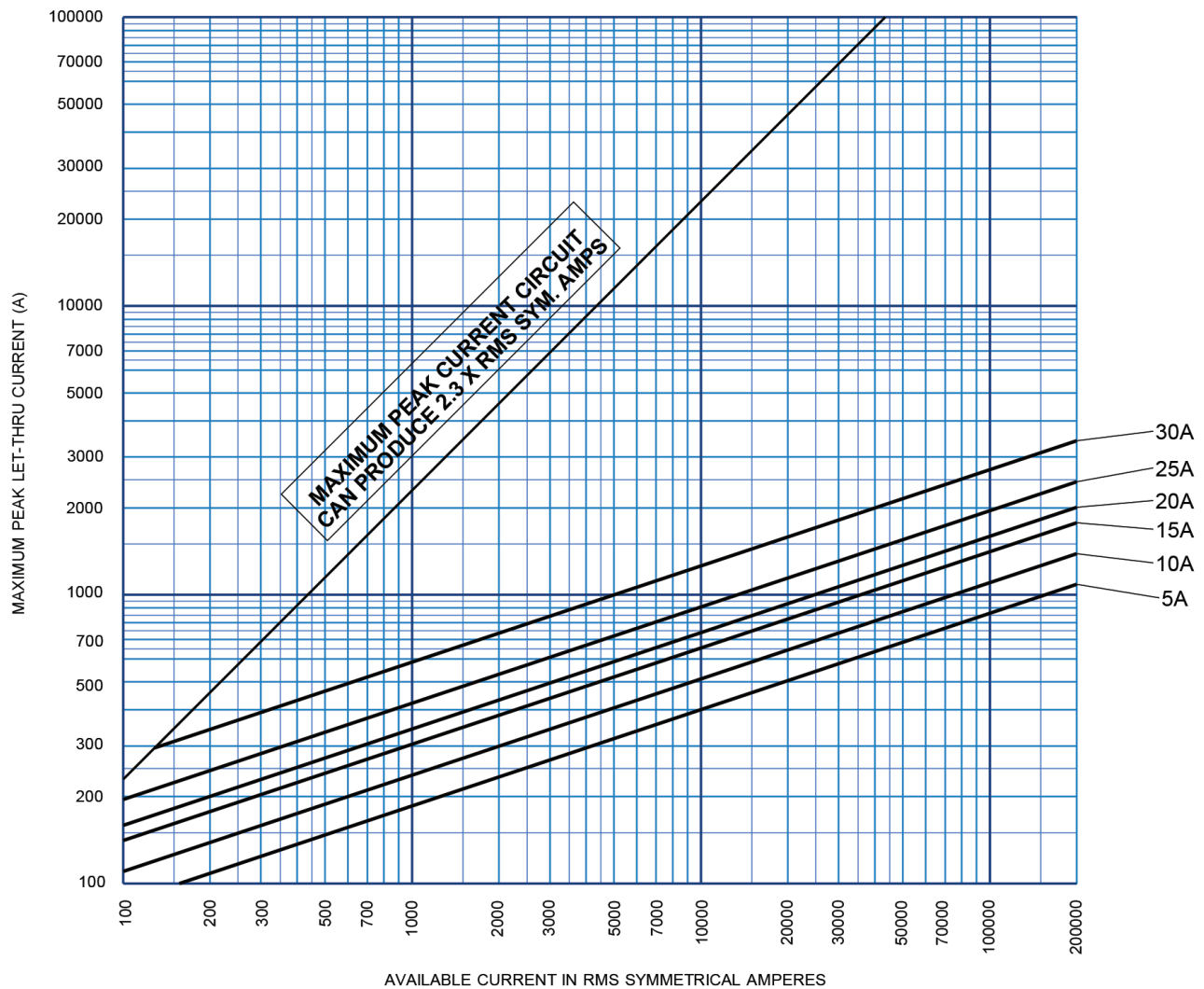
**I²t DATA AT 1000VAC,
50KA, L/R = 10MS**

MDC10A

Ampere Rating	Melting I ² t [A ² s] [calculated]	Clearing I ² t [A ² s]
5	5	64
8	6.5	83
10	10	127
12	17	215
15	26	495
20	41	755
25	69	970
30	132	1650

PEAK LET-THRU CURRENT DATA

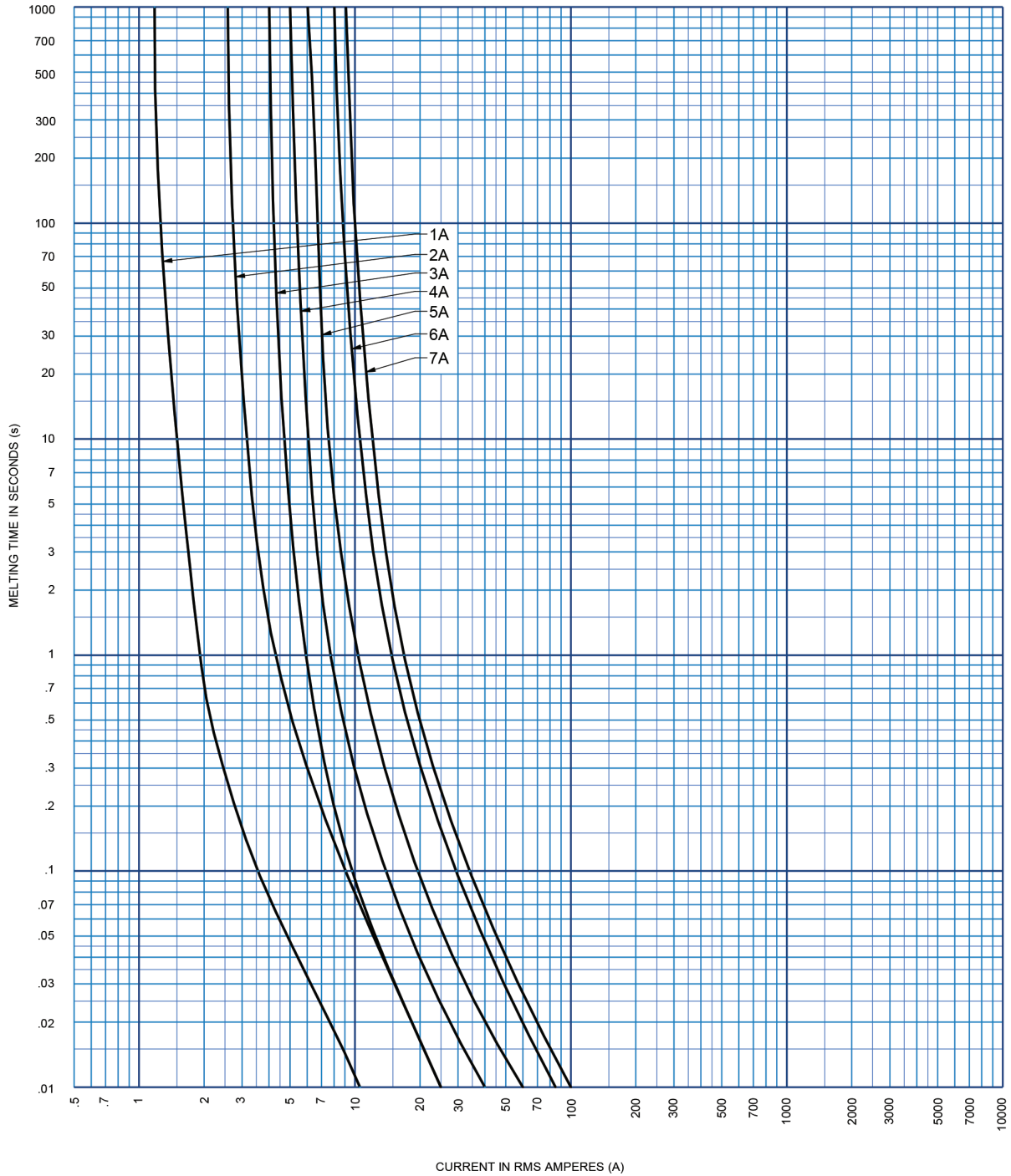
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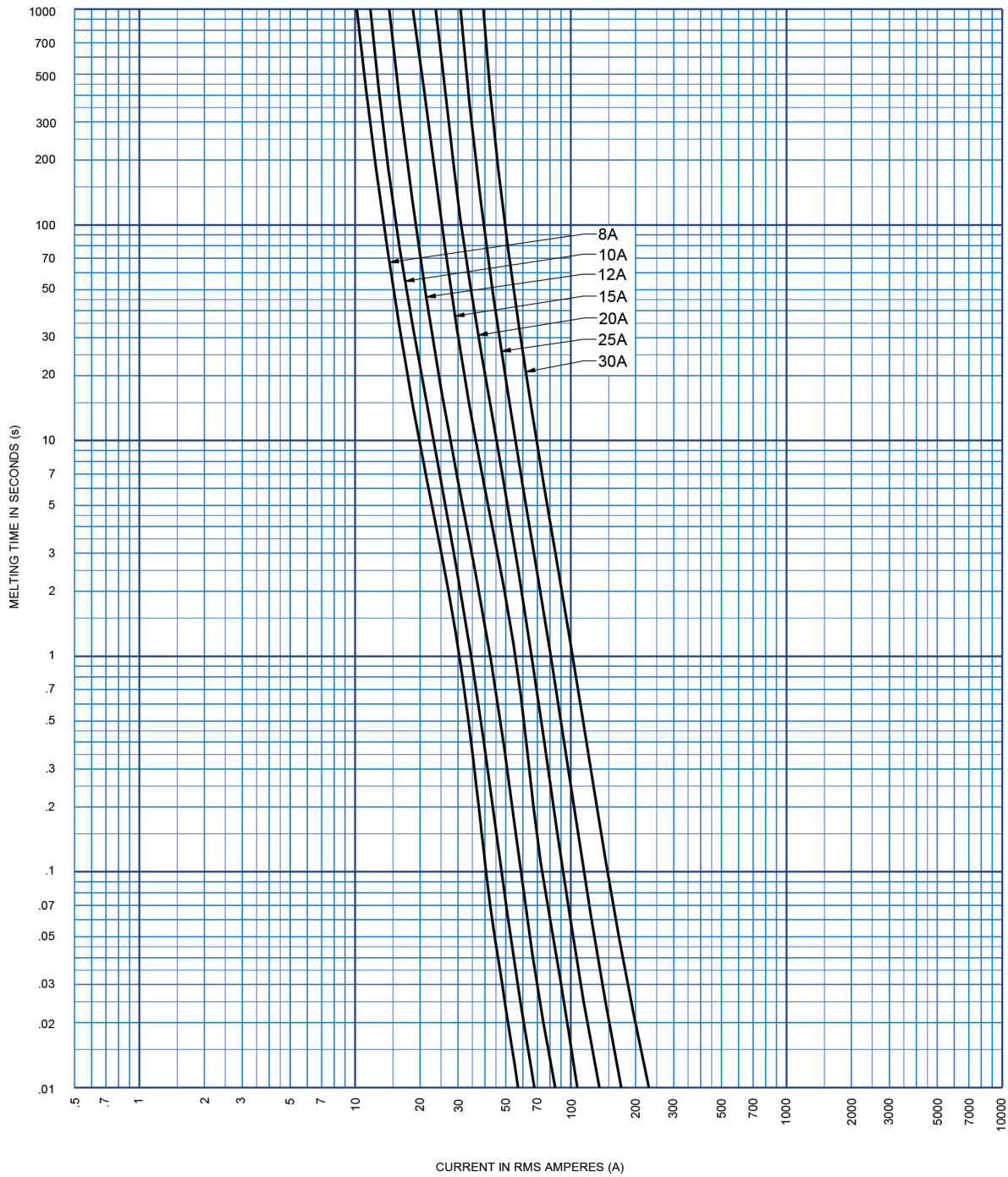
MELTING TIME CURRENT DATA

MDC10A 1-7A



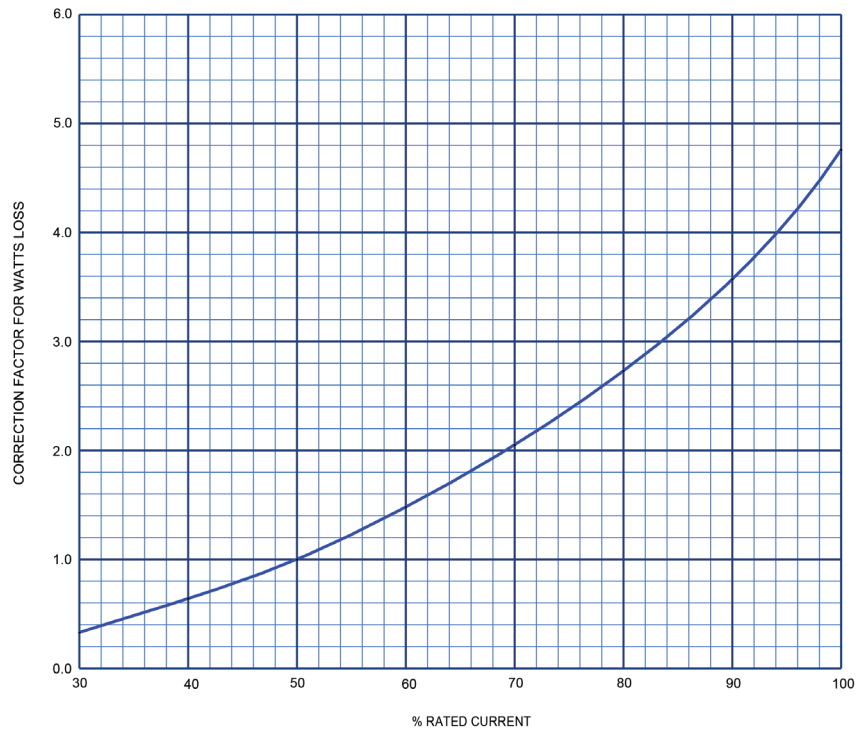
MELTING TIME CURRENT DATA

MDC10A 8-30A



WATTS LOSS VS RATED CURRENT

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WATTS LOSS DATA

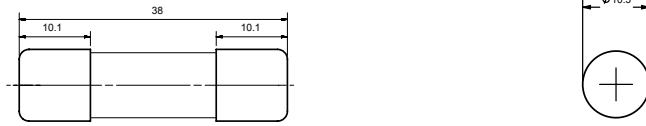
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Ampere Rating	70% Amp Rating [W]	80% Amp Rating [W]	100% Amp Rating [W]
1	0.1	0.2	0.32
2	0.14	0.27	0.43
3	0.33	0.9	1.4
4	0.4	0.8	1.3
5	0.5	0.9	1.4
6	0.5	1.0	1.5
7	0.6	1.1	1.5
8	0.52	0.7	1.1
10	0.69	0.9	1.5
12	0.71	1.3	2.0
15	0.96	1.9	3.0
20	1.5	2.6	4.4
25	1.8	2.9	5.3
30	1.8	3.0	5.8

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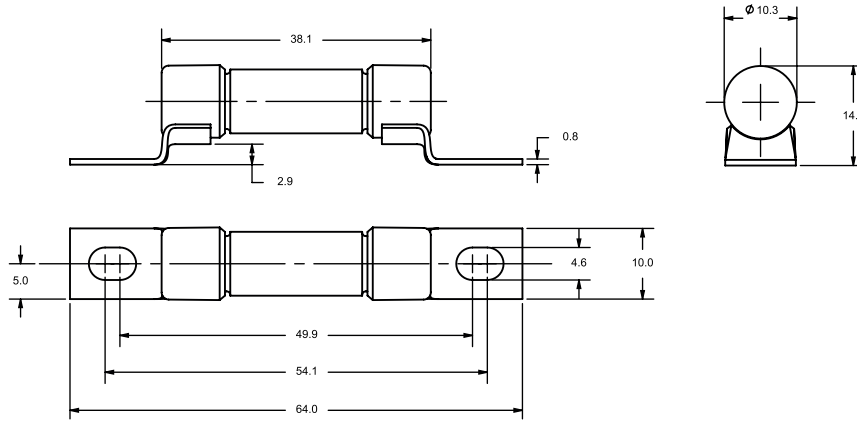
DIMENSIONS:

MDC10A(1-30) Ferrule Fuse



Dimensions in mm

MDC10A(1-30)S Surface Mount Fuse



Dimensions in mm

Recommended Mounting Torque and Bolt Size

Fuse Type	Mounting Style	Fuse Rating	Thread Size	Tightening Torque	
				N-m	In-lbs
MDC010A	Surface Mount [-S]	1-30A	1/4-20	5.5	50

RECOMMENDED FUSE BLOCKS for midget (10x38mm fuses)

USM and USFM



Number of Poles	Catalog Number			
	UltraSafe™ Indicating Fuse Holder	Screw Connector	Pressure Plate Connector	Copper Box Connector
Adder		30310	30320	30350
1	USM1I	30311	30321	30351
2	USM2I	30312	30322	30352
3	USM3I	30313	30323	30353
3	USFM10I			

USGM



Number of Poles	Catalog Number			
	UltraSafe™ Non-Indicating Fuse Holder	UltraSafe™ Indicating Fuse Holder	UltraSafe™ Photovoltaic Midget Non-Indicating	UltraSafe™ Photovoltaic Midget Indicating
1	USGM1	USGM1I, USGM1I-DC24	USGM1HEL	USGM1IHEL
2	USGM2	USGM2I		
3	USGM3	USGM3I		
4	USGM4	USGM4I		
3 + N	USGM3N	USGM3IN		

RECOMMENDED FUSE CLIPS



C08919P

- Fuse Clips 30A - 13/32" mounting hole: .196" dia. - #10



C08915P

- Fuse Clips 30A - 13/32" mounting hole: .172" dia. - #8



SDC7

- PC Mount Fuse Clips 30A max - 13/32"