



Product Specification

产 品 规 格 书

Product Name : MF2410

AEM Part Number : MF2410F0.500TM

Customer :

Revision: 4

Date: 2013-08-23

AEM Components (Suzhou) Co., Ltd

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Prepared by	Checked by	Approved by	Accepted by customer
Lingling Li	Jing Shi	Jing Shi	
Signature			

CUSTOMER:

MF2410

AEM Part Number: MF2410F0.500TM

1 Operating Temperature Range

-55°C ~ +125°C (with de-rating)

2 Ratings

AEM Part Number	Current Rating (A)	Voltage Rating	Nominal DCR	Voltage Drop	Nominal I ² t (A ² s)
		AC	(Ω)		
MF2410F0.500TM	0.50	250	0.206	166	0.11

Resistance is measured at ≤10% of rated current and 25°C ambient.

Voltage drop is measured at 100% of rated current.

Melting I2t is calculated at 0.001 second pre-arcing time.

3 Clear-Time Characteristics

% of current rating	Pre-arcing Time at 25°C	
	125%	1 hours (min)
200%		120 seconds (max)
1000%	0.001 seconds (min)	0.01 seconds (max)

4 Interrupting Rating:

0.500A 100A@ 250VAC 50A@ 125VDC

5 Marking(Optional):

Black marking character code

0.500A: C

6 Agency Approval:

6.1 UL: E232989

6.2 CQC: CQC11012065956

6.3 KC : SU05038-12001

6.4 PSE : PSE12020434

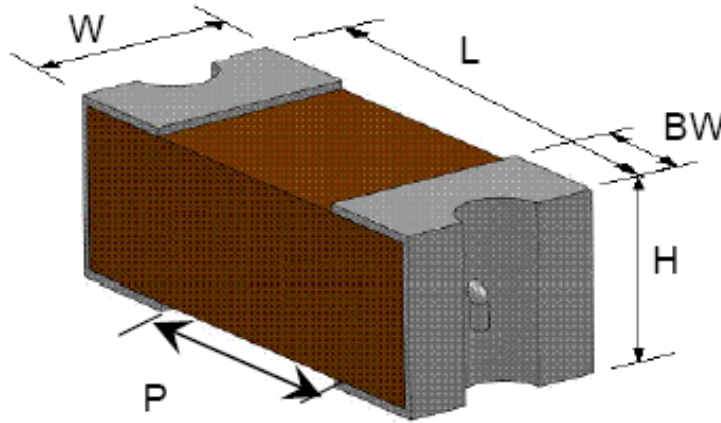
6.5 VDE: 40034853

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AEM Part Number: MF2410F0.500TM

7 Shape and Dimensions: Inch (mm)



Size	L	W	H	BW	P
2410 (6125)	0.240±0.006 (6.10±0.15)	0.098±0.006 (2.49±0.15)	0.085±0.008 (2.16±0.20)	0.053±0.015 (1.35±0.38)	≥0.118 ≥3.00

8 Product Identification

MF 2410 F 0.500 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: 0.500 - 0.5 A

(5) Package code:

T - Tape & Reel

B - Bulk

(5) Marking code: M - with mark

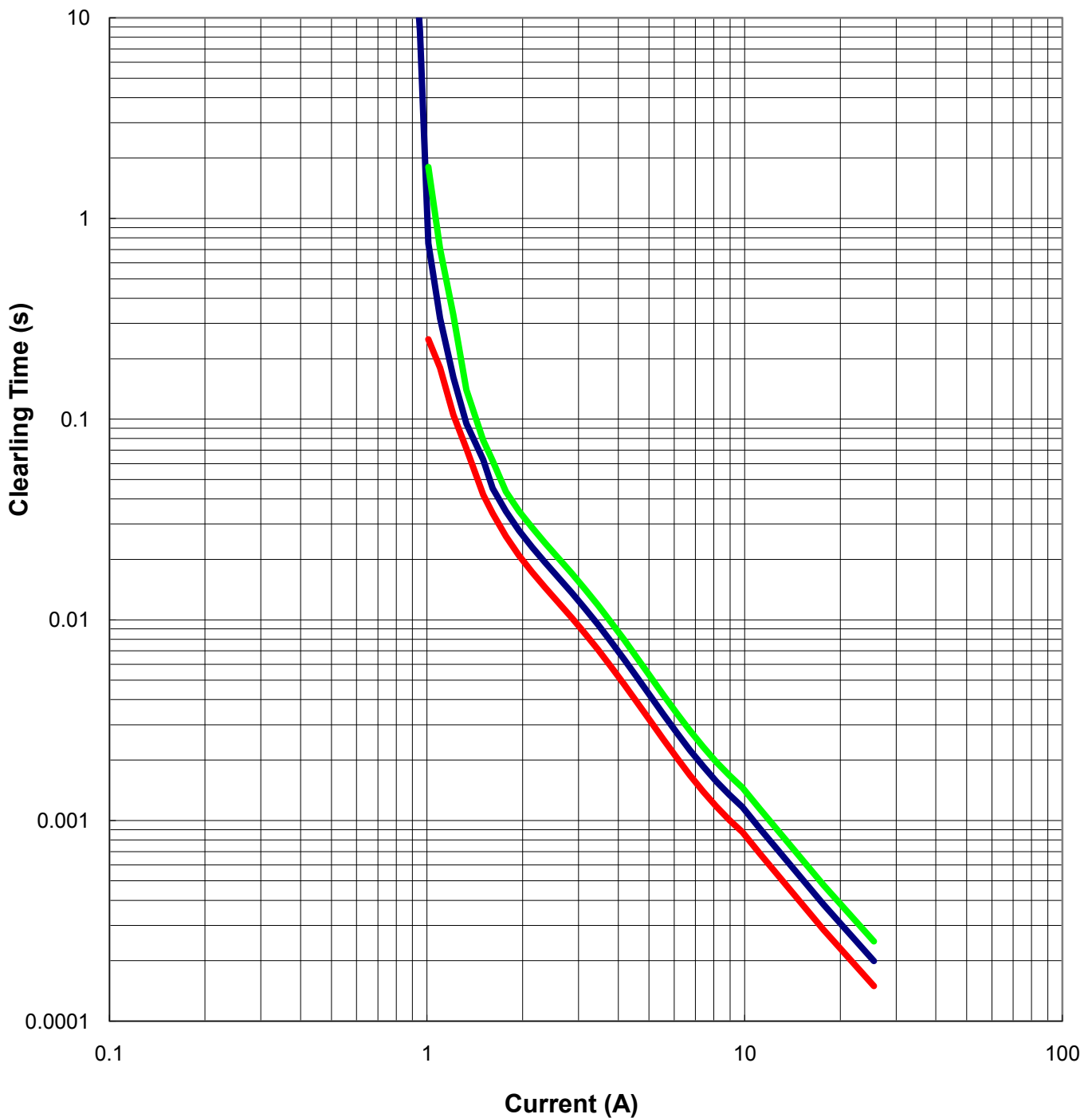
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9. Clearing Time vs. Current Curve:

MF2410F0.500TM



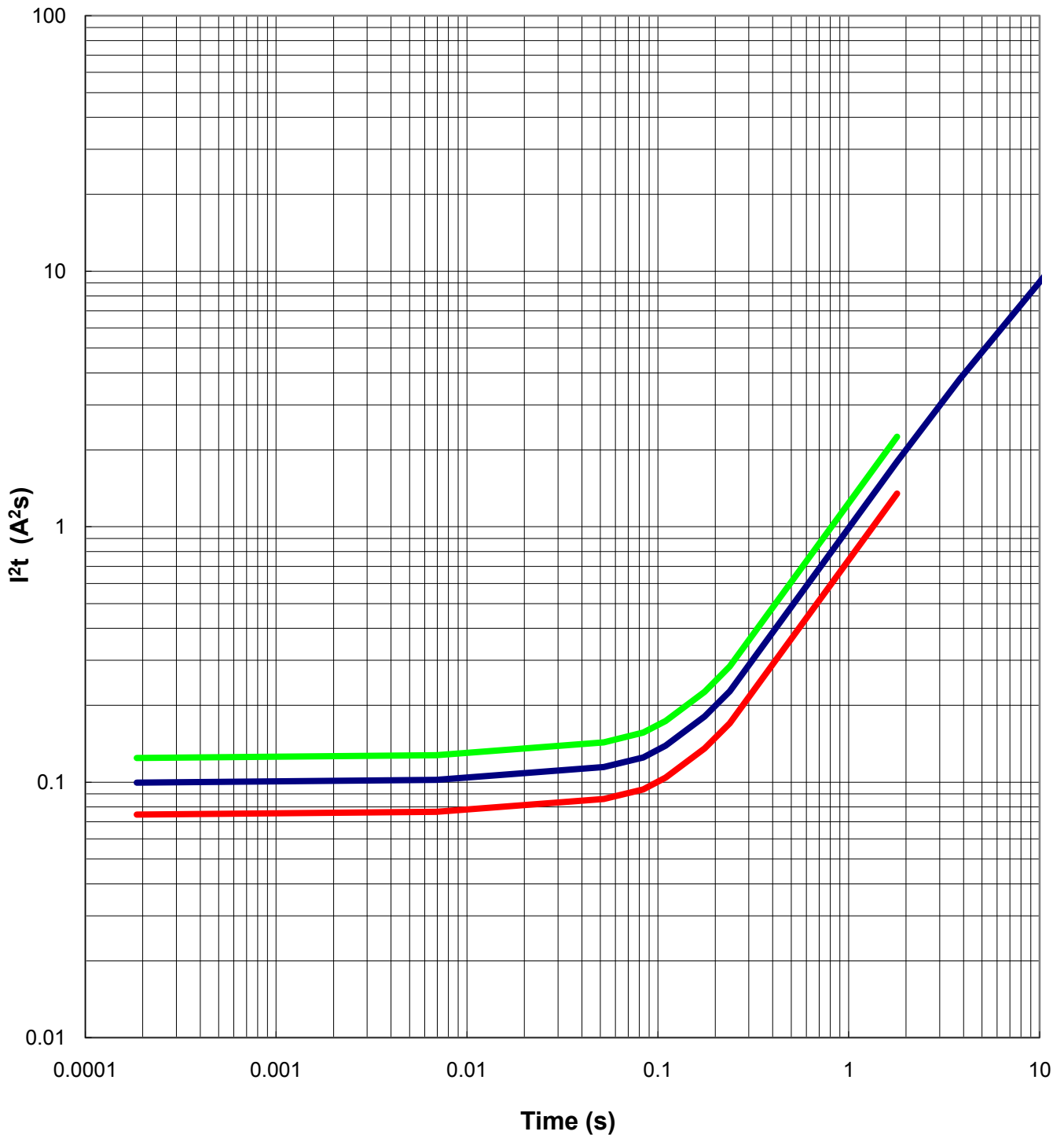
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10. I^2t vs .t Curve:

MF2410F0.500TM



CUSTOMER:

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AEM Part Number: MF2410F0.500TM

11 Features

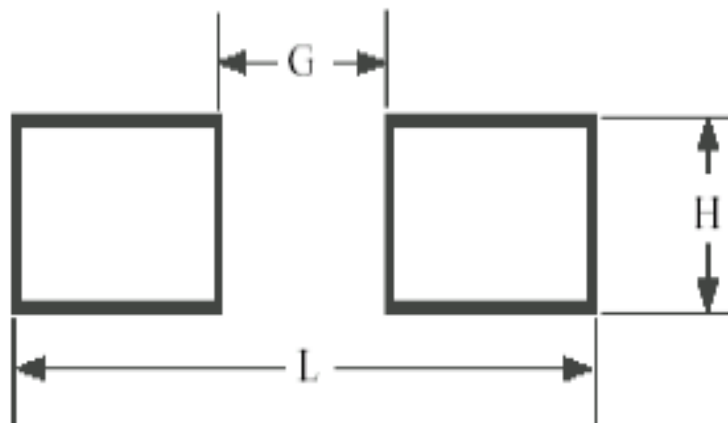
- 11.1 Extremely small size with 250 VAC rating
- 11.2 Surface mount fuses in AC applications
- 11.3 Excellent inrush current withstanding capability
- 11.4 Complying with IEC 60127-4
- 11.5 Fiberglass enforced epoxy fuse body
- 11.6 Copper termination with nickel and tin plating
- 11.7 Halogen free, RoHS compliant
- 11.8 100% lead-free

12 Typical Applications

- 12.1 Lighting: Ballast, LED Drivers
- 12.2 Power: Chargers, Adapters, Power Boards
- 12.3 Medical Equipment
- 12.4 Industrial Equipment
- 12.5 White Goods

13 Recommended PC Board Land Pattern

Chip Size	L INCH (mm)	G INCH (mm)	H INCH (mm)
2410 (6125)	0.338(8.6)	0.118(3.00)	0.110 (2.80)



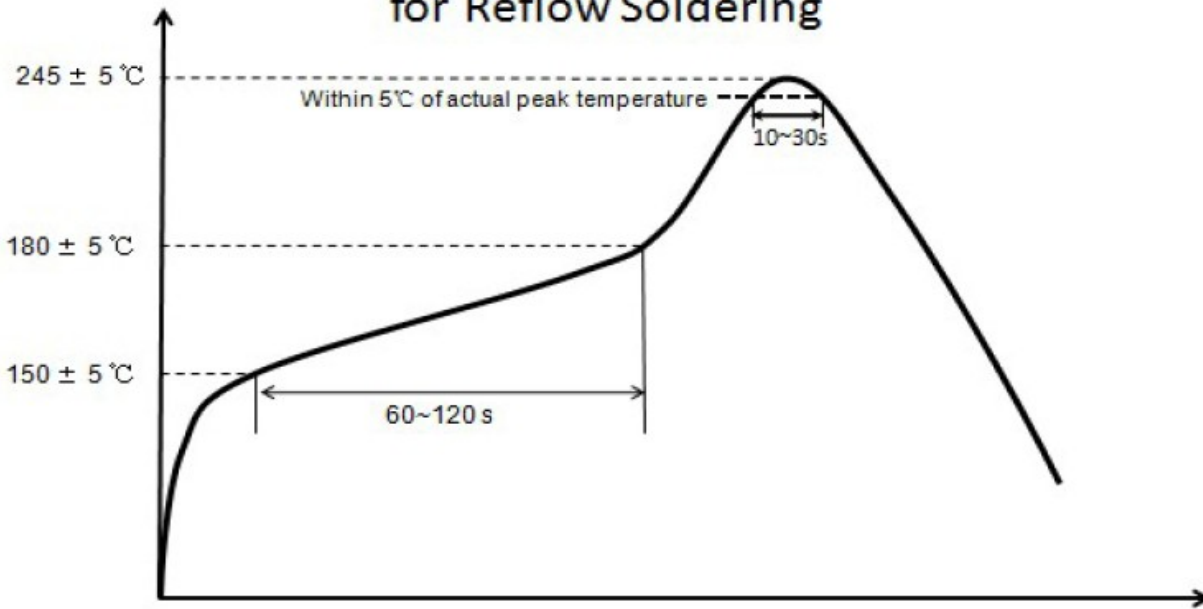
CUSTOMER:

MF2410

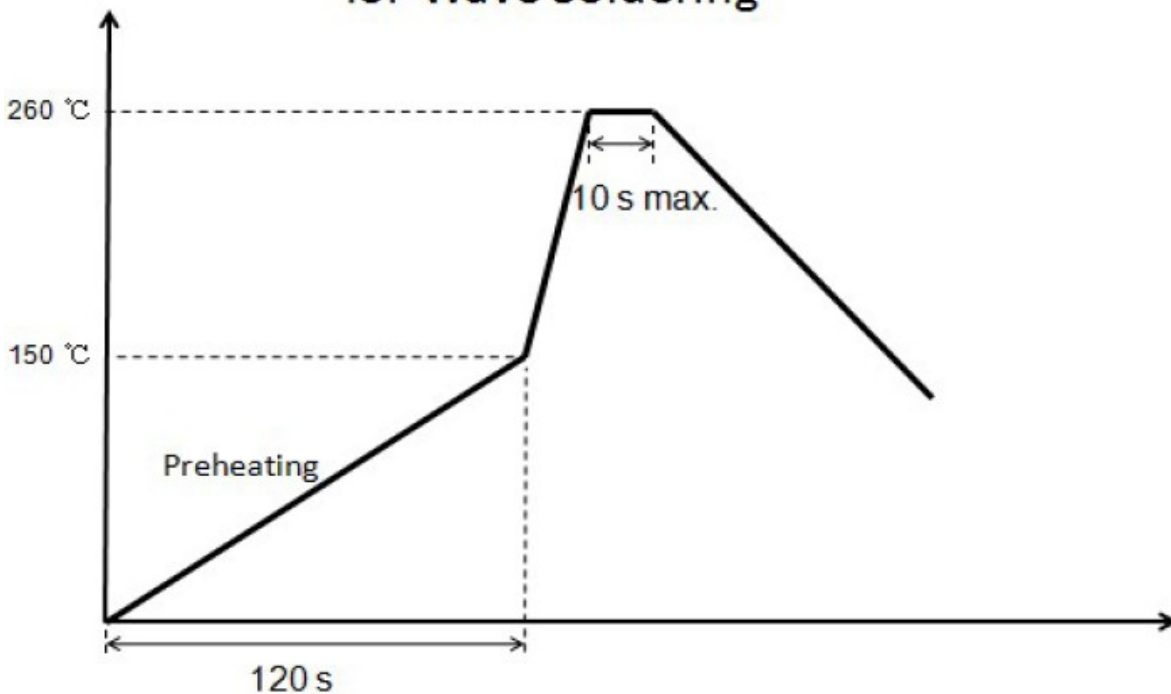
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14 Soldering Temperature profiles

Recommended Temperature Profile for Reflow Soldering



Recommended Temperature Profile for Wave Soldering



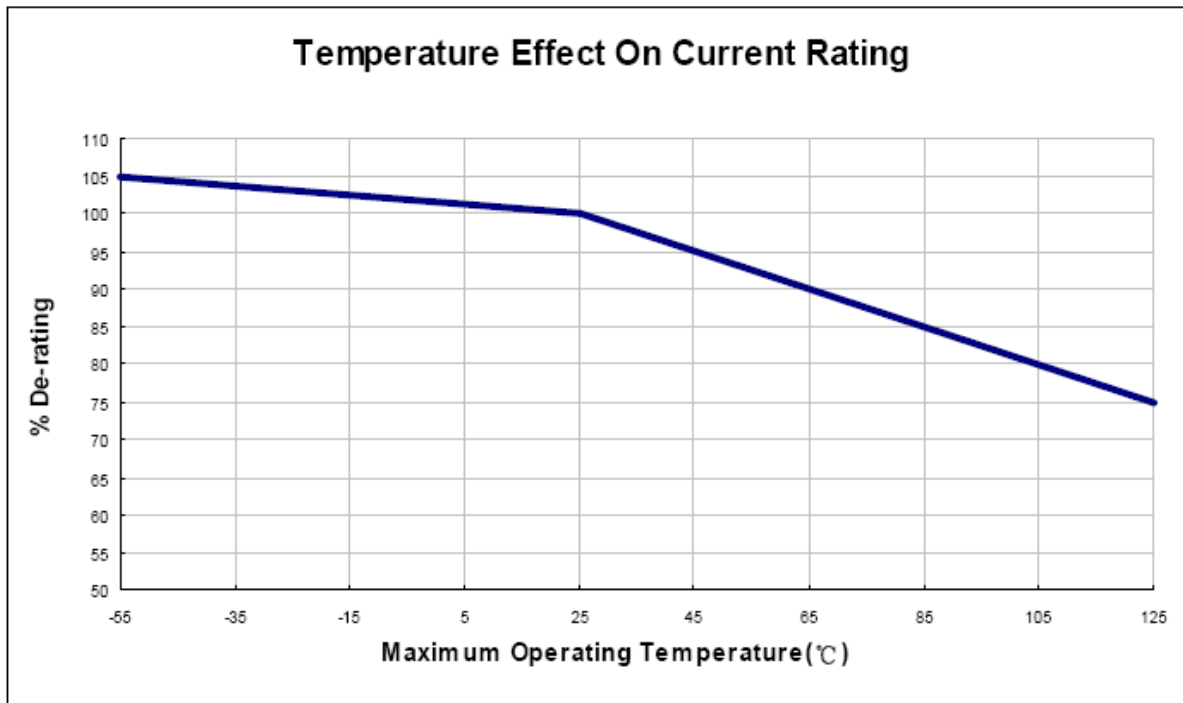
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15 Fuse Selection and Temperature De-rating Guideline

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”.



16 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

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17 Special Measuring Equipment

17.1 Clear Time

Clear time is measured with clear time tester.

17.2 DC Resistance

DC resistance is measured with Keithley 580/Keithley 2010.

17.3 Interrupting Capability

Interrupting capability is measured with short circuit tester.

18 Reliability Tests

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

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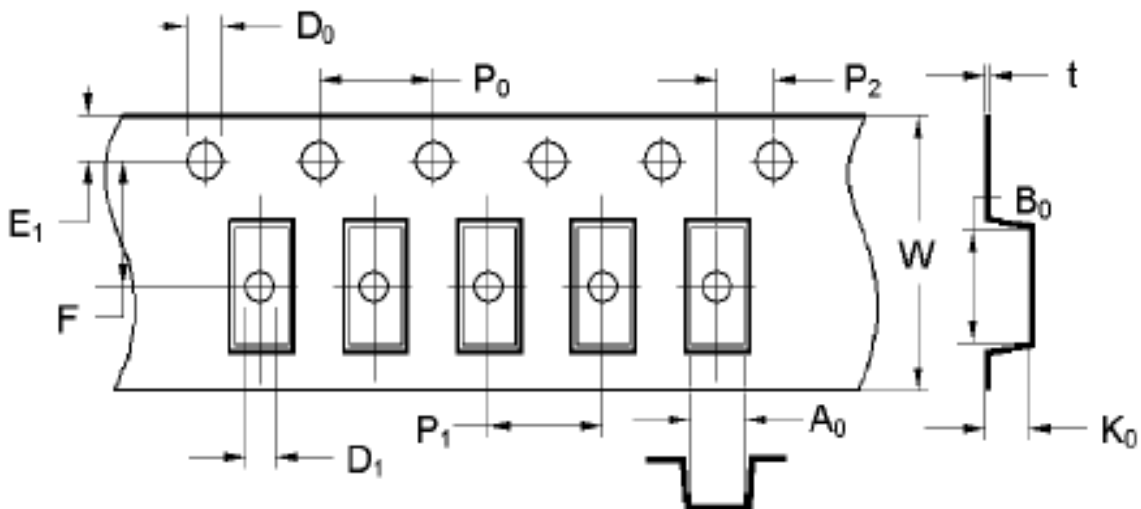
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19 Packaging

19.1 Surface mount chip fuses are provided on tape-and-reel for use in pick-and-place machines or in bulk for special applications. Both tape-and-reel and bulk products are sealed vacuum aluminum foil bag with desiccant. The reel size is 7 inches.

19.2 Tape Dimensions: Inch (mm)



Size	A0	B0	K0	Type
2410	2.85 ± 0.10	6.40 ± 0.10	2.35 ± 0.10	Plastic

E	F	W	P1	P0	P2	D0	D1	t
1.75 ± 0.10	5.50 ± 0.10	12.00 ± 0.10	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.10	1.50 ± 0.10 -0.00	1.55 ± 0.10	0.25 ± 0.05

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19.3 Quantity Per Reel

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

Other sizes and chip quantities can be provided upon customer's request.

20 Storage

- 20.1 The maximum ambient temperature shall not exceed 35°C. Storage temperature higher than 35°C could result in the deformation of packaging materials.
- 20.2 The maximum relative humidity recommended for storage is 75%. High humidity with high temperature could accelerate the oxidation of the solder plating on the termination and reduce the solderability of the components.
- 20.3 Vacuum aluminum foil bag with desiccant shall be used to reduce the oxidation of the termination and shall only be opened prior to use.
- 20.4 The products shall not be stored in areas where harmful gases containing sulfur or chlorine are present.