

## 250V UMF for AC Applications: MF2410 M



### Features:

- Extremely small size with 250 VAC rating
- Surface mount fuses in AC applications
- Excellent inrush current withstanding capability
- Operating temperature range: -55°C to +125 °C (with de-rating)
- Complying with IEC 60127-4
- Fiberglass enforced epoxy fuse body
- Copper termination with nickel and tin plating
- Halogen free, RoHS compliant
- 100% lead-free



### Time/Current Characteristics:

% of Current Rating	Clearing Time at 25°C	
	Min.	Max.
125%	1 hour	
200%		120 seconds
1000%	0.001 seconds	0.01 seconds

**Patents:** Patent numbers ZL200810092353.3; ZL200910007157.6; ZL201120450579.3; ZL201120536307.5; ZL201220063222.4; ZL201110123326.X; and other pending patents.

### Agency Approval:

Agency	File No.
UL	E232989
CQC	CQC11012065956
KC	SU05038-12001/12002
PSE	PSE12020434
VDE	40034853

### Interrupting Ratings:

100 A @ 250 VAC; 50 A @ 125 VDC

### Ordering Information:

Part Number	Current Rating (A)	Marking (Black)	Voltage Rating (VAC)	Nominal DCR (Ω)	Voltage Drop Max. (mV)	Nominal I <sup>2</sup> t (A <sup>2</sup> s)
MF2410F0.500TM	0.50	C	250	0.206	166	0.11
MF2410F0.630TM	0.63	S	250	0.148	144	0.20
MF2410F0.800TM	0.80	H	250	0.109	139	0.35
MF2410F1.000TM	1.00	E	250	0.084	129	0.62
MF2410F1.250TM	1.25	F	250	0.065	128	1.00
MF2410F1.600TM	1.60	T	250	0.049	127	1.80
MF2410F2.000TM	2.00	I	250	0.038	123	3.00

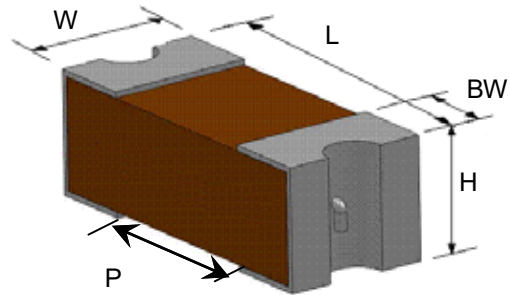
Notes:

- Resistance is measured at ≤10% of rated current and 25°C ambient.
- Voltage drop is measured at 100% of rated current.
- Melting I<sup>2</sup>t is calculated at 0.001 second pre-arcing time.

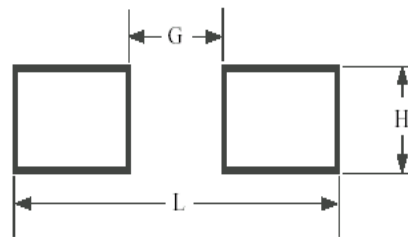
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**Shape and Dimensions:**

	Inch	mm
L	0.240 ± 0.006	6.10 ± 0.15
W	0.098 ± 0.006	2.49 ± 0.15
H	0.085 ± 0.008	2.16 ± 0.20
BW	0.053 ± 0.015	1.35 ± 0.38
P	≥ 0.118	≥ 3.00


**Recommended Land Pattern:**

	Inch	mm
L	0.338	8.60
G	0.118	3.00
H	0.110	2.80


**Product Identification:**

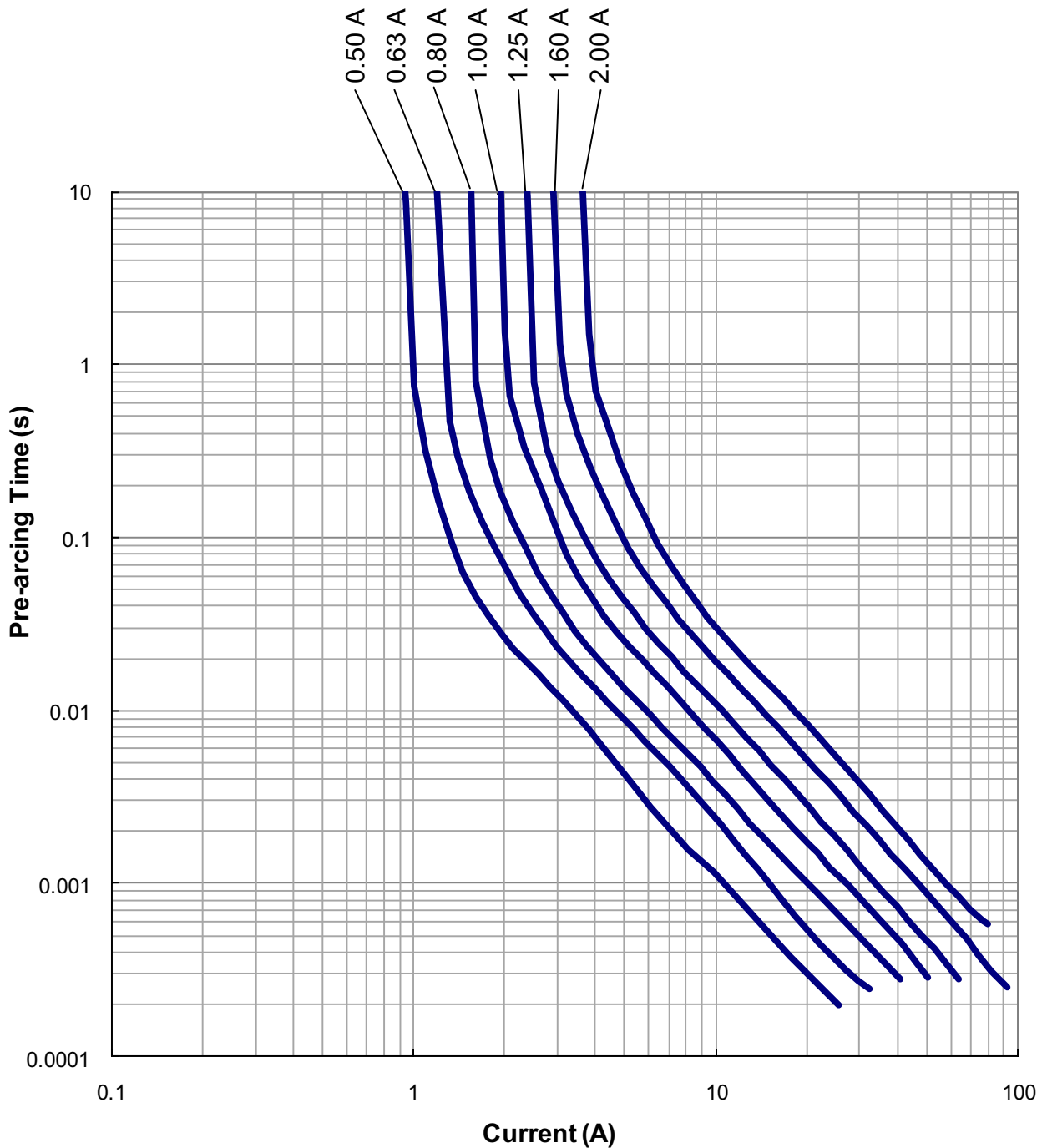
MF 2410 F 1.000 I M  
 (1) (2) (3) (4) (5) (6)

- (1) Series code: MF
- (2) Size code: 2410
- (3) Time/current characteristics: F
- (4) Current rating code: 1.000 - 1 A
- (5) Package code:
  - T - Tape & Reel
  - B - Bulk
- (6) Marking code: M - with mark

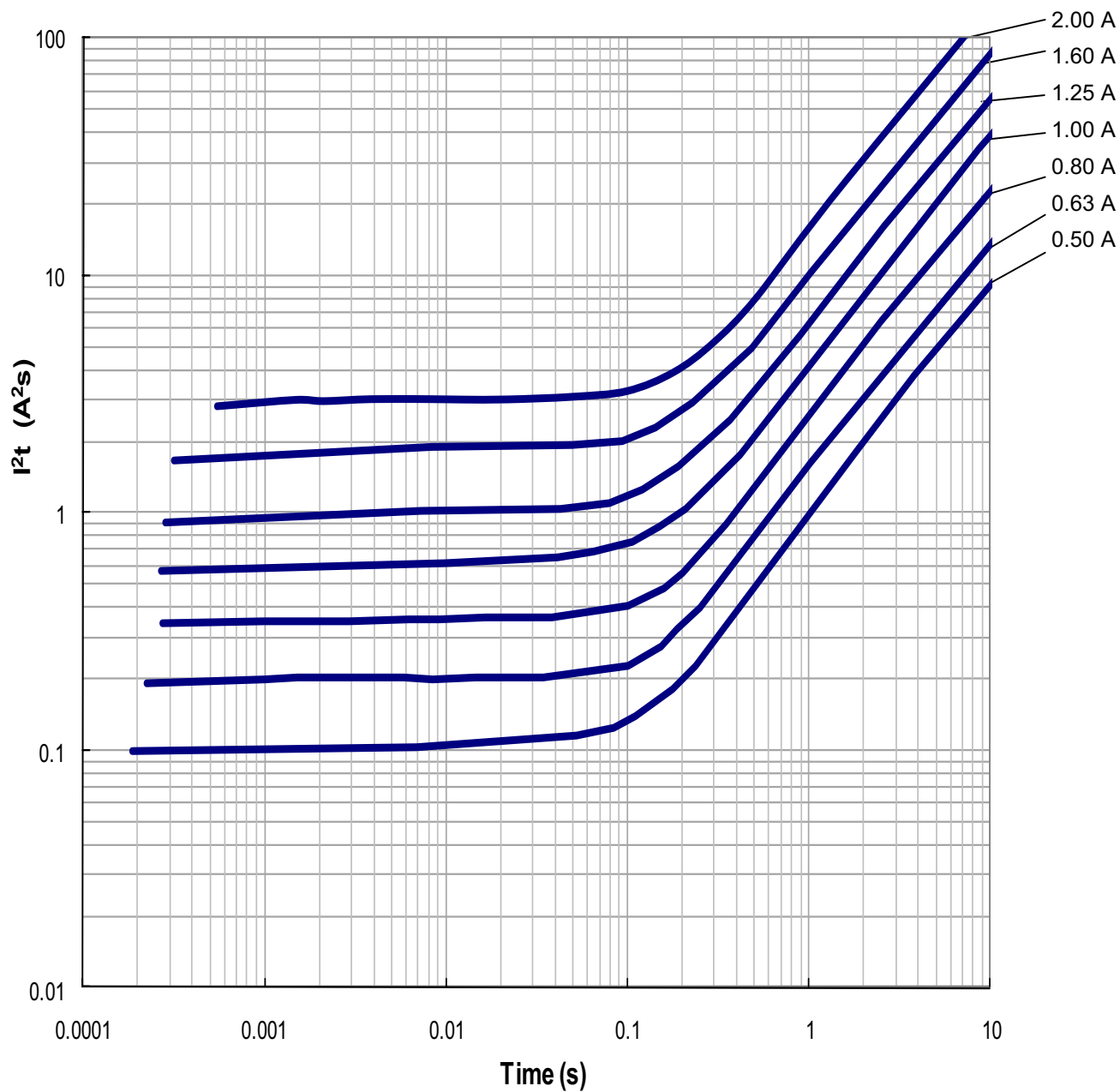
**Typical Applications:**

- Lighting: Ballast, LED Drivers
- Power: Chargers, Adapters, Power Boards
- Medical Equipment
- Industrial Equipment
- White Goods

### Average Time/Current Curves



### Average $I^2t$ vs. t Curves



**250V UMF for AC Applications: MF2410**


**Electrical Specification: (Reference to IEC 60127-1/-4)**

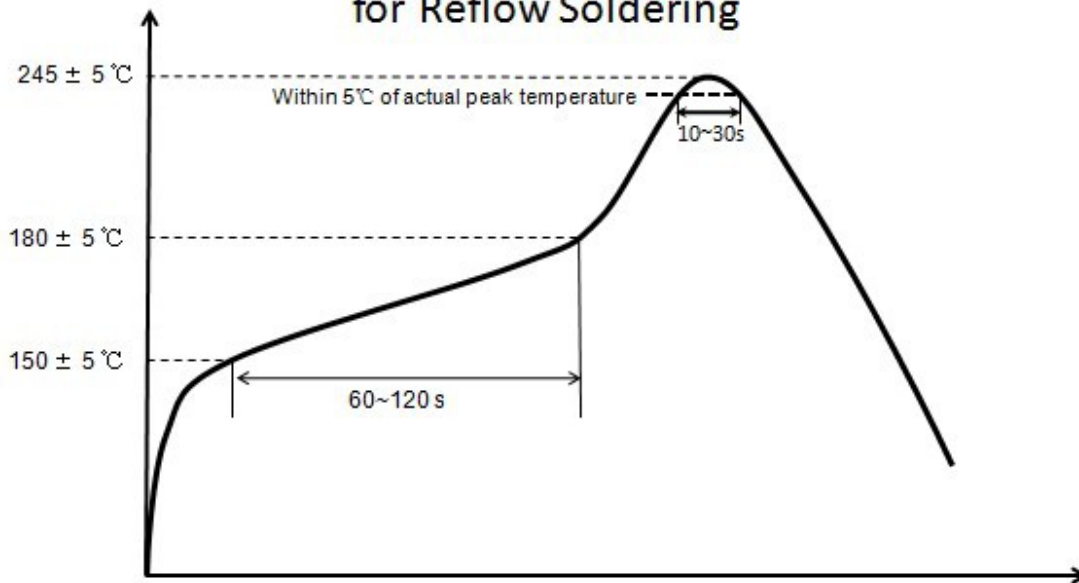
Electrical Specification	Test Condition and Requirement
Voltage Drop	100% rated current, meeting IEC 60127-4 requirements
Time/Current Characteristics	See short form datasheet
Breaking Capacity	100 A @ 250 VAC; 50 A @ 125 VDC
Insulation Resistance after Opening	Under 200% rated voltage, resistance $\geq 0.1 \text{ M}\Omega$
Endurance Test	Reference to IEC 60127-4, voltage drop change $\leq 10\%$ , mark remaining legible, no mechanical damage
Temperature Rise	$\leq 70 \text{ K}$ , meeting IEC 60127-4 requirements

**Environmental Tests:**

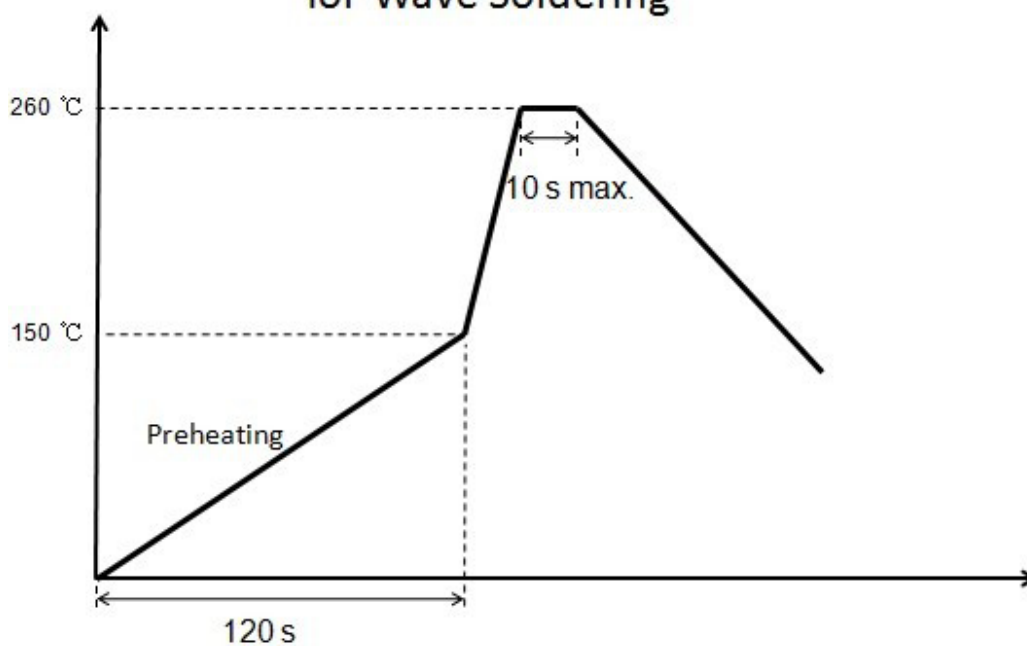
Reliability Test	Test Condition and Requirement	Test Reference
Reflow and Bend	3 reflows at 245°C followed by a 2 mm bend, voltage drop meeting IEC 60127-4, no mechanical damage	Refer to AEM QIQ 048 and QIQ 034
Solderability	245°C , 5~10 seconds, 90% new solder coverage min.	IEC 60127-4
Soldering Heat Resistance	260°C , 10 seconds, voltage drop meeting IEC 60127-4, no mechanical damage, marking remaining legible, no marking color change	IEC 60127-4
Life	25°C , 2000 hours, 10% voltage drop change max.	Refer to AEM QIQ106
Thermal Shock	-65°C to + 125°C , 100 cycles, 10% DCR change max., no mechanical damage	MIL-STD-202 Method 107
Mechanical Vibration	5 – 3000 Hz, 0.4 inch double amplitude or 30 G peak, 10% DCR change max., no mechanical damage	MIL-STD-202 Method 204
Mechanical Shock	1500 G, 0.5 milliseconds, half-sine shocks, 10% DCR change max., no mechanical damage	MIL-STD-202 Method 213
Salt Spray	5% salt solution, 48 hour exposure, 10% DCR change max., no excessive corrosion	MIL-STD-202 Method 101
Moisture Resistance	10 cycles (10 days), 10% DCR change max., no excessive corrosion	MIL-STD-202 Method 106

**Soldering Temperature profiles**

**Recommended Temperature Profile for Reflow Soldering**



**Recommended Temperature Profile for Wave Soldering**

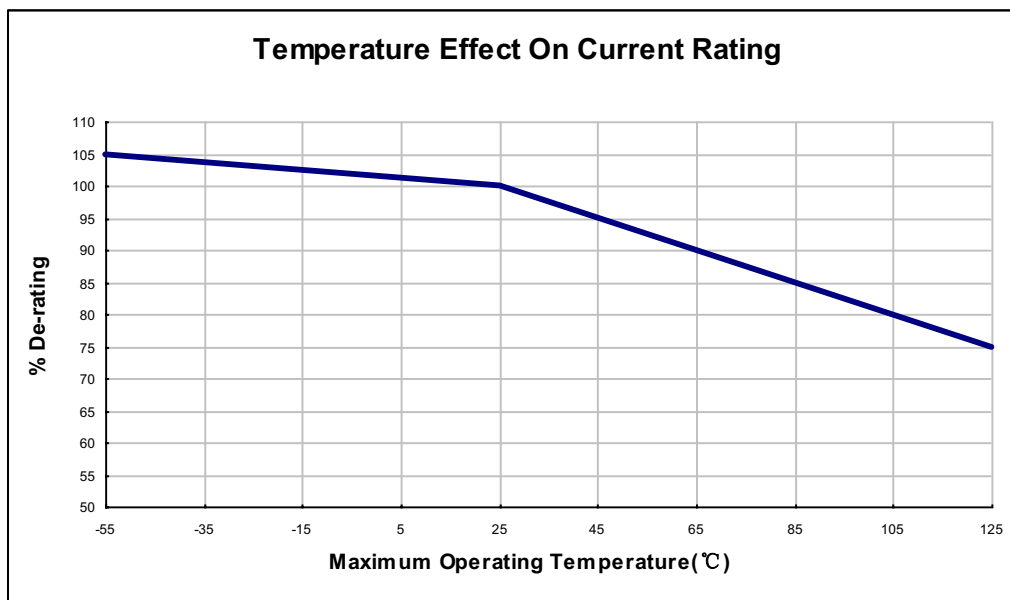


## 250V UMF for AC Applications: MF2410



### Fuse Selection and Temperature De-rating Guideline

The ambient temperature affects the current carrying capacity of fuses. When a fuse is operating at a temperature higher than 25°C, the fuse shall be “de-rated”.



### Packaging Data

Chip Size	Parts on 7 inch (178 mm) Reel
2410 (6125)	2,000