



CONQUER
功得電子

規格書

Specification For Approval

Spec NO. SFA003

型 號： **ABE/ABP-A** 系列
快速型瓷管保險絲

Model： **ABE/ABP-A** Series
Fast Acting Ceramic Tube Fuse

Designed in accordance to UL248 standard.

Conquer Electronics Co., Ltd.

五股廠

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History of Change

REV.	Description	Date	Drawn	Designed	Checked	Approved
1	(1)發出 Issue。	2010.06.24	廖英璋	葉志強	蔡進義	蔡其湖
2	(1)新增詳述8 遮斷能力 Interrupting rating。	2010.10.04	廖英璋	葉志強	蔡進義	蔡其湖
3	(1)新增詳述8 遮斷能力 Interrupting rating: 40A。 (2)新增11 標記/安規認證 Mark/ Safety certification: 40A。	2012.11.24	廖英璋	葉志強	蔡進義	蔡其湖
4	(1)修改11 標記/安規認證 Mark/ Safety certification: 40A的冷阻值。	2013.07.10	廖英璋	邱俊偉	蔡進義	蔡其湖
5	(1)刪除2.2 額定電壓 Rated Voltage: 125V / 32V。 (2)新增8 遮斷能力 Interrupting Rating: 0.1A~10A: 750 amperes at 250V DC。 20.1A~30A: 1000 amperes at 125V AC (3)新增11 標記/安規認證: I2t值。 (4)新增13 安裝方式及條件 Installation Way and Parameters。 (5)新增14 建議生產參數(無鉛焊錫使用)。	2016.11.22	廖英璋	邱俊偉	蔡進義	蔡其湖
6	(1)將規格書內的AC修改為ac，DC修改為dc。 (2)修改9 包裝:ABE一箱數量為5000PCS。 (3)新增15 It曲線圖和16 I2t曲線圖。	2018.02.05	廖英璋	邱俊偉	蔡進義	葉順益
7	(1)統一規格書格式。 (2)修改8 包裝:一箱數量。 (3)新增10 產品描述: L品名之描述 (4)新增16.3 操作溫度: -55℃~125℃。	2021.04.06	廖英璋	彭彥鳴	邱信雄	葉順益
8	(1)規格書內文格式調整 (2)項目5.1: 修改拉力測試之拉力值為1kgf (3)項目8: 增加包裝ABP-A TR Series型式 (4)項目9: 額定規格16A~25A UL 安規標誌由  變更為  。 (1)Content format adjustment. (2)Clauses 5.1: Modify the tensile test force to 1 kgf. (3)Clauses 8: Add the ABP-A TR Series packaging type. (4)Clauses 9: Change the UL recognition mark for 16A~25A ratings from  to  .	2026.06.15	董盈汝	林 儼	翁靜軒	葉順益

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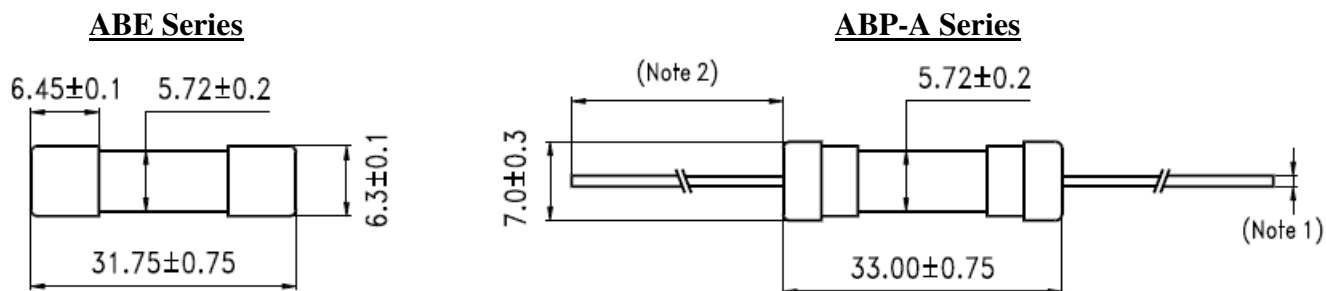
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1 適用範圍 Applications :

本標準適用於保護儀器、電源供應器和電話機用之筒管式熔斷保險絲。

For protecting instruments, power supplies and telephone sets.

2 形狀及尺寸 Shape & Dimensions : (Unit : mm)



※註1 (Note1)

安培數 Ampere Rating	腳徑 Lead Wire
≤ 12A	φ 0.8±0.05 mm
13A~19A	φ 1.0±0.05 mm
≥ 20A	φ 1.2±0.05 mm

※註2 (Note2)

品名 Product Description	附腳長度 Length of Lead Wire
U/C ABP-A ___A 250V (PF) RU ABP-A ___A 250V (PF) CRU ABP-A ___A 250V (PF)	38±2mm
U/C ABP-A ___A 250V L(PF) RU ABP-A ___A 250V L(PF) CRU ABP-A ___A 250V L(PF)	50±2mm

2.1 構造形狀 Structure & Shape : 如上圖 As shown in figure above

2.2 額定電壓 Voltage Rating : 250Vac

2.3 額定電流 Ampere Rating : 0.1A~40A

3 材料 Material :

Part Name	部品名稱	Quantity 數量
Innter Cap 內帽	- Nickel plated copper alloy - 銅鍍鎳	2
Outer Cap 外帽	- Nickel plated copper alloy - 銅鍍鎳	2
Lead Wire 引線	- Tin plated copper - 銅鍍錫	2
Ceramic Tube 瓷管	- Non-transparent ceramic tube - 不透明瓷管	1
Fuse Element 可熔體		1

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4 電氣特性 Electrical Characteristics :

4.1 負載容量: 通過額定電流值 100% (亦即 $1.0 \times I_n A$) , 能繼續通電至少 4 小時無任何熔化現象。

Loading Capacity: Loading 100% rated current (i.e. $1.0 \times I_n A$) for flowing, and it's available to let current keep on flowing at least 4 hours without any melting. (Can keep 4 hours minimum)

4.2 溫度特性: 通過額定電流值 100% (亦即 $1.0 \times I_n A$) 1.5 小時, 繼續維持原加之電流, 每隔十分鐘測試一次, 連續測三次, 溫度不得升高, 若使用熱偶式測量方法。
(Thermocouple method) 則本體溫升在 (※註3)°C 以下。

Temperature: Loading the 100 % ($1.0 \times I_n A$) for 1.5 hours, keep testing it with the original current every 10 minutes. Continue to test it for 3 times. The temperature is not allowed to be higher. The main temperature rise is below (※Note3)°C by way of thermocouple method.

※註3 (Note3)

0.1A~15A (75°C)

15.1A~30A (100°C)

30.1A~40A (175°C)

4.3 過載熔斷: 請參照下表。

Melting due to overloading: Details as follows table.

※最大熔斷時限 Operating Characteristics

安培數 Rating	100% Rating		135% Rating		200% Rating	
	Min.	Max.	Min.	Max.	Min.	Max.
0.1A~30A	4 Hrs			1 Hrs		30 sec
30.1A~40A	4 Hrs			1 Hrs		120 sec

5 機械特性 Mechanical Characteristics :

5.1 拉力測試 Tensile Test :

當施加軸拉力 1kgf 於兩端附腳(或銅帽), 無鬆動或損壞現象發生。

Leads and/or caps are soldered (adhered) to withstand axial pulling force of 1kgf without loosening or any harmfulness to firmly attachment.

5.2 彎折強度 Bending Test :

(1) 銅帽附腳腳徑 1.0mm(含)以下, 經過兩次反向之彎折後(彎折 90 度再折回原位謂之一次彎折)不發生損壞。

Diameter of lead wire ≤ 1.0 mm: After two bends of opposite directions (bending through an angle of 90° and back is defined as one bend) of lead, no damage is to be visualized.

(2) 銅帽附腳腳徑 1.2mm(含)以上, 距離銅帽附腳卯合處 10mm 以上, 作一次 90 度之彎折, 不發生損壞。

Diameter of lead wire ≥ 1.2 mm: Only one bend of an angle of 90° without back shall be tested for each lead wire and the bending position shall be at least 10mm a way from the cap-on. After the test there shall be no damage to be visualized.

6 突波實驗 Pulse Test :

為適應電感或電容性電路所產之暫態電流，本品於10倍額定電流的熔斷時間最少為1ms。
In order to stand transient current caused by inductive or capacitive, the fuses are designed to have minimum clearing time of 1 millisecond at 1000% rated current.

7 耐久實驗 Endurance(On-Off Cycle Test) :

本實驗保證產品之壽命與可靠度，施加60%額定電流之脈波，1分鐘ON，2分鐘OFF，1000次以後，本品不熔斷且內阻變化20%以下。

This test is designed to assure a reliable fuse, Controls are set giving 60% of rated ampere. 1 minute ON, 2 minutes OFF per time, the fuse will not open before 1000 times and the internal resistance change will be below 20%.

8 包裝 Packing :

包裝盒上清楚標示以下資訊：產品目錄編號、額定值（電壓、電流和分斷能力）以及適用的安規標示。所有包裝材料均符合 RoHS 或 HF（無鹵）環保要求，且不得與保險絲零件發生化學反應。

The packaging box clearly displays the following information: catalog number, ratings (voltage, current, and interrupting capacity), and applicable safety markings. All packaging materials comply with RoHS or HF (halogen-free) environmental requirements and shall not chemically react with fuse components.

ABE Series (散裝 Bulk packaging)

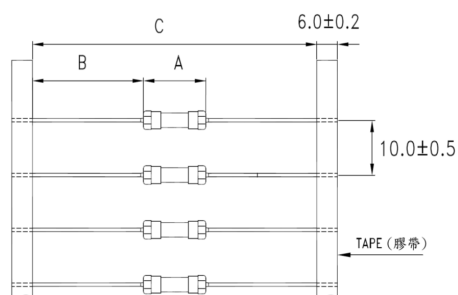
內包裝	500 PCS/盒	Inner Package: 500 pcs per box
外包裝	10 盒/箱	Outer Package: 10 inner boxes per carton
每箱總數量	5,000 PCS/箱	Total Quantity: 5,000 pcs per carton

ABP-A Series (散裝 Bulk packaging)

內包裝	250 PCS/盒	Inner Package: 250 pcs per box
外包裝	10 盒/箱	Outer Package: 10 inner boxes per carton
每箱總數量	2,500 PCS/箱	Total Quantity: 2,500 pcs per carton

ABP-A TR Series (編帶捲盤包裝 Tape-and-Reel Packaging)

內包裝	800 PCS/卷	Inner Package: 800 pcs per reel
外包裝	5 卷/箱	Outer Package: 5 reels per carton
每箱總數量	4,000 PCS/箱	Total Quantity: 4,000 pcs per carton



尺寸 Dimensions	
A	33.0±0.75mm
B	11.75±1.0mm
C	56.5±1.0mm

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9 標記/安規認證 Mark/Agency Approvals :

ABE Series

Ampere Rating	UL	CUL US	SP	SP	PS JET 250V	Nominal Cold Resistance (Ohms)	Nominal Melting I ² t (A ² Sec)
100 mA	**		**			10.220-18.980	0.0027
125 mA	**		**			7.1400-13.260	0.0042
150 mA	**		**			5.3900-10.010	0.0061
160 mA	**		**			4.9000-9.1000	0.0069
200 mA	**		**			4.2000-7.8000	0.0108
250 mA	**		**			2.5305-4.6995	0.0141
300 mA	**		**			1.9600-3.6400	0.0243
315 mA	**		**			1.6100-2.9900	0.0267
350 mA	**		**			1.4000-2.6000	0.0441
375 mA	**		**			1.3678-2.5402	0.0443
400 mA	**		**			0.9800-1.8200	0.0720
500 mA	**		**			0.4815-0.8943	0.1603
600 mA	**		**			0.3318-0.6162	0.2013
630 mA	**		**			0.3001-0.5573	0.2143
700 mA	**		**			0.2450-0.4550	0.2646
750 mA	**		**			0.2190-0.4068	0.3544
800 mA	**		**			0.1980-0.3676	0.4032
1 A	**		**			0.1320-0.2452	0.7200
1.25 A	**		**			0.1000-0.1856	1.2713
1.5 A	**		**			0.0792-0.1472	1.8225
2 A	**		**			0.1391-0.2583	5.3880
2.5 A	**		**			0.0556-0.1032	5.6250
3 A	**		**			0.0445-0.0826	7.1280
3.5 A	**		**			0.0377-0.0699	10.584
4 A	**		**			0.0230-0.0428	13.824
4.5 A	**		**			0.0211-0.0393	27.338
5 A	**		**			0.0200-0.0372	33.750
6 A	**		**		**	0.0163-0.0303	58.450
6.3 A	**		**		**	0.0129-0.0239	73.514
7 A	**		**		**	0.0115-0.0213	88.200
7.5 A	**		**		**	0.0100-0.0186	101.25
8 A	**		**		**	0.0087-0.0161	115.20
10 A	**		**		**	0.0074-0.0137	255.46
12 A	**		**		**	0.0060-0.0112	398.39
13 A	**		**		**	0.0059-0.0111	517.14

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ABE Series

Ampere Rating	UL	cULus	SP	SP	PSJET 250V	Nominal Cold Resistance (Ohms)	Nominal Melting I ² t (A ² Sec)
15 A	**		**		**	0.0043-0.0079	567.00
16 A		**		**		0.0042-0.0078	645.12
18 A		**		**		0.0039-0.0072	874.80
20 A		**		**		0.0031-0.0057	1283.0
25 A		**		**		0.0025-0.0047	2691.0
30 A		**				0.0018-0.0034	4155.3
40 A		**				0.0011-0.0021	9100.8

*: 有安規認證 Have safety certify

** : 有安規認證及銅帽上有安規印字標記 Have safety certify and safety mark on the cap

IR:1000A @ 125Vac	(UL : 0.1A-15A, SP : 0.1A-15A, cULus : 15.1A-20A)
IR:1000A @ 125Vac	(UL : 0.1A-15A, SP : 15.1A-25A, cULus : 20.1A-30A)
IR:1000A @ 250Vac	(cULus : 30.1A-40A)
IR:1000A @ 75Vdc	(cULus : 20.1A-30A)
IR:750A @ 250Vac	(UL : 10.1A-15A, cULus : 15.1-20A)
IR:750A @ 250Vdc	(UL : 0.1A-15A, cULus : 15.1-20A)
IR:400A @ 125Vdc	(cULus : 20.1A-30A)
IR:400A @ 150Vdc	(cULus : 30.1A-40A)
IR:200A @ 250Vac	(UL : 3.6A-10A, SP : 15.1-25A)
IR:100A @ 250Vac	(UL : 1.1A-3.5A, PSJET:6A-15A, cULus : 20.1A-30A)
IR:35A @ 250Vac	(UL : 0.1A-1A)

ABP-A Series

Ampere Rating	UL	cULus	SP	SP	PSJET 250V	Nominal Cold Resistance (Ohms)	Nominal Melting I ² t (A ² Sec)
100 mA	**		**			10.220-18.980	0.0027
125 mA	**		**			7.1400-13.260	0.0042
150 mA	**		**			5.3900-10.010	0.0061
160 mA	**		**			4.9000-9.1000	0.0069
200 mA	**		**			4.2000-7.8000	0.0108
250 mA	**		**			2.5305-4.6995	0.0141
300 mA	**		**			1.9600-3.6400	0.0243
315 mA	**		**			1.6100-2.9900	0.0267
350 mA	**		**			1.4000-2.6000	0.0441
375 mA	**		**			1.3678-2.5402	0.0443
400 mA	**		**			0.9800-1.8200	0.0720
500 mA	**		**			0.4815-0.8943	0.1603
600 mA	**		**			0.3318-0.6162	0.2013
630 mA	**		**			0.3001-0.5573	0.2143

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ABP-A Series

Ampere Rating	UL	cULus	SP	SP	PS NET 250V	Nominal Cold Resistance (Ohms)	Nominal Melting I ² t (A ² Sec)
700 mA	**		**			0.2450-0.4550	0.2646
750 mA	**		**			0.2190-0.4068	0.3544
800 mA	**		**			0.1980-0.3676	0.4032
1 A	**		**			0.1320-0.2452	0.7200
1.25 A	**		**			0.1000-0.1856	1.2713
1.5 A	**		**			0.0792-0.1472	1.8225
2 A	**		**			0.1391-0.2583	5.3880
2.5 A	**		**			0.0556-0.1032	5.6250
3 A	**		**			0.0445-0.0826	7.1280
3.5 A	**		**			0.0377-0.0699	10.584
4 A	**		**			0.0230-0.0428	13.824
4.5 A	**		**			0.0211-0.0393	27.338
5 A	**		**			0.0200-0.0372	33.750
6 A	**		**		**	0.0163-0.0303	58.450
6.3 A	**		**		**	0.0129-0.0239	73.514
7 A	**		**		**	0.0115-0.0213	88.200
7.5 A	**		**		**	0.0100-0.0186	101.25
8 A	**		**		**	0.0087-0.0161	115.20
10 A	**		**		**	0.0074-0.0137	255.46
12 A	**		**		**	0.0060-0.0112	398.39
13 A	**		**		**	0.0059-0.0111	517.14
15 A	**		**		**	0.0043-0.0079	567.00
16 A		**		**		0.0042-0.0078	645.12
18 A		**		**		0.0039-0.0072	874.80
20 A		**		**		0.0031-0.0057	1283.0
25 A		**		**		0.0025-0.0047	2691.0
30 A		**				0.0018-0.0034	4155.3

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** : 有安規認證及銅帽上有安規印字標記 Have safety certify and safety mark on the cap

IR:1000A @ 125Vac (UL : 0.1A-15A, SP : 0.1A-15A, cULus : 15.1A-20A)

IR:1000A @ 125Vac (SP : 15.1A-25A, cULus : 20.1A-30A)

IR:1000A @ 75Vdc (cULus : 20.1A-30A)

IR:750A @ 250Vac (UL : 10.1A-15A, cULus : 15.1-20A)

IR:750A @ 250Vdc (UL : 0.1A-15A, cULus : 15.1-20A)

IR:400A @ 125Vdc (cULus : 20.1A-30A)

IR:200A @ 250Vac (UL : 3.6A-10A, SP : 15.1-25A)

IR:100A @ 250Vac (UL : 1.1A-3.5A, PS NET 6A-15A, cULus : 20.1A-30A)

IR:35A @ 250Vac (UL : 0.1A-1A)

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10 產品描述 Description :

<u>1</u>	<u>ABP-A</u>	<u>A</u>	<u>250V</u>	<u>L</u>	<u>TR</u>	<u>(PF)</u>
1	2	3	4	5	6	7

- 1 安規認證 Safety Approval : U/C / RU / CRU
- 2 系列品名 Series Model : ABE/ABP-A
- 3 安培數 Ampere Rating : 0.1A~40A
- 4 伏特數 Voltage Rating : 250V
- 5 附腳長度 Length of Lead Wire : L(50mm) / Blank(38mm)
- 6 包裝 Packing Code : TR/Blank
- 7 無鉛標示 Pb free : (PF)

11 建議生產參數(無鉛焊錫使用) Recommended Soldering Parameters (for Lead-Free Soldering) :

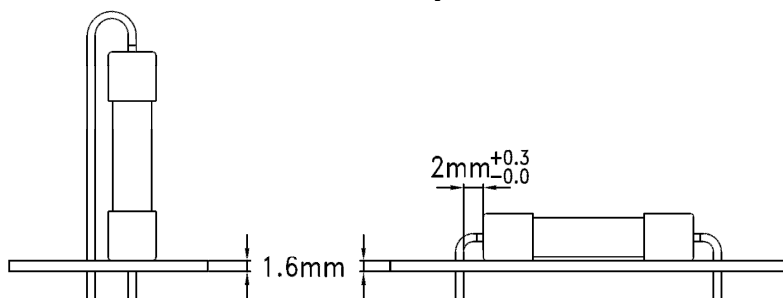
11.1 波峰焊參數 Wave Soldering Parameters :

預熱溫度 / Preheat Temperature	錫槽溫度 / Solder Pot Temperature
最低溫度 / Minimum Temperature : 100°C	最高溫度 / Temperature Maximum : 260°C
最高溫度 / Maximum Temperature : 150°C	焊接時間 / Solder Dwell Time : 2 - 5 sec

11.2 建議手持烙鐵焊接參數 Recommended Hand Soldering Parameters :

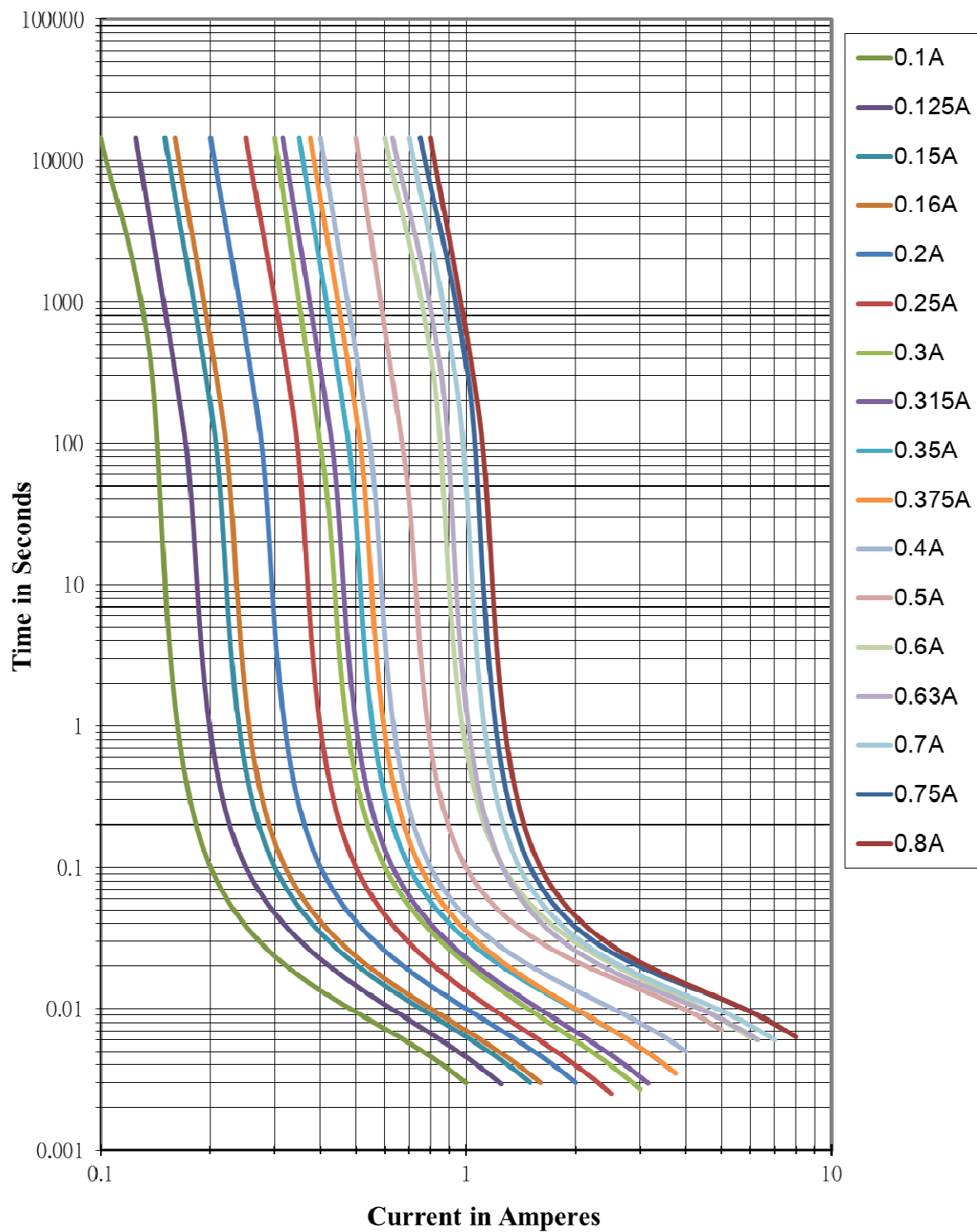
烙鐵溫度 / Soldering Iron Temperature: 350 ± 5°C
加熱時間 / Heating Time : 5 sec max.

12 安裝方式及條件 Installation Way and Parameters :



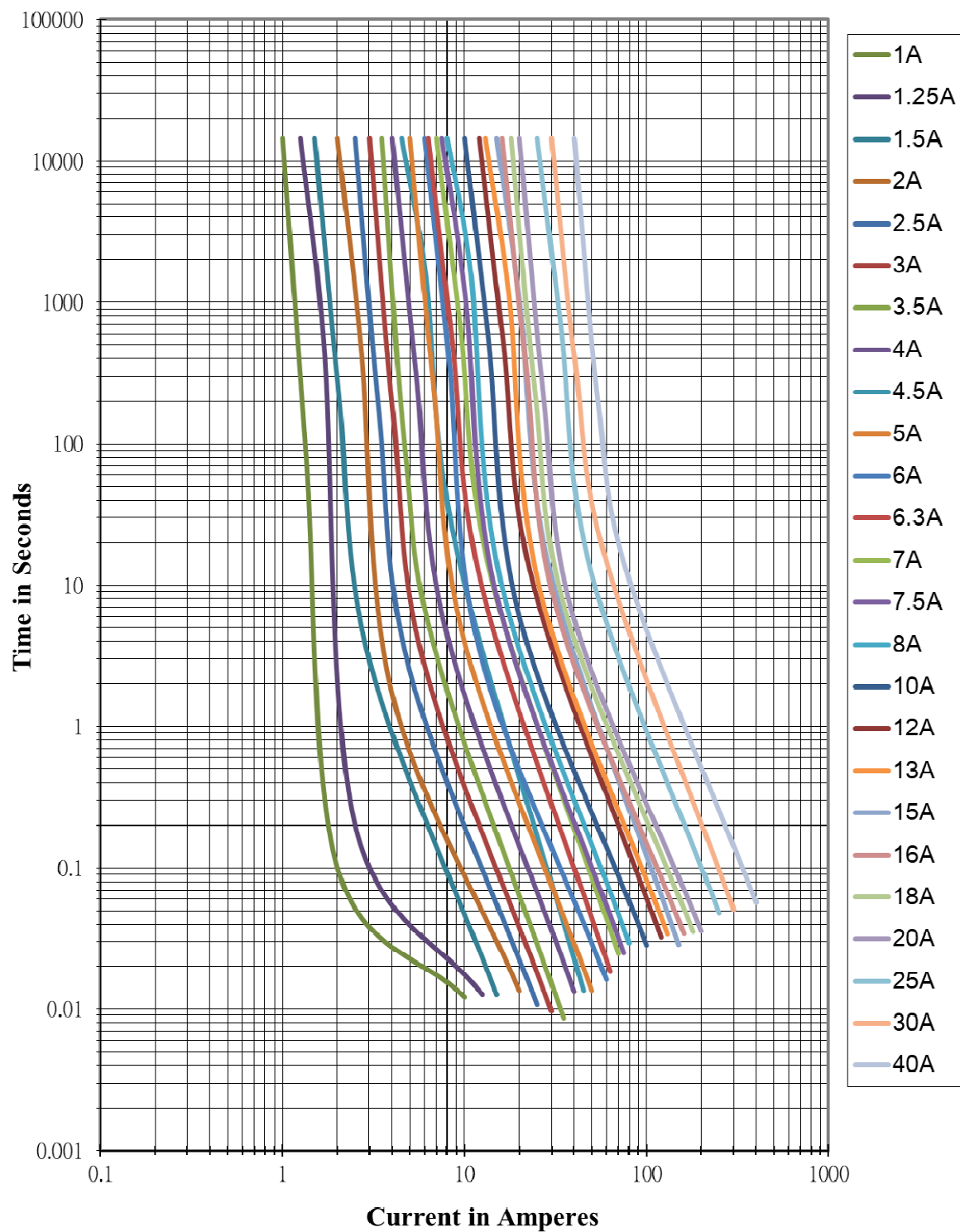
13 It曲線圖 Time Current Characteristic Curve :

0.1A ~ 0.8A



It曲線圖 Time Current Characteristic Curve :

1A ~ 40A



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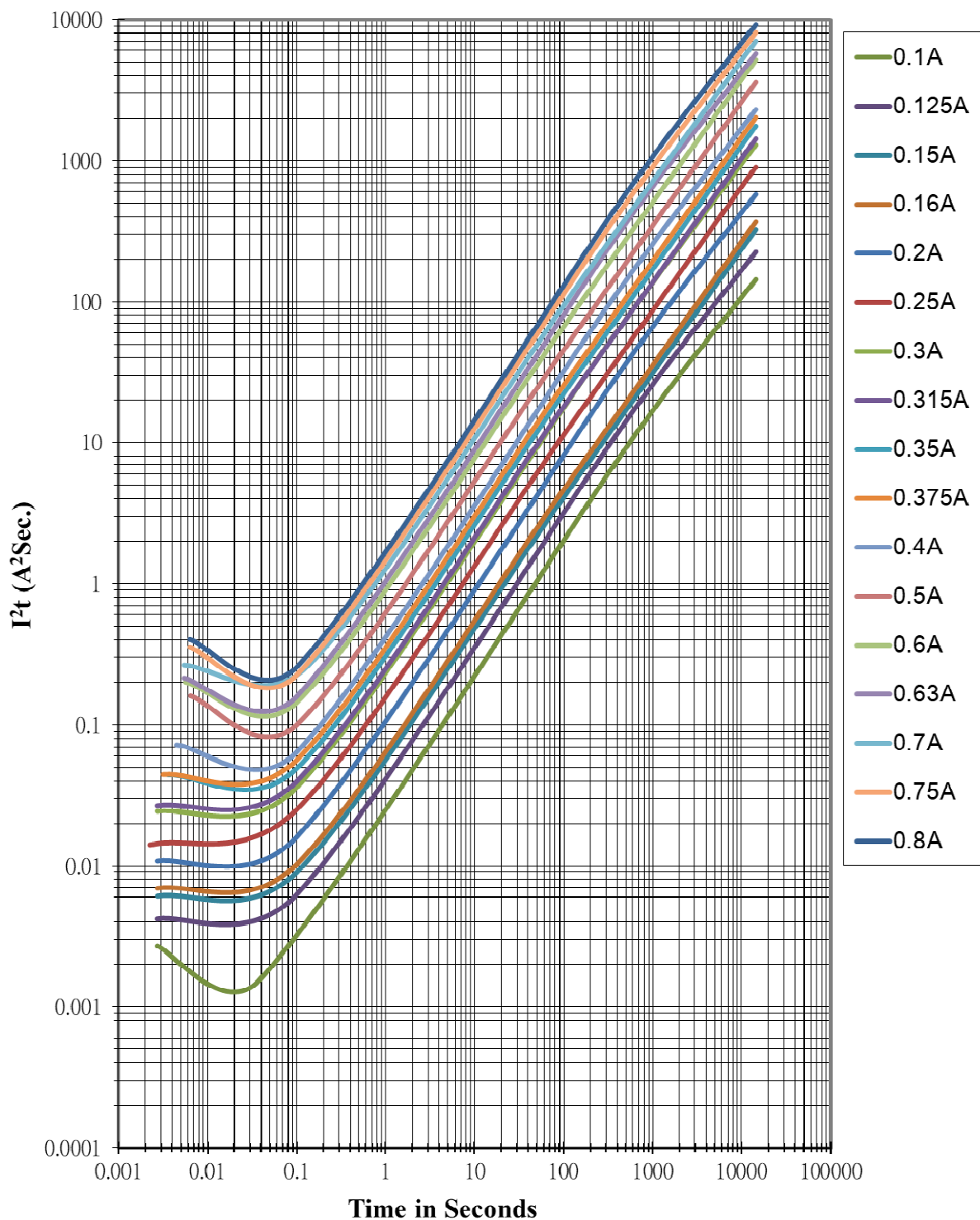
No.26, Wucyuan 5th Rd., Wugu Dist.,(New Taipei Industrial Park) New Taipei City 24888, Taiwan TEL:+886-2-8990-2189 (代表號) FAX:+886-2-8990-2577

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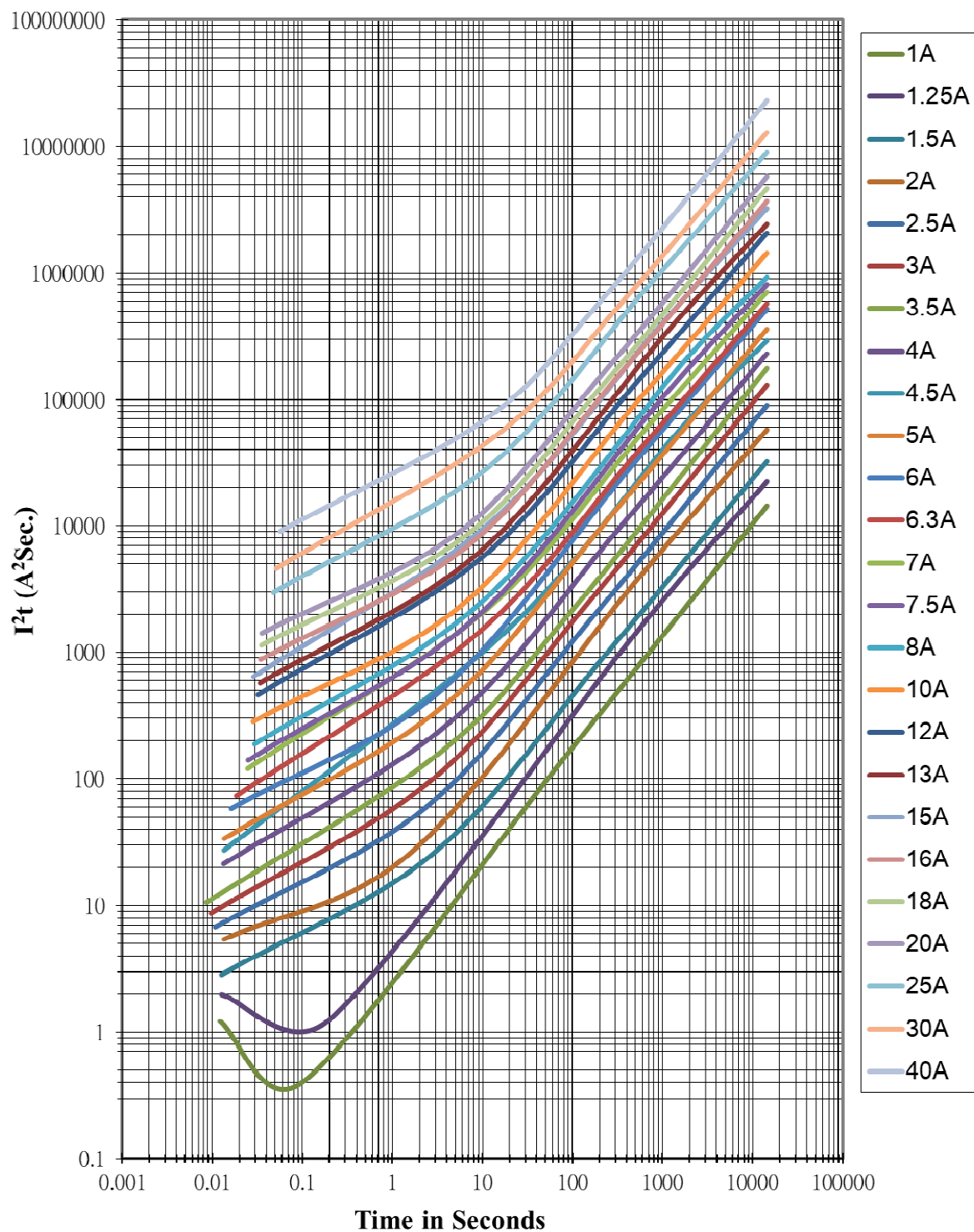
14 I^2t 曲線圖 Average Melting I^2t Curve :

0.1A ~ 0.8A



I^2t 曲線圖 Average Melting I^2t Curve :

1A ~ 40A



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15 信賴性作業規定 Product Characteristics :

Test item	Test Description & Reference
Humidity Unload Test	Reference IEC 60068-2-67 Heat ($85 \pm 0.5^{\circ}\text{C}$) & High Humidity ($85 \pm 1\%$ RH), 240 hours, $\Delta R < 15\%$
Thermal Shock Test	MIL-STD-202G, Method 107G, Test Condition B Temperature setup : $25^{\circ}\text{C} \sim -65^{\circ}\text{C} \sim 25^{\circ}\text{C} \sim 125^{\circ}\text{C}$ Time setup : $-65^{\circ}\text{C}(30\text{min}) \sim 25^{\circ}\text{C}(5\text{min}) \sim 125^{\circ}\text{C}(30\text{min}) \sim 25^{\circ}\text{C}(5\text{min})$ 5 cycles, $\Delta R < 15\%$
Vibration Test	MIL-STD-202G, Method 201A Frequency setup : $10 \sim 55 \sim 10\text{ Hz}$ Time setup : 1 Minute/cycle (X-Y-Z , 120 Cycles) 6hours, $\Delta R < 15\%$
Salt Spray Test	MIL-STD-202G, Method 101E, Test Condition A Salt spray concentration : $5 \pm 1\%$ Test liquid temperature : $35 \pm 0.5^{\circ}\text{C}$, 96hours, $\Delta R < 15\%$
Solderability Test	Reference IEC 60068-2-20 Temperature setup : $250 \pm 3^{\circ}\text{C}$, $3 \pm 0.3\text{ sec}$ After test terminal electrode wetting area must be greater than 95%
Resistance to Soldering Heat Test	Reference IEC 60068-2-58 Temperature setup : $260 \pm 3^{\circ}\text{C}$, $10 \pm 1\text{ sec}$ $\Delta R < 15\%$

16 其他 Other :

16.1 測試環境 Test Conditions :

除非另有指定，本規格書中所有測試皆於標準條件($25\pm 5^{\circ}\text{C}$, 35-75% RH.)下進行。
 Unless otherwise specified, all tests in this specification are performed under standard conditions of $25\pm 5^{\circ}\text{C}$ and 35-75% RH.

16.2 保存與有效期 Storage Conditions and Shelf Life :

保險絲於儲存條件($25\pm 5^{\circ}\text{C}$, 35-75% RH.)下儲放一年內，可確保符合本規範中的機械與電氣之特性。

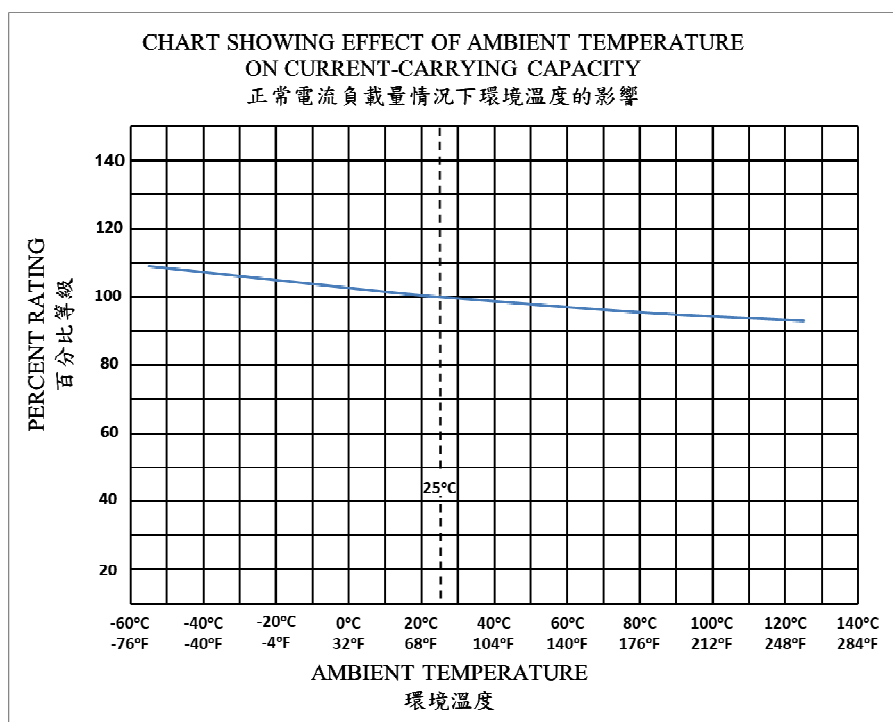
When stored under the specified storage conditions ($25 \pm 5^{\circ}\text{C}$ and 35–75% RH), the fuse will maintain its electrical and mechanical characteristics specified herein for up to one year.

16.3 環境溫度 Ambient Temperature :

保險絲的使用環境溫度是 $-55^{\circ}\text{C}\sim 125^{\circ}\text{C}$ 。但是當使用環境溫度超出 $25^{\circ}\text{C}\pm 5^{\circ}\text{C}$ 範圍，應考慮使用環境溫度對保險絲的影響，如圖一所示。

Fuse can be used at ambient temperature of $-55^{\circ}\text{C}\sim 125^{\circ}\text{C}$. However, when a fuse ambient temperature is not at the range of $25^{\circ}\text{C}\pm 5^{\circ}\text{C}$, customers should consider the ambient temperature affects the current carrying capacity of fuse as shown in Fig 1.

溫度降額曲線
Temperature Re-rating Curve



圖一 (Fig 1)



CONQUER
功得電子

規格書

Specification For Approval

Spec NO. SFA030

型 號： **MST** 系列
慢速型保險絲

Model： **MST Series**
Time Lag Radial Lead Micro Fuse

Designed in accordance to IEC60127 standard.

Conquer Electronics Co., Ltd.

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History of Change

REV.	Description	Date	Drawn	Designed	Checked	Approved
1	新增規格書	2010.07.03	邱俊傑	葉志浩	蔡進義	蔡其湖
2	修改BOX Size	2010.11.03	邱俊傑	葉志浩	蔡進義	蔡其湖
3	1.修改成品尺寸公差 由8.35±0.2→8.35±0.5mm 2.修改安規符號標示  → 	2011.05.18	邱俊傑	葉志浩	蔡進義	蔡其湖
4	增加TUV安規認證	2011.09.07	邱俊傑	葉志浩	蔡進義	蔡其湖
5	安規到期不續，故移除安規 	2012.01.11	邱俊傑	葉志浩	蔡進義	蔡其湖
6	因客戶需求，重新認證與新增安規 	2012.12.01	彭彥鳴	葉志浩	蔡進義	蔡其湖
7	1.增加短腳尺寸與品名 2.增加曲線圖與信賴性規範	2013.12.12	彭彥鳴	葉志浩	蔡進義	蔡其湖
8	1.冷阻值表示方式由參考值變為範圍 2.增加CQC安規	2014.04.21	彭彥鳴	葉志浩	蔡進義	蔡其湖
9	1.  增加8A、10A之安規認證 2.移除40mA規格	2014.12.31	彭彥鳴	邱俊傑	蔡進義	蔡其湖
10	1.新增(BK)(3.0)成品尺寸 2.新增遮斷能力條件100 amperes at 250Vdc (UL Recognized and PSE)	2015.07.15	黃建訓	邱俊傑	蔡進義	蔡其湖
11	1.11.2加入標準條件說明 25±5°C and 35-75% RH 2.新增11.3操作溫度條件-55°C~125°C。	2015.12.08	彭彥鳴	邱俊傑	蔡進義	蔡其湖
12	於13.系列品名列表中新增(BK)(22)包裝方式	2016.06.22	黃建訓	邱俊傑	蔡進義	蔡其湖
13	1.修改項目2 BOX SIZE與一排由24 PCS改為25 PCS。 2.修改項目4電氣特性:4.3過載熔斷，最大熔斷時限更新為最新IEC 60127-3測試條件。 3.修改項目6突波實驗:註1測試條件 4.修改項目13描述:系列品名列表 series model list改為產品描述 Product Description	2016.12.14	陳詩哲	邱俊傑	蔡進義	蔡其湖
14	於第9項遮斷能力條件 100 amperes at 250Vdc增加TUV認證	2017.01.24	彭彥鳴	邱俊傑	蔡進義	蕭順益
15	更新It與I ² t 曲線圖	2017.10.20	彭彥鳴	邱俊傑	蔡進義	蕭順益

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History of Change

REV.	Description	Date	Drawn	Designed	Checked	Approved
16	1.更新規格書版面 2.修改部分內文英文敘述 3.遮斷能力併入Clause 9 4.Clause 8.修改包裝說明 5.Clause 9.CCC安規變更：移除CQC安規，新增8A及10A的CCC安規及印字 6.Clause 9.TUV安規變更：變更TUV安規LOGO樣式，由  → 	2019.09.19	陳詩哲	彭彥鳴	邱信雄	葉順益
17	1.Clause 2.2 額定電壓 新增dc標示 2.Clause 9.新增IR測試後絕緣阻抗說明、修改10A的Pt值，由288A ² sec改為400A ² sec	2021.06.04	陳詩哲	彭彥鳴	邱信雄	葉順益
18	1.規格書內文格式調整 2.項目10：UL 安規標誌由  變更為  3.項目10：50mA-800mA與6.3A因產品印字空間不足，印字刪除  標誌，其僅於標籤呈現 4.項目10：6.3A印字新增  標誌 5.項目10：敘述新增I ² t在10倍額定電流下測試 1.Content format adjustment. 2.Clauses 10: Change the UL recognition mark from  to  3.Clauses 10: The  certification mark is removed from the 50 mA–800 mA and 6.3 A ratings due to limited marking space and is shown on the packaging label only. 4.Clauses 10: Add the  certification mark for the 6.3 A ampere rating. 5.Clause 10: Add a description of the I ² t test at 1000% of the rated current.	2026.07.09	董盈汝	林 儷	翁靜軒	葉順益

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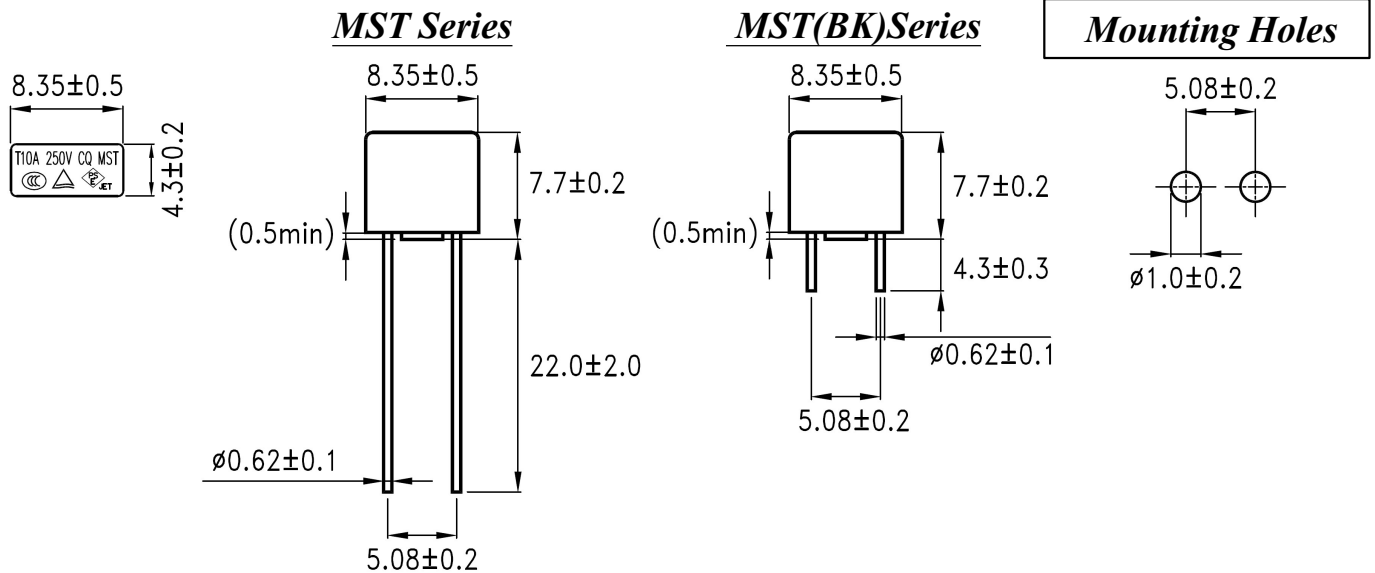
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1 適用範圍 Applications :

適用於保護儀器、電源供應器和電話機用之立式微小型熔斷保險絲。

For protecting instruments, power supplies and telephone sets.

2 形狀及尺寸 Shape & Dimensions : (Unit : mm)



2.1 構造形狀 Structure & Shape : 如上圖 As shown in figure above

2.2 額定電壓 Voltage Rating : 250Vac / dc

2.3 額定電流 Ampere Rating : 50mA~10A

2.4 上圖印字為示意安培數及安規標誌

Above figure marking is only an example for current rating and safety mark.

3 材料 Material :

Part Name 部品名稱		Quantity 數量
Plastic Cap 塑膠套蓋	- Black nylon - 黑色尼龍	1
Plastic Base 方形底座	- Black nylon - 黑色尼龍	1
Fuse Element 可熔體		1
Lead Wire 引線	- Tin plated copper - 銅鍍錫	2

4 電氣特性 Electrical Characteristics :

4.1 負載容量：通過額定電流值 150% (亦即 $1.5 \times I_n$)，能繼續通電至少 1 小時無任何熔化現象。

Loading Capacity : Loading 150% rated current (i.e. $1.5 \times I_n$) for flowing, and it's available to let current keep on flowing at least 1 hour without any melting. (Can keep 1 hour minimum)

4.2 壓降測量：以額定電流，通過保險絲，其兩端壓降值不得超過最大值，可參考 IEC60127-3 Sheet 4。

Voltage Drop: Loading 100% of rated current.(ie $1.0 \times I_n$), the voltage drops across the fuse-links shall not exceed the maximum values given on the relevant standard sheet (IEC 60127-3 sheet 4)

4.3 過載熔斷：請參照下表。

Melting due to overloading: Details as follows Table.

※最大熔斷時限 Operating Characteristics

安培數	150% Rating		210% Rating		275% Rating		400% Rating		1000% Rating	
Ampere Rating	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
50mA~6.3A	60 min			2 min	400 ms	10 sec	150 ms	3 sec	20 ms	150 ms
8A~10A	60 min			5 min	1 sec	20 sec	150 ms	3 sec	20 ms	150 ms

5 機械特性 Mechanical Characteristics :

5.1 拉力測試：上蓋與下座組合之拉力至少 3 kg。

Tensile Test : For the tensile test, the force applied shall be 3 kg at least between cover and base.

5.2 推力測試：施力為 0.2kg，附腳不發生鬆動現象。

Thrust Test : The force applied shall be 0.2kg, the lead wire doesn't loose.

5.3 彎折強度：附腳經過兩次反向之彎折後(彎折90度再折回原位謂之一次彎折)不發生損壞。

Bending Test : No damage are to be visualized after two bends of opposite directions (bending through an angle of 90° and back is defined as one bend) of lead.

6 突波實驗 Pulse Test :

為承受電感或電容性電路所產生之暫態電流，保險絲於10倍額定電流下最小熔斷時間為20ms。
To withstand transient currents generated by inductive or capacitive circuits, the fuse is designed to provide a minimum clearing time of 20 ms at 1000% of the rated current.

7 耐久實驗 Endurance(On-Off Cycle Test) :

於額定電流 ($1.0 \times I_n$)，1 小時ON，15 分鐘OFF，共100次。

接著以1.5倍之額定電流($1.5 \times I_n$) 通過1小時。

再以4-2之方式量測壓降值，所測得之壓降值不可比原值增加10%以上。

Loading 100% rated current ($1.0 \times I_n$), 1 hour ON, 15 minutes OFF. Keep 100 cycles.

Followed by 1 hour at 1.5 times the rated current ($1.5 \times I_n$).

The voltage drop across the fuse-link after the test shall not have increased by more than 10% of the original value measured before the test.

8 高溫環境試驗 Derating Test :

本品置於70℃之高溫中，能以額定電流 ($1.0 \times I_n$)通過1小時。

In an air circulating oven at 70℃, the fuses can load 100% rated current for 1 hour and they shall not operate.

9 包裝 Packing :

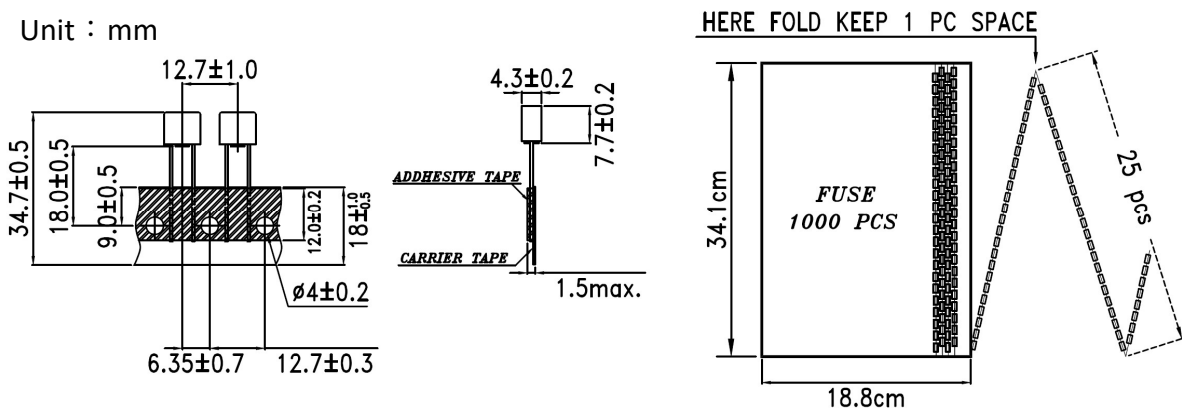
包裝盒上清楚標示以下資訊：產品目錄編號、額定值(電壓、電流和分斷能力)以及適用的安規標示。包裝材料均符合 RoHS 或 HF(無鹵)環保要求，且不得與保險絲零件發生化學反應。

The packaging box clearly displays the following information: catalog number, ratings (voltage, current, and interrupting capacity), and applicable safety markings. All packaging materials comply with RoHS or HF (halogen-free) environmental requirements and shall not chemically react with fuse components.

MST Series : 打帶裝 Tape packaging

內包裝	1,000 PCS/盒	Inner Package: 1,000 pcs per box
外包裝	10 盒/箱	Outer Package: 10 inner boxes per carton
每箱總數量	10,000 PCS/箱	Total Quantity: 10,000 pcs per carton

Unit : mm



MST(BK) Series : 散裝 Bulk packaging (excluded MST(BK)(22) Series)

內包裝	1,000 PCS/盒	Inner Package: 1,000 pcs per box
外包裝	20 盒/箱	Outer Package: 20 inner boxes per carton
每箱總數量	20,000 PCS/箱	Total Quantity: 20,000 pcs per carton

MST(BK)(22) Series : 散裝 Bulk packaging

內包裝	1,000 PCS/盒	Inner Package: 1,000 pcs per box
外包裝	10 盒/箱	Outer Package: 10 inner boxes per carton
每箱總數量	10,000 PCS/箱	Total Quantity: 10,000 pcs per carton

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10 標記/安規認證 Mark/ Agency Approvals :

Ampere Rating	Interrupting Rating								
50 mA	35A @250Vac	**	*		**	**	*	*	
63 mA		**	*		**	**	*	*	*
80 mA		**	*		**	**	*	*	*
100 mA		**	*		**	**	*	*	*
125 mA		**	*		**	**	*	*	*
160 mA		**	*		**	**	*	*	*
200 mA		**	*		**	**	*	*	*
250 mA		**	*		**	**	*	*	*
315 mA		**	*		**	**	*	*	*
400 mA		**	*		**	**	*	*	*
500 mA		**	*		**	**	*	*	*
630 mA		**	*		**	**	*	*	*
800 mA		**	*		**	**	*	*	*
1 A		**	*	**	**	**	*	*	*
1.25 A		**	*	**	**	**	*	*	*
1.6 A		**	*	**	**	**	*	*	*
2 A		**	*	**	**	**	*	*	*
2.5 A		**	*	**	**	**	*	*	*
3.15 A		**	*	**	**	**	*	*	*
4 A	40A @250Vac	**	*	**	**	**	*	*	*
5 A	50A @250Vac	**	*	**	**	**	*	*	*
6.3 A	63A @250Vac	**	*	**	**	**	*	*	*
8 A	80A @250Vac	*		**	**			**	*
10 A	100A@250Vac	*		**	**			**	*

*: 安規認證 Agency approvals

** : 安規認證及保險絲上有安規印字標記 Agency approved and marked on the fuse body.

TUV安規標示:保險絲本體印字為  , 標籤標示為 

TUV mark:  on fuse body and  in label.

IR:100A @ 250Vdc ( and )

IR測試後，以直流電壓測試保險絲絕緣電阻，測試電壓為保險絲額定電壓的2倍，但不得低於250V，
檢測絕緣電阻不得小於0.1MΩ

After the IR test, the insulation resistance shall be measured with a d.c. voltage equal to twice the rated voltage of the fuse, but not less than 250V, the resistance shall be not less than 0.1 MΩ.

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冷阻值範圍 & I²t Nominal Cold Resistance & I²t

Ampere Rating	Nominal Cold Resistance (Ohms)	Nominal Melting I ² t (A ² sec.)	Ampere Rating	Nominal Cold Resistance (Ohms)	Nominal Melting I ² t (A ² sec.)
50 mA	6.2300~11.570	0.0225	800 mA	0.0635~0.1179	5.7600
63 mA	3.7837~7.0268	0.0446	1 A	0.0525~0.0975	8.7300
80 mA	2.5809~4.7931	0.0760	1.25 A	0.0385~0.0715	14.766
100 mA	1.6844~3.1281	0.1080	1.6 A	0.0298~0.0553	23.040
125 mA	1.1336~2.1053	0.1223	2 A	0.0221~0.0411	36.000
160 mA	0.8721~1.6195	0.1700	2.5 A	0.0169~0.0313	56.250
200 mA	0.5768~1.0712	0.3060	3.15 A	0.0132~0.0244	93.768
250 mA	0.4410~0.8190	0.6019	4 A	0.0095~0.0177	158.40
315 mA	0.2660~0.4940	0.8216	5 A	0.0070~0.0130	202.50
400 mA	0.1890~0.3510	1.4832	6.3 A	0.0052~0.0096	310.77
500 mA	0.1365~0.2535	2.7000	8 A	0.0040~0.0074	368.64
630 mA	0.0925~0.1719	3.1792	10 A	0.0024~0.0044	400.00

I²t在10倍額定電流下測試 Melting I²t at 1000% of current rating.

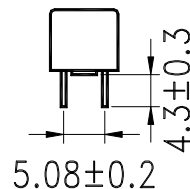
11 產品描述 Description :

MST	A	250V	
1	2	3	4

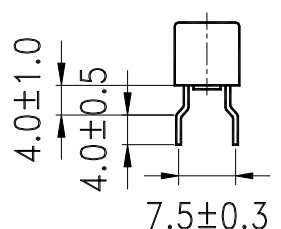
- 1 系列品名 Series Model : MST
- 2 安培數 Ampere Rating : 50mA~10A
- 3 伏特數 Voltage Rating : 250V
- 4 包裝規範 Packaging Code :

包裝規範 Packaging Code	說明 Description
	1000 pcs:打帶(長腳) 1000 pcs on Taped(Long Lead)
(BK)	1000 pcs:散裝(短腳) 1000 pcs in Bulk(Short Lead)
(BK)(3.5)	1000 pcs:散裝(短腳) 1000 pcs in Bulk(Short Lead)
(BK)(7.5)	1000 pcs:散裝(短腳) 1000 pcs in Bulk(Short Lead)
(BK)(3.0)	1000 pcs:散裝(短腳) 1000 pcs in Bulk(Short Lead)
(BK)(22)	1000 pcs:散裝(長腳) 1000 pcs in Bulk(Long Lead)

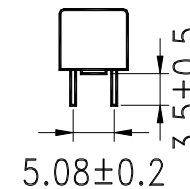
(BK)



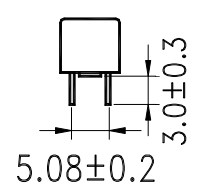
(BK)(7.5)



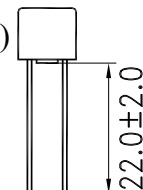
(BK)(3.5)



(BK)(3.0)



(BK)(22)



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12 建議生產參數(無鉛焊錫使用) Recommended Soldering Parameters (for Lead-Free Soldering) :

12.1 波峰焊參數 Wave Soldering Parameters :

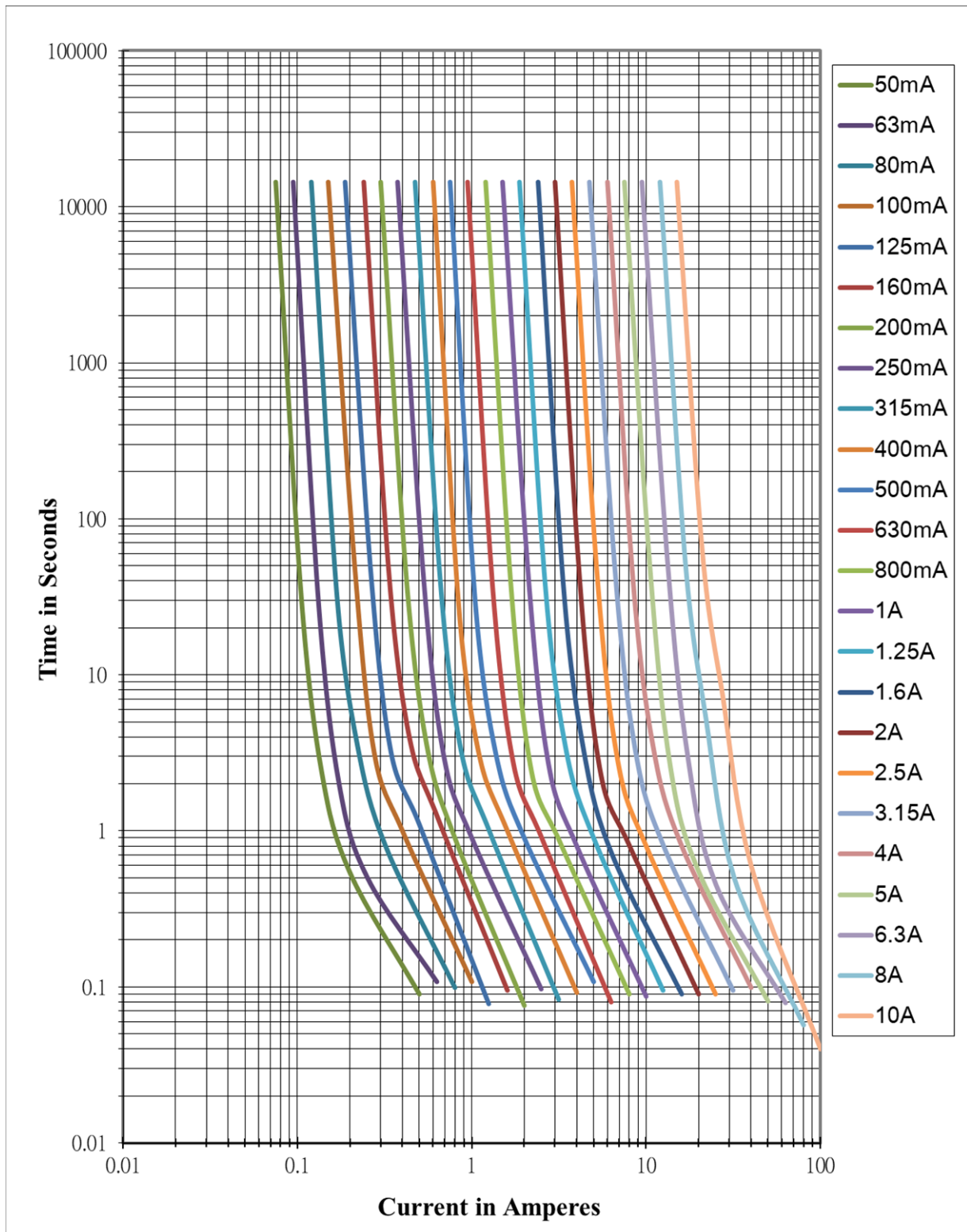
預熱溫度 / Preheat Temperature 最低溫度 / Minimum Temperature : 100°C 最高溫度 / Maximum Temperature : 150°C
--

錫槽溫度 / Solder Pot Temperature 最高溫度 / Temperature Maximum : 260°C 焊接時間 / Solder Dwell Time : 2 - 5 sec

12.2 建議手持烙鐵焊接參數 Recommended Hand Soldering Parameters :

烙鐵溫度 / Soldering Iron Temperature: 350 ± 5°C 加熱時間 / Heating Time : 5 sec max.
--

13 It曲線圖 Time Current Characteristic Curve :



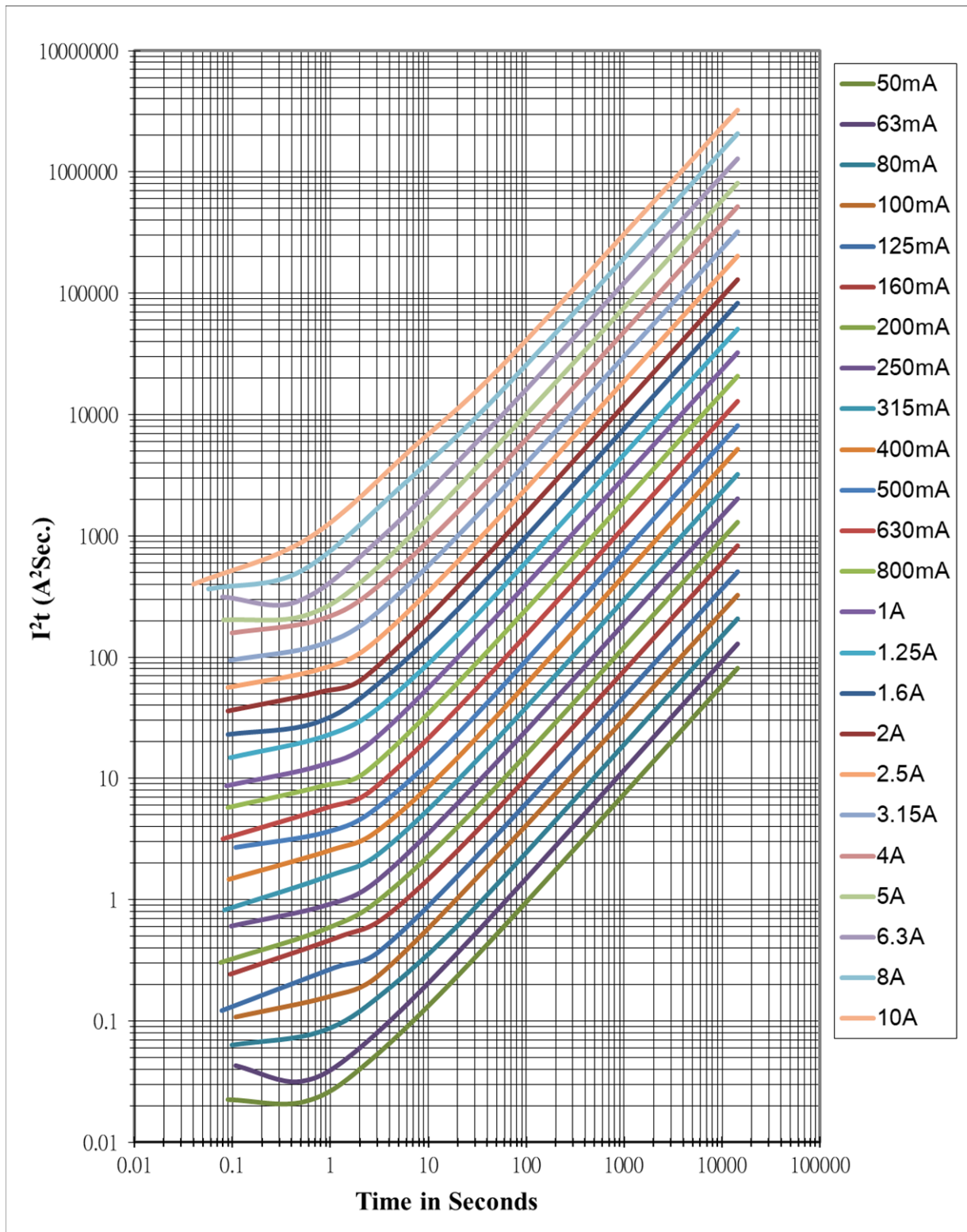
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14 I^2t 曲線圖 Average Melting I^2t Curve :



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15 信賴性作業規定 Product Characteristics :

Test item	Test Description & Reference
Humidity unload test	MIL-STD-202G, Method 103B, Test Condition A Heat ($85 \pm 0.5^{\circ}\text{C}$) & High Humidity ($85 \pm 1\%$ RH), 240 hours, $\Delta R < 15\%$
Thermal shock test	MIL-STD-202G, Method 107G, Test Condition B Temperature setup : $25^{\circ}\text{C} \sim -65^{\circ}\text{C} \sim 25^{\circ}\text{C} \sim 125^{\circ}\text{C}$ Time setup : $-65^{\circ}\text{C}(30\text{min}) \sim 25^{\circ}\text{C}(5\text{min}) \sim 125^{\circ}\text{C}(30\text{min}) \sim 25^{\circ}\text{C}(5\text{min})$ 5 cycles, $\Delta R < 15\%$
Vibration test	MIL-STD-202G, Method 201A Frequency setup : $10 \sim 55 \sim 10\text{ Hz}$ Time setup : 1 Minute/cycle (X-Y-Z , 120 Cycles) 6hours, $\Delta R < 15\%$
Salt spray test	MIL-STD-202G, Method 101E, Test Condition A Salt spray concentration : $5 \pm 1\%$ Test liquid temperature : $35 \pm 0.5^{\circ}\text{C}$, 96hours, $\Delta R < 15\%$
Solderability test	Reference IEC 60068-2-20 Temperature setup : $250 \pm 3^{\circ}\text{C}$, $3 \pm 0.3\text{ sec}$ After test terminal electrode wetting area must be greater than 95%
Resistance to soldering heat test	Reference IEC 60068-2-20 Temperature setup : $260 \pm 3^{\circ}\text{C}$, $10 \pm 1\text{ sec}$ $\Delta R < 15\%$

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16 其他 Other :

16.1 測試環境 Test Conditions :

除非另有指定，本規格書中所有測試皆於標準條件($25\pm 5^{\circ}\text{C}$, 35-75% RH.)下進行。

Unless otherwise specified, all tests in this specification are performed under standard conditions of $25\pm 5^{\circ}\text{C}$ and 35-75% RH.

16.2 保存與有效期 Storage Conditions and Shelf Life :

保險絲於儲存條件($25\pm 5^{\circ}\text{C}$, 35-75% RH.)下儲放一年內，可確保符合本規範中的機械與電氣之特性。

When stored under the specified storage conditions ($25 \pm 5^{\circ}\text{C}$ and 35–75% RH), the fuse will maintain its electrical and mechanical characteristics specified herein for up to one year.

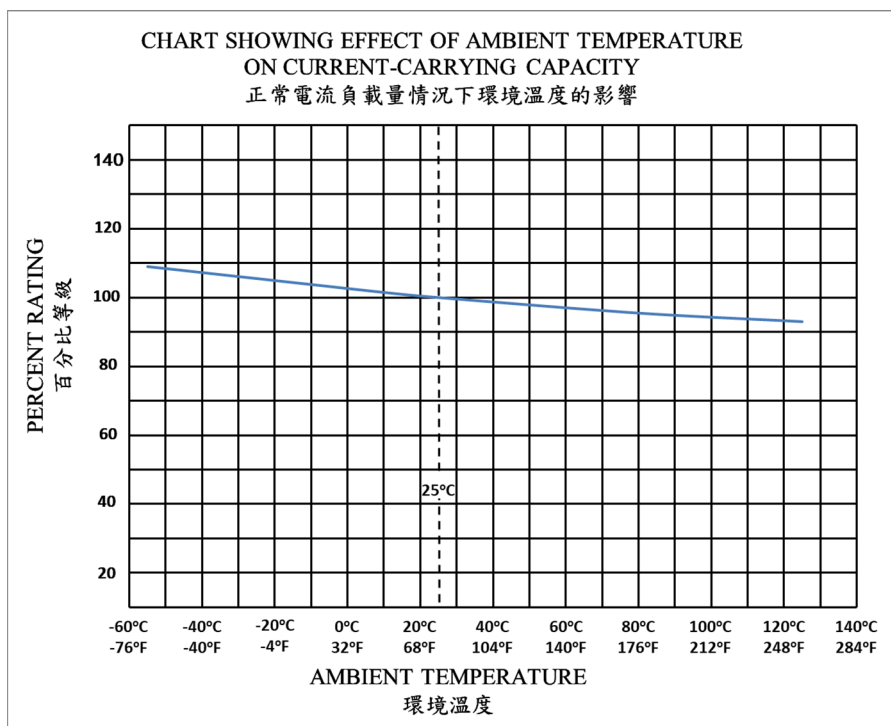
16.3 環境溫度 Ambient Temperature :

保險絲的使用環境溫度是 $-55^{\circ}\text{C}\sim 125^{\circ}\text{C}$ 。但是當使用環境溫度超出 $25^{\circ}\text{C}\pm 5^{\circ}\text{C}$ 範圍，應考慮使用環境溫度對保險絲的影響，如圖一所示。

Fuse can be used at ambient temperature of $-55^{\circ}\text{C}\sim 125^{\circ}\text{C}$. However, when a fuse ambient temperature is not at the range of $25^{\circ}\text{C}\pm 5^{\circ}\text{C}$, customers should consider the ambient temperature affects the current carrying capacity of fuse as shown in Fig 1.

溫度降額曲線

Temperature Re-rating curve :



圖一 (Fig 1)



CONQUER
功得電子

規格書

Specification For Approval

Spec NO. SFA017

型 號： UDA / UDA-A 系列
慢速型瓷管保險絲

Model： UDA / UDA-A Series
Time-Lag Ceramic Tube Fuse

Designed in accordance to IEC60127 standard.

Conquer Electronics Co., Ltd.

五股廠

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History of Change

REV.	Description	Date	Drawn	Designed	Checked	Approved
1	(1)發出 Issue	2010.06.26	黃世宏	蔡進義	蔡進義	蔡其翔
7	(1)修改內文項次6： Surge Test → Pulse Test (2)新增內文項次14：最大壓降 (3)新增內文項次16：冷阻值範圍 & I2T (4)增加曲線圖與信賴性規範	2014.07.03	黃世宏	邱俊傑	蔡進義	蔡其翔
8	(1)新增內文項次5：拉力強度(10牛頓) (2)新增內文項次12：一箱包裝數量 (3)修改內文項次14：8A/10A安規CQC變更 CCC	2019.05.08	黃世宏	彭彥鳴	蔡進義	葉順益
9	(1)修改內文項次9：TUV安規LOGO變更、貼紙變更，UDA 25A移除SEMKO安規並新增TUV安規	2019.12.12	黃世宏	彭彥鳴	邱信雄	葉順益
10	(1)Modify clause 9：correct the interputing rating value for UDA-A 15A~25A, add the insulation resistance description. (2)Modify clause 18：modify the description.	2021.11.05	鄭人嘉	彭彥鳴	邱信雄	葉順益
11	(1)Modify clause 9：change the place of production in label	2022.04.18	鄭人嘉	彭彥鳴	邱信雄	葉順益
12	(1)Modify clause 9：change logo of BSI	2023.02.22	鄭人嘉	彭彥鳴	邱信雄	葉順益
13	(1)規格書內文格式調整 (2)項目10：UL安規標誌由  變更為  ；因部分額定規格印字空間不足，  與  標誌改為僅於標籤顯示。 (3)項目10：規格12A印字增加  標誌 (4)項目10：規格6.3A/12A/15A印字增加  標誌 (1)Content format adjustment. (2)Clauses 10: Change the UL recognition mark from  to  . Due to limited marking space on certain ratings, the  and  marks are displayed on the label only. (3)Clauses 10：Add the  mark to the marking for 12A rating. (4)Clauses 10：Add the  mark to the marking for 6.3A, 12A, and 15A ratings	2026.06.02	董盈汶	林 儷	翁靜軒	葉順益

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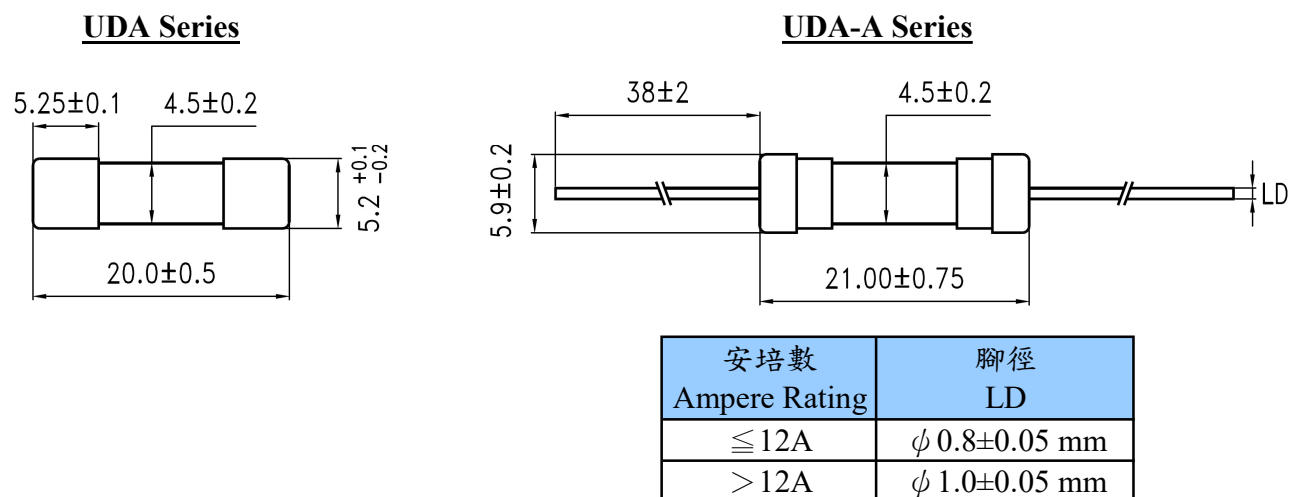
E-mail: conqfuse@ms62.hinet.net Official Website: <http://www.conquer.com.tw>

1 適用範圍 Applications :

本標準適用於保護儀器、電源供應器和電話機用之筒管式熔斷保險絲。

For protecting instruments, power supplies and telephone sets.

2 形狀及尺寸 Shape & Dimensions : (Unit : mm)



2.1 構造形狀 Structure & Shape : 如上圖 As shown in figure above

2.2 額定電壓 Voltage Rating : 250Vac

2.3 額定電流 Ampere Rating : 500mA~25A

3 材料 Material :

Part Name 部 品 名 稱		Quantity 數量
Innter Cap 內帽	- Nickel plated copper alloy - 銅鍍鎳	2
Outer Cap 外帽	- Nickel plated copper alloy - 銅鍍鎳	2
Lead Wire 引線	- Tin plated copper - 銅鍍錫	2
Ceramic Tube 瓷管	- Non-transparent ceramic tube - 不透明瓷管	1
Fuse Element 可熔體		1

4 電氣特性 Electrical Characteristics :

4.1 For UDA 500mA~25A & UDA-A 500mA~10A

- 4.1.1 負載容量：通過額定電流值 150 % (亦即 $1.5 \times I_n$)，能繼續通電至少 1 小時無任何熔化現象。(額定電流大於 6.3A 的則 30 分鐘)

Loading Capacity : Loading 150% rated current (i.e. $1.5 \times I_n$) for flowing, and it's available to let current keep on flowing at least 1 hour without any melting. (Can keep 1 hour minimum.) (for rating above 6.3A 30 minutes)

- 4.1.2 壓降測量：以額定電流，通過保險絲，其兩端壓降值不得超過最大值，可參考 IEC60127-2 Sheet 5。

Voltage drop : Loading 100% of rated current.(ie $1.0 \times I_n$), the voltage drops across the fuse-links shall not exceed the maximum values given on the relevant standard sheet (IEC60127-2 Sheet 5)

- 4.1.3 過載熔斷：請參照下表。

Melting due to overloading: Details as follows table.

※最大熔斷時限 Operating Characteristics

安培數 Rating	150% Rating		210% Rating		275% Rating		400% Rating		1000% Rating	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
500mA~800mA	60 min			30 min	250 ms	80 sec	50 ms	5 sec	5 ms	150 ms
1A~3.15A	60 min			30 min	750 ms	80 sec	95 ms	5 sec	10 ms	150 ms
4A~6.3A	60 min			30 min	750 ms	80 sec	150 ms	5 sec	10 ms	150 ms
8A~25A	30 min			30 min	750 ms	80 sec	150 ms	5 sec	10 ms	150 ms

4.2 For UDA-A 12A~25A

- 4.2.1 根據 IEC 60127-2 附件A，UDA必須先符合項目4.1的電氣特性測試，針對UDA-A只需測試過載額定電流的210%且必須在30分鐘內熔斷。(參考項目4.2.3)

According to IEC 60127-2 Annex A, the UDA must to be conformed to the item 4.1 electrical characteristic test first, about UDA-A only need to test 210% rating current , and fuse must open in 30 minutes. (Refer to item 4.2.3)

- 4.2.2 壓降測量：以額定電流，通過保險絲，其兩端壓降值不得超過最大值，可參考 IEC60127-2 Sheet 5。

Voltage drop : Loading 100% of rated current.(ie $1.0 \times I_n$), the voltage drops across the fuse-links shall not exceed the maximum values given on the relevant standard sheet (IEC60127-2 Sheet 5)

- 4.2.3 過載熔斷：請參照下表。

Melting due to overloading : Details as follows table.

※最大熔斷時限 Operating Characteristics

安培數 Rating	210% Rating	
	Min.	Max.
12A~25A		30 min

5 機械特性 Mechanical Characteristics :

5.1 拉力測試 Tensile Test :

當施加軸拉力1kgf於兩端附腳(或銅帽)，無鬆動或損壞現象發生。

Leads and/or caps are soldered (adhered) to withstand axial pulling force of 1kgf without loosening or any harmfulness to firmly attachment.

5.2 彎折強度 Bending Test :

(1) 銅帽附腳腳徑1.0mm(含)以下，經過兩次反向之彎折後(彎折90度再折回原位謂之一次彎折)不發生損壞。

Diameter of lead wire ≤ 1.0 mm : After two bends of opposite directions (bending through an angle of 90° and back is defined as one bend) of lead, no damage is to be visualized.

(2) 銅帽附腳腳徑1.2mm(含)以上，距離銅帽附腳卯合處10mm以上，作一次90度之彎折，不發生損壞。

Diameter of lead wire ≥ 1.2 mm : Only one bend of an angle of 90° without back shall be tested for each lead wire and the bending position shall be at least 10mm away from the cap-on. After the test there shall be no damage to be visualized.

6 突波實驗 Pulse Test (For UDA 500mA~25A & UDA-A 500mA~10A) :

為適應電感或電容性電路所產之暫態電流，本品於10倍額定電流的熔斷時間最少為(註2)。

In order to stand transient current caused by inductive or capacitive, the fuses are designed to have minimum clearing time of (Note2) millisecond at 1000% rated current.

※註2(Note2) : 5ms (500mA~800mA)
10ms (1A~25A)

7 耐久實驗 Endurance (On-Off Cycle Test) (For UDA 500mA~25A & UDA-A 500mA~10A) :

7.1 於額定電流 ($1.2 \times I_n$)，1小時ON，15分鐘OFF，共100次。

Loading 120% rated current ($1.2 \times I_n$), 1 hour ON, 15 minutes OFF. Keep 100 cycles.

7.2 接著以1.5倍之額定電流($1.5 \times I_n$)通過1小時(額定電流大於6.3A的則30分鐘)。

Followed by 1 hour at 1.5 times the rated current ($1.5 \times I_n$) (for ratings above 6.3A 30 minutes).

7.3 再以4.1.2之方式量測壓降值，所測得之壓降值不可比原值增加10%以上。

The voltage drop across the fuse-link after the test shall not have increased by more than 10% of the original value measured before the test

8 高溫環境試驗 Derating Test (For UDA 0.5A~25A & UDA-A 0.5A~10A) :

本品置於70°C之高溫中，能以額定電流 ($1.1 \times I_n$)通過1小時。

Derating Test (For UDA 0.5A~25A & UDA-A 0.5A~10A): In an air circulating oven at 70°C, the fuses can load 110% rated current for 1 hour and they shall not operate.

9 包裝 Packing :

包裝盒上清楚標示以下資訊：產品目錄編號、額定值（電壓、電流和分斷能力）以及適用的安規標示。所有包裝材料均符合 RoHS 或 HF（無鹵）環保要求，且不得與保險絲零件發生化學反應。

The packaging box clearly displays the following information: catalog number, ratings (voltage, current, and interrupting capacity), and applicable safety markings. All packaging materials comply with RoHS or HF (halogen-free) environmental requirements and shall not chemically react with fuse components.

UDA Series (散裝 Bulk packaging)

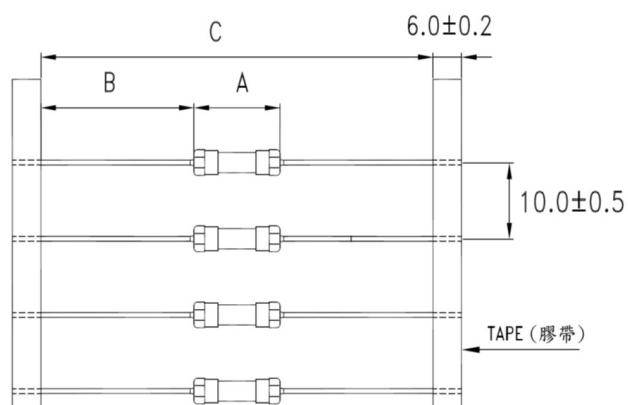
內包裝	1,000 pcs/盒	Inner Package: 1,000 pcs per box
外包裝	10 盒/箱	Outer Package: 10 inner boxes per carton
每箱總數量	10,000 pcs/箱	Total Quantity: 10,000 pcs per carton

UDA-A Series (散裝 Bulk packaging)

內包裝	500 pcs/盒	Inner Package: 500 pcs per box
外包裝	10 盒/箱	Outer Package: 10 inner boxes per carton
每箱總數量	5,000 pcs/箱	Total Quantity: 5,000 pcs per carton

UDA-A TR Series (編帶捲盤包裝 Tape-and-Reel Packaging)

內包裝	1,000 pcs/卷	Inner Package: 1,000 pcs per reel
外包裝	5 卷/箱	Outer Package: 5 reels per carton
每箱總數量	5,000 pcs/箱	Total Quantity: 5,000 pcs per carton



尺寸 Dimensions	
A	21.0±0.75mm
B	16.0±1.0mm
C	52.0(+2.0 -1.0)mm

10 標記/安規認證 Mark / Agency Approvals :

UDA Series

Ampere Rating	Interrupting Rating										
500 mA	1500A @ 250Vac					**					
630 mA						**					
800 mA		*	*			**	*				
1 A		*	**		**	**	*	**	**	*	
1.25 A		*	**		**	**	*	**	**	*	
1.6 A		*	**		**	**	*	**	**	*	
2 A		*	**		**	**	*	**	**	*	
2.5 A		*	**		**	**	*	**	**	*	
3.15 A		*	**		**	**	*	**	**	*	
4 A		*	**		**	**	*	**	**	*	
5 A		*	**		**	**	*	**	**	*	
6.3 A		*	**		**	**	*	**	**	*	
8 A		**	**			**	*	**	**	*	
10 A		**	**			**	*	**	**	*	
12 A		*		**		**		**			
15 A	500A @ 250Vac					**		**			**
16 A						**					**
20 A	400A @ 250Vac					**					**
25 A	300A @ 250Vac					**					**

*: 有安規認證 Have safety certify

** : 有安規認證及銅帽上有安規印字標記 Have safety certify and safety mark on the cap

TUV及BSI安規標示:保險絲本體印字為   , 標籤標示為  

TUV and BSI Mark:   on fuse body and   in label.

IR測試後，以直流電壓測試保險絲絕緣電阻，測試電壓為保險絲額定電壓的2倍，但不得低於250V，
檢測絕緣電阻不得小於0.1MΩ

After the IR test, the insulation resistance shall be measured with a d.c. voltage equal to twice the rated voltage of the fuse,
but not less than 250V, the resistance shall be not less than 0.1 MΩ

UDA-A Series

Ampere Rating	Interrupting Rating										
500 mA	1500A @ 250Vac					**					
630 mA						**					
800 mA		*	*			**	*				
1 A		**	**			**	*	**	**	*	
1.25 A		**	**			**	*	**	**	*	
1.6 A		**	**			**	*	**	**	*	

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Peitou Factory : No. 15, Lane 120, Lite Road, Peitou, 11259, Taipei, Taiwan. TEL: +886-2-2895-8895 (代表號) FAX:+886-2-2895-8880

E-mail: conqfuse@ms62.hinet.net Official Website: http://www.conquer.com.tw

Ampere Rating	Interrupting Rating										
2 A	1500A @ 250Vac	**	**			**	*	**	**	*	
2.5 A		**	**			**	*	**	**	*	
3.15 A		**	**			**	*	**	**	*	
4 A		**	**			**	*	**	**	*	
5 A		**	**			**	*	**	**	*	
6.3 A		**	**			**	*	**	**	*	
8 A		**	**			**	*	**	**	*	
10 A		**	**			**	*	**	**	*	
12 A		*		**		**		**			
15 A	500A @ 250Vac					**		**			**
16 A						**					**
20 A	400A @ 250Vac					**					**
25 A	300A @ 250Vac					**					**

*: 有安規認證 Have safety certify

** : 有安規認證及銅帽上有安規印字標記 Have safety certify and safety mark on the cap

TUV及BSI安規標示:保險絲本體印字為   , 標籤標示為  

TUV and BSI Mark:   on fuse body and   in label.

IR測試後，以直流電壓測試保險絲絕緣電阻，測試電壓為保險絲額定電壓的2倍，但不得低於250V，
檢測絕緣電阻不得小於0.1MΩ

After the IR test, the insulation resistance shall be measured with a d.c. voltage equal to twice the rated voltage of the fuse, but not less than 250V, the resistance shall be not less than 0.1 MΩ

冷阻值範圍 & I^2t Nominal Cold Resistance & I^2t

Ampere Rating	Nominal Cold Resistance (Ohms)	Nominal Melting I^2t (A ² Sec.)	Ampere Rating	Nominal Cold Resistance (Ohms)	Nominal Melting I^2t (A ² Sec.)
500 mA	0.1593 - 0.2959	0.7290	5 A	0.0095 - 0.0176	166.77
630 mA	0.0974 - 0.1810	1.6880	6.3 A	0.0074 - 0.0137	198.48
800 mA	0.0826 - 0.1534	2.3040	8 A	0.0047 - 0.0088	230.19
1 A	0.0511 - 0.0949	6.5570	10 A	0.0035 - 0.0065	377.77
1.25 A	0.0441 - 0.0819	7.8125	12 A	0.0024 - 0.0044	848.88
1.6 A	0.0420 - 0.0780	8.9600	15 A	0.0022 - 0.0041	900.32
2 A	0.0349 - 0.0649	18.576	16 A	0.0021 - 0.0039	1086.6
2.5 A	0.0269 - 0.0499	29.070	20 A	0.0016 - 0.0030	1687.0
3.15 A	0.0203 - 0.0377	39.564	25 A	0.0013 - 0.0023	4121.4
4 A	0.0130 - 0.0242	97.920			

11 產品描述 Description :

	UDA	A	250V		(PF)
1	2	3	4	5	6

- 1 安規認證 Safety Approval : RU/VBS/VUC/VDE/TUC...
- 2 系列品名 Series Model : UDA/UDA-A
- 3 安培數 Ampere Rating : 500mA~25A
- 4 伏特數 Voltage Rating : 250V
- 5 包裝 Packing Code : Blank/TR
- 6 無鉛標示 Pb free : (PF)

12 建議生產參數(無鉛焊錫使用) Recommended Soldering Parameters (for Lead-Free Soldering) :

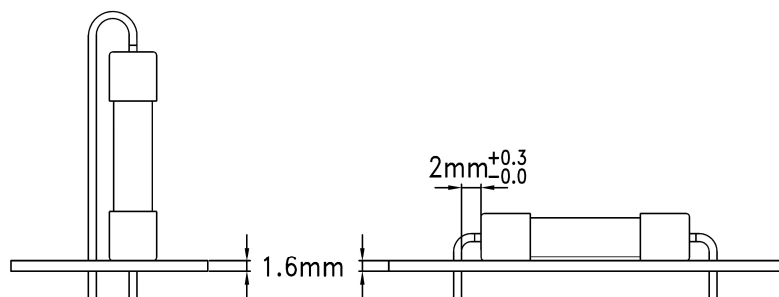
12.1 波峰焊參數 Wave Soldering Parameters :

預熱溫度 / Preheat Temperature	錫槽溫度 / Solder Pot Temperature
最低溫度 / Minimum Temperature : 100°C	最高溫度 / Temperature Maximum : 260°C
最高溫度 / Maximum Temperature : 150°C	焊接時間 / Solder Dwell Time : 2 - 5 sec

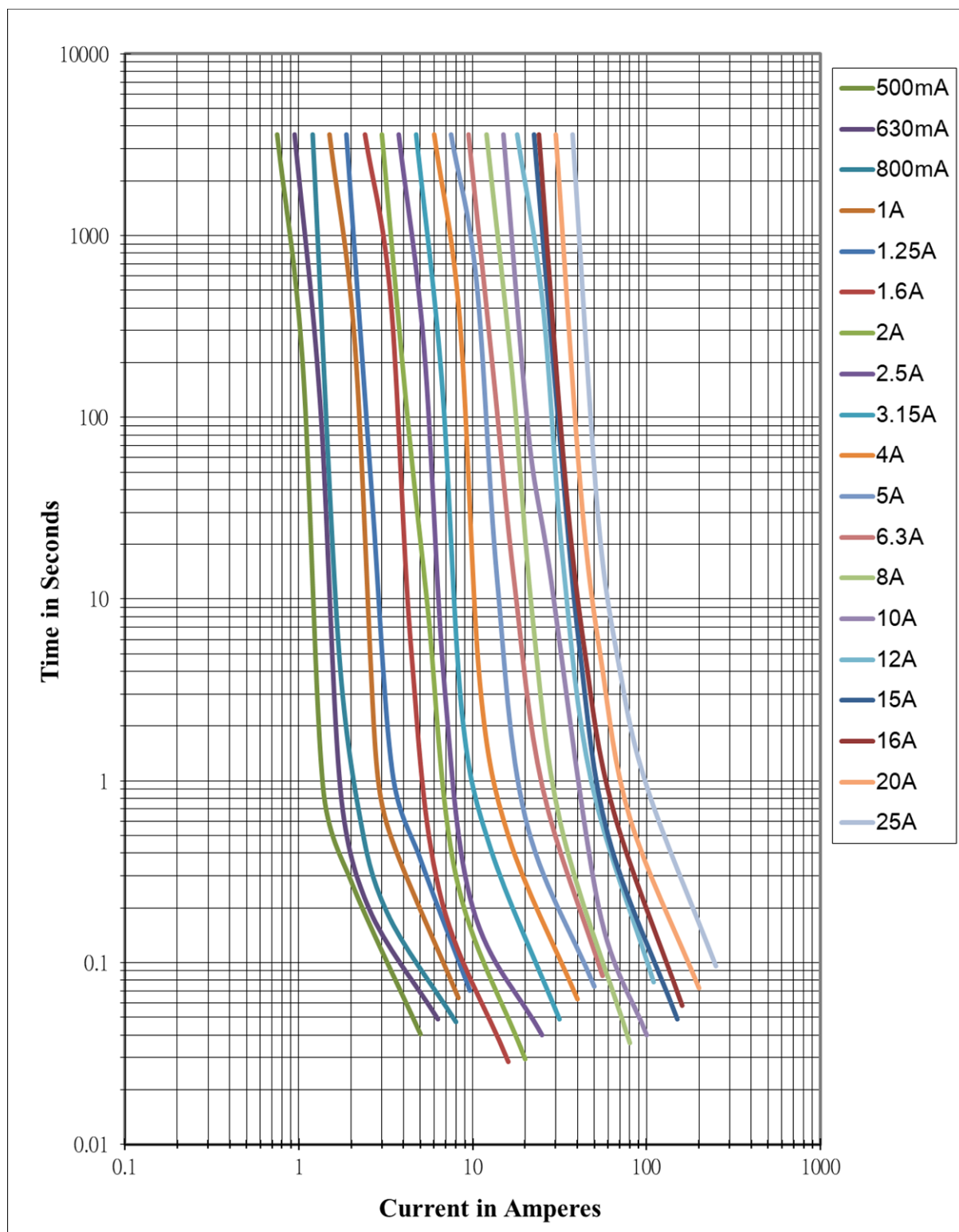
12.2 建議手持烙鐵焊接參數 Recommended Hand Soldering Parameters :

烙鐵溫度 / Soldering Iron Temperature: 350 ± 5°C
加熱時間 / Heating Time : 5 sec max.

13 安裝方式及條件 Installation Way and Parameters :



14 It曲線圖 Time Current Characteristic Curve :



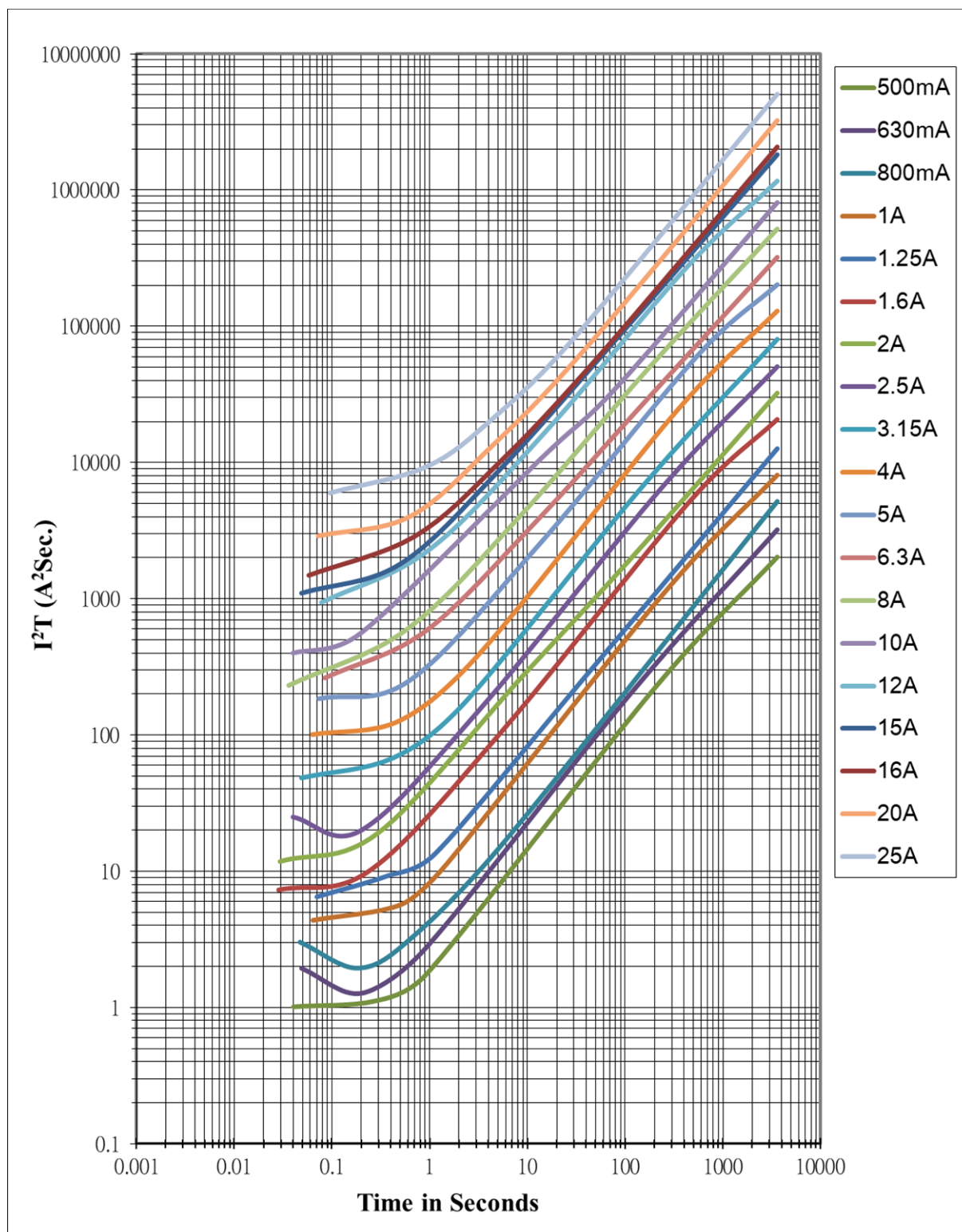
Conquer Electronics Co., LTD.

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15 I²t 曲線圖 Average Melting I²t Curve :



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16 信賴性作業規定 Product Characteristics :

Test item	Test Description & Reference
Humidity unload test	MIL-STD-202G, Method 103B, Test Condition A Heat ($85 \pm 0.5^{\circ}\text{C}$) & High Humidity ($85 \pm 1\% \text{ RH}$), 240 hours, $\Delta R < 15\%$
Thermal shock test	MIL-STD-202G, Method 107G, Test Condition B Temperature setup : $25^{\circ}\text{C} \sim -65^{\circ}\text{C} \sim 25^{\circ}\text{C} \sim 125^{\circ}\text{C}$ Time setup : $-65^{\circ}\text{C}(30\text{min}) \sim 25^{\circ}\text{C}(5\text{min}) \sim 125^{\circ}\text{C}(30\text{min}) \sim 25^{\circ}\text{C}(5\text{min})$ 5 cycles, $\Delta R < 15\%$
Vibration test	MIL-STD-202G, Method 201A Frequency setup : $10 \sim 55 \sim 10 \text{ Hz}$ Time setup : 1 Minute/cycle (X-Y-Z , 120 Cycles) 6hours, $\Delta R < 15\%$
Salt spray test	MIL-STD-202G, Method 101E, Test Condition A Salt spray concentration : $5 \pm 1\%$ Test liquid temperature : $35 \pm 0.5^{\circ}\text{C}$, 96hours, $\Delta R < 15\%$
Solderability test	Reference IEC 60068-2-58 Temperature setup : $250 \pm 3^{\circ}\text{C}$, $3 \pm 0.3 \text{ sec}$ After test terminal electrode wetting area must be greater than 95%
Resistance to soldering heat test	Reference IEC 60068-2-58 Temperature setup : $260 \pm 3^{\circ}\text{C}$, $10 \pm 1 \text{ sec}$ $\Delta R < 15\%$

17 其他 Other :

17.1 測試環境 Test Conditions :

除非另有指定，本規格書中所有測試皆於標準條件($25\pm 5^{\circ}\text{C}$, 35-75% RH.)下進行。
 Unless otherwise specified, all tests in this specification are performed under standard conditions of $25\pm 5^{\circ}\text{C}$ and 35-75% RH.

17.2 保存與有效期 Storage Conditions and Shelf Life :

保險絲於儲存條件($25\pm 5^{\circ}\text{C}$, 35-75% RH.)下儲放一年內，可確保符合本規範中的機械與電氣之特性。

When stored under the specified storage conditions ($25 \pm 5^{\circ}\text{C}$ and 35–75% RH), the fuse will maintain its electrical and mechanical characteristics specified herein for up to one year.

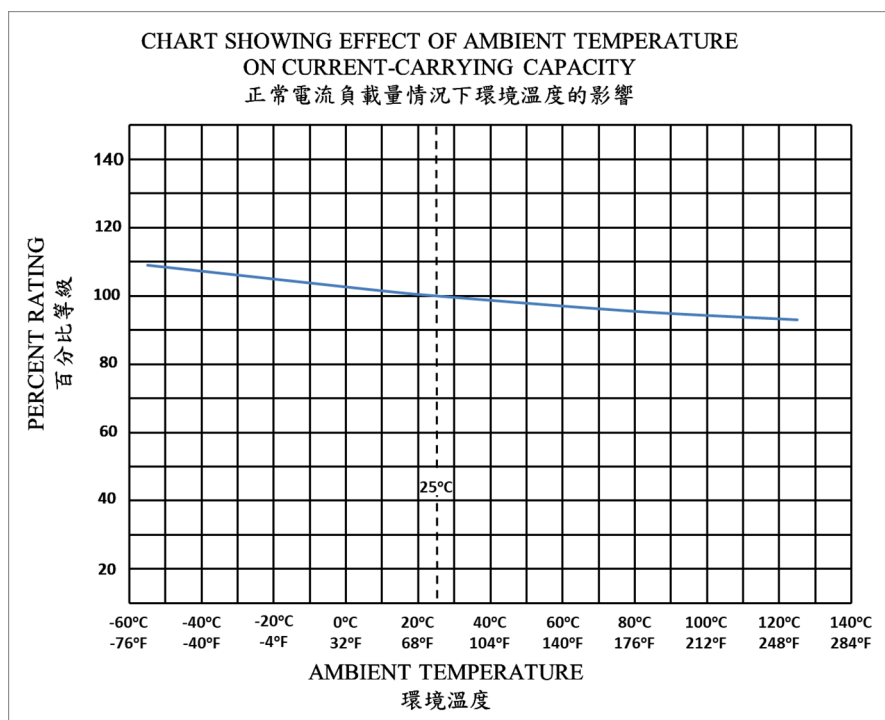
17.3 環境溫度 Ambient Temperature :

保險絲的使用環境溫度是 $-55^{\circ}\text{C}\sim 125^{\circ}\text{C}$ 。但是當使用環境溫度超出 $25^{\circ}\text{C}\pm 5^{\circ}\text{C}$ 範圍，應考慮使用環境溫度對保險絲的影響，如圖一所示。

Fuse can be used at ambient temperature of $-55^{\circ}\text{C}\sim 125^{\circ}\text{C}$. However, when a fuse ambient temperature is not at the range of $25^{\circ}\text{C}\pm 5^{\circ}\text{C}$, customers should consider the ambient temperature affects the current carrying capacity of fuse as shown in Fig 1.

溫度降額曲線

Temperature Re-rating curve :



圖一 (Fig 1)



CONQUER
功得電子

規格書

Specification For Approval

Spec NO. SFA021

型 號： **UBM / UBM-A** 系列
快速型瓷管保險絲

Model： **UBM / UBM-A Series**
Fast-Acting Ceramic Tube Fuse

Designed in accordance to IEC60127 standard.

Conquer Electronics Co., Ltd.

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History of Change

REV.	Description	Date	Drawn	Designed	Checked	Approved
1	(1)發出 Issue	2013.09.03	黃世宏	葉志浩	蔡進義	蔡其湖
5	(1)修改內文項次6： Surge Test → Pulse Test (2)新增內文項次13：冷阻值範圍 & I ² T (3)增加曲線圖與信賴性規範	2014.06.27	黃世宏	邱俊傑	蔡進義	蔡其湖
6	(1)更新封面及更改公司LOGO (2)新增內文項次8：整箱包裝數量 (3)修改內文項次9：100mA~10A安規CQC 變更CCC，TUV安規LOGO變更、印字安規 及貼紙變更	2019.12.11	黃世宏	彭彥鳴	邱信雄	葉順益
7	(1)新增內文項次9：安規型號A.C.標籤貼紙 示意圖及絕緣阻抗敘述	2021.03.19	黃世宏	彭彥鳴	邱信雄	葉順益
8	(1)Remove UBM/UBM-A 63mA~80mA & 125mA~315mA. (2)Modify clause 9：change the place of production in label (3)Modify clause 17：modify the description.	2022.03.15	鄭人壽	彭彥鳴	邱信雄	葉順益
9	(1)Modify clause 9：Corrected Interrupting Rating conditions	2022.05.19	鄭人壽	彭彥鳴	邱信雄	葉順益
10	(1)Modify clause 9：Change logo of BSI	2023.02.23	鄭人壽	彭彥鳴	邱信雄	葉順益
11	(1)規格書內文格式調整 (2)刪除100mA規格 (3)項目8：新增UBM-A TR Series包裝 (4)項目9：UL 安規標誌由  變更為  ^{us} ；因部分額定規格印字空間不足，  與  標誌改為僅於標籤顯示。 (5)項目9：6.3A~15A印字增加  標誌 (1)Content format adjustment. (2)Remove 100mA specification. (3)Clause 8: Add UBM-A TR Series packaging (4)Clauses 9：Change the UL recognition mark from  to  ^{us} . Due to limited marking space on certain ratings, the  and  marks are displayed on the label only. (5)Clauses 9：Add the  mark to the marking for 6.3 A to 15 A ratings.	2026.06.12	董盈汝	林 儷	翁靜軒	葉順益

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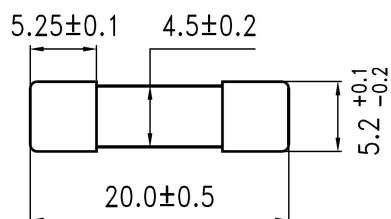
1 適用範圍 Applications :

本標準適用於保護儀器、電源供應器和電話機用之筒管式熔斷保險絲。

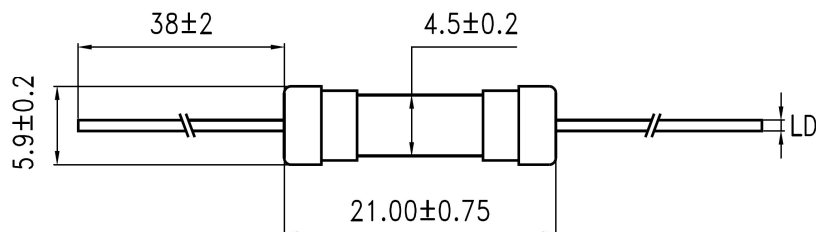
For protecting instruments, power supplies and telephone sets.

2 形狀及尺寸 Shape & Dimensions : (Unit : mm)

UBM Series



UBM-A Series



安培數 Ampere Rating	腳徑 LD
$\leq 12A$	$\phi 0.8 \pm 0.05$ mm
$> 12A$	$\phi 1.0 \pm 0.05$ mm

2.1 構造形狀 Structure & Shape : 如上圖 As shown in figure above.

2.2 額定電壓 Voltage Rating : 250Vac

2.3 額定電流 Ampere Rating : 400mA~16A

3 材料 Material :

Part Name 部品名稱		Quantity 數量
Innter Cap 內帽	- Nickel plated copper alloy - 銅鍍鎳	2
Outer Cap 外帽	- Nickel plated copper alloy - 銅鍍鎳	2
Lead Wire 引線	- Tin plated copper - 銅鍍錫	2
Ceramic Tube 瓷管	- Non-transparent ceramic tube - 不透明瓷管	1
Fuse Element 可熔體		1

4 電氣特性 Electrical Characteristics :

4.1 For UBM 400mA~16A & UBM-A 400mA~5A

4.1.1 負載容量：通過額定電流值 150 % (亦即 $1.5 \times I_n$)，能繼續通電至少 1 小時無任何熔化現象。(額定電流大於 6.3A 的則 30 分鐘)

Loading Capacity : Loading 150% rated current (i.e. $1.5 \times I_n$) for flowing, and it's available to let current keep on flowing at least 1 hour without any melting. (Can keep 1 hour minimum) (for rating above 6.3A 30 minutes)

4.1.2 壓降測量：以額定電流，通過保險絲，其兩端壓降值不得超過最大值，可參考 IEC60127-2 Sheet 1。

Voltage drop : Loading 100% of rated current.(ie $1.0 \times I_n$), the voltage drops across the fuse-links shall not exceed the maximum values given on the relevant standard sheet (IEC60127-2 Sheet 1)

4.1.3 過載熔斷：請參照下表。

Melting due to overloading: Details as follows table.

※最大熔斷時限 Operating Characteristics

安培數 Rating	150% Rating		210% Rating		275% Rating		400% Rating		1000% Rating	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
400mA~4A	60 min			30 min	10 ms	2 sec	3 ms	300 ms		20 ms
5A~6.3A	60 min			30 min	10 ms	3 sec	3 ms	300 ms		20 ms
8A~16A	30 min			30 min	40 ms	20 sec	10 ms	1 sec		30 ms

4.2 For UBM-A 6.3A~16A

4.2.1 根據 IEC 60127-2 附件 A，UBM 必須先符合項目 4.1 的電氣特性測試，針對 UBM-A 只需測試過載額定電流的 210% 且必須在 30 分鐘內熔斷。(參考項目 4.2.3)

According to IEC 60127-2 Annex A, the UBM must to be conformed to the item 4.1 electrical characteristic test first, about UBM-A only need to test 210% rating current , and fuse must open in 30 minutes. (Refer to item 4.2.3)

4.2.2 壓降測量：以額定電流，通過保險絲，其兩端壓降值不得超過最大值，可參考 IEC60127-2 Sheet 1。

Voltage drop : Loading 100% of rated current.(ie $1.0 \times I_n$), the voltage drops across the fuse-links shall not exceed the maximum values given on the relevant standard sheet (IEC60127-2 Sheet 1)

4.2.3 過載熔斷：請參照下表。

Melting due to overloading: Details as follows table.

※最大熔斷時限 Operating Characteristics

安培數 Rating	210% Rating	
	Min.	Max.
6.3A~16A		30 min

5 機械特性 Mechanical Characteristics :

5.1 拉力測試 Tensile Test :

當施加軸拉力1kgf於兩端附腳(或銅帽)，無鬆動或損壞現象發生。

Leads and/or caps are soldered (adhered) to withstand axial pulling force of 1kgf without loosening or any harmfulness to firmly attachment.

5.2 彎折強度 Bending Test :

(1) 銅帽附腳腳徑1.0mm(含)以下，經過兩次反向之彎折後(彎折90度再折回原位謂之一次彎折)不發生損壞。

Diameter of lead wire ≤ 1.0 mm: After two bends of opposite directions (bending through an angle of 90° and back is defined as one bend) of lead, no damage is to be visualized.

(2) 銅帽附腳腳徑1.2mm(含)以上，距離銅帽附腳卯合處10mm以上，作一次90度之彎折，不發生損壞。

Diameter of lead wire ≥ 1.2 mm : Only one bend of an angle of 90° without back shall be tested for each lead wire and the bending position shall be at least 10mm away from the cap-on. After the test there shall be no damage to be visualized.

6 突波實驗 Pulse Test (For UBM 400mA~16A & UBM-A 400mA~5A) :

為適應電感或電容性電路所產之暫態電流，本品於10倍額定電流的熔斷時間最少為1ms。

In order to stand transient current caused by inductive or capacitive, the fuses are designed to have minimum clearing time of 1 millisecond at 1000% rated current.

7 耐久實驗 Endurance (On-Off Cycle Test) (For UBM 400mA~16A & UBM-A 400mA~5A) :

於額定電流 ($1.2 \times I_n$)，1小時ON，15分鐘OFF，共100次。

接著以1.5倍之額定電流($1.5 \times I_n$) 通過1小時(額定電流大於6.3A的則30分鐘)。

再以4.1.2之方式量測壓降值，所測得之壓降值不可比原值增加10%以上。

Loading 120% rated current ($1.2 \times I_n$), 1 hour ON, 15 minutes OFF. Keep 100 cycles.

Followed by 1 hour at 1.5 times the rated current ($1.5 \times I_n$) (for ratings above 6.3A 30 minutes).

The voltage drop across the fuse-link after the test shall not have increased by more than 10% of the original value measured before the test.

8 包裝 Packing :

包裝盒上清楚標示以下資訊：產品目錄編號、額定值（電壓、電流和分斷能力）以及適用的安規標示。所有包裝材料均符合 RoHS 或 HF（無鹵）環保要求，且不得與保險絲零件發生化學反應。

The packaging box clearly displays the following information: catalog number, ratings (voltage, current, and interrupting capacity), and applicable safety markings. All packaging materials comply with RoHS or HF (halogen-free) environmental requirements and shall not chemically react with fuse components.

UBM Series (散裝 Bulk packaging)

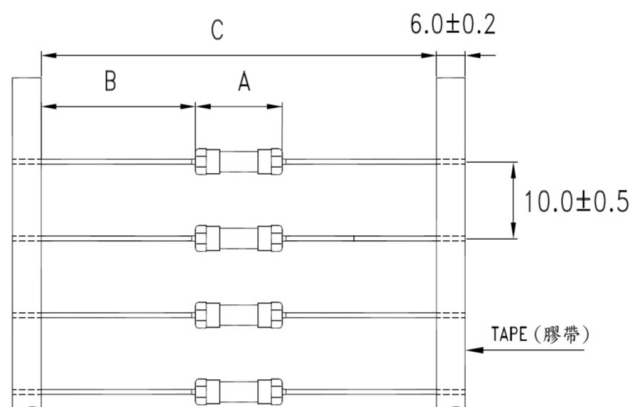
內包裝	1,000 pcs/盒	Inner Package: 1,000 pcs per box
外包裝	10 盒/箱	Outer Package: 10 inner boxes per carton
每箱總數量	10,000 pcs/箱	Total Quantity: 10,000 pcs per carton

UBM-A Series (散裝 Bulk packaging)

內包裝	500 pcs/盒	Inner Package: 500 pcs per box
外包裝	10 盒/箱	Outer Package: 10 inner boxes per carton
每箱總數量	5,000 pcs/箱	Total Quantity: 5,000 pcs per carton

UBM-A TR Series (編帶捲盤包裝 Tape-and-Reel Packaging)

內包裝	1,000 pcs/卷	Inner Package: 1,000 pcs per reel
外包裝	5 卷/箱	Outer Package: 5 reels per carton
每箱總數量	5,000 pcs/箱	Total Quantity: 5,000 pcs per carton



尺寸 Dimensions	
A	21.0±0.75mm
B	16.0±1.0mm
C	52.0(+2.0 -1.0)mm

9 標記/安規認證 Mark/Agency Approvals :

UBM Series

Ampere Rating	Interrupting Rating										
400 mA	1500A @ 250Vac	**	**	**	**	*		**	*		
500 mA		**	**	**	**	*		**	*		
630 mA		**	**	**	**	*		**	*		
800 mA		**	**	**	**	*		**	*		
1 A		*	**	**	**	*	**	**	*		
1.25 A		*	**	**	**	*	**	**	*		
1.6 A		*	**	**	**	*	**	**	*		
2 A		*	**	**	**	*	**	**	*		
2.5 A		*	**	**	**	*	**	**	*		
3.15 A		*	**	**	**	*	**	**	*		
4 A		*	**	**	**	*	**	**	*		
5 A		*	**	**	**	*	**	**	*		
6.3 A		*	**	**	**	*	**	**	*		
8 A			**		**	*	**	**			
10 A			**		**	*	**	**			
12 A					**		**				
12.5 A					**		**			*	**
15 A					**		**				
16 A					**					*	**

*: 有安規認證 Have safety certify

** : 有安規認證及銅帽上有安規印字標記 Have safety certify and safety mark on the cap

TUV及BSI安規標示:保險絲本體印字為   , 標籤標示為  

TUV and BSI Mark:   on fuse body and   in label.

IR測試後, 以直流電壓測試保險絲絕緣電阻, 測試電壓為保險絲額定電壓的2倍, 但不得低於250V, 檢測絕緣電阻不得小於0.1MΩ

After the IR test, the insulation resistance shall be measured with a d.c. voltage equal to twice the rated voltage of the fuse, but not less than 250V, the resistance shall be not less than 0.1 MΩ

UBM-A Series

Ampere Rating	Interrupting Rating									
400 mA	1500A @ 250Vac	**	**	**	*		**	*		
500 mA		**	**	**	*		**	*		
630 mA		**	**	**	*		**	*		
800 mA		**	**	**	*		**	*		
1 A		**	**	**	*	**	**	*		
1.25 A		**	**	**	*	**	**	*		

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UBM-A Series

Ampere Rating	Interrupting Rating									
1.6 A	1500A @ 250Vac	**	**	**	*	**	**	*		
2 A		**	**	**	*	**	**	*		
2.5 A		**	**	**	*	**	**	*		
3.15 A		**	**	**	*	**	**	*		
4 A		**	**	**	*	**	**	*		
5 A		**	**	**	*	**	**	*		
6.3 A		**	**	**	*	**	**	*		
8 A			**	**	*	**	**			
10 A			**	**	*	**	**			
12 A				**		**				
12.5 A				**		**			*	**
15 A				**		**				
16 A				**					*	**

*: 有安規認證 Have safety certify

** : 有安規認證及銅帽上有安規印字標記 Have safety certify and safety mark on the cap

TUV安規標示:保險絲本體印字為  , 標籤標示為 

TUV Mark:  on fuse body and  in label.

IR測試後, 以直流電壓測試保險絲絕緣電阻, 測試電壓為保險絲額定電壓的2倍, 但不得低於250V,

檢測絕緣電阻不得小於0.1MΩ

After the IR test, the insulation resistance shall be measured with a d.c. voltage equal to twice the rated voltage of the fuse, but not less than 250V, the resistance shall be not less than 0.1 MΩ

冷阻值範圍 & I²t Nominal Cold Resistance & I²t

Ampere Rating	Nominal Cold Resistance (Ohms)	Nominal Melting I ² t(A ² Sec.)	Ampere Rating	Nominal Cold Resistance (Ohms)	Nominal Melting I ² t(A ² Sec.)
400 mA	0.2618-0.4862	0.14400	4 A	0.0198-0.0368	14.54400
500 mA	0.1750-0.3250	0.20700	5 A	0.0146-0.0270	23.77800
630 mA	0.1137-0.2111	0.36512	6.3 A	0.0105-0.0195	38.88630
800 mA	0.0792-0.1472	0.58481	8 A	0.0074-0.0138	91.53810
1 A	0.0637-0.1183	0.91982	10 A	0.0053-0.0098	189.18000
1.25 A	0.1023-0.1901	0.80190	12 A	0.0041-0.0075	296.36910
1.6 A	0.0641-0.1191	1.34055	12.5 A	0.0039-0.0072	323.43750
2 A	0.0509-0.0945	1.87920	15 A	0.0033-0.0061	412.41960
2.5 A	0.0356-0.0662	4.50810	16 A	0.0028-0.0052	462.27420
3.15 A	0.0259-0.0481	7.13700			

I²t在10倍額定電流下測試 Melting I²t at 1000% of current rating.

10 產品描述 Description :

<u>1</u>	<u>UBM</u>	<u>A</u>	<u>250V</u>	<u>5</u>	<u>(PF)</u>
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- 1 安規認證 Safety Approval : RU/CRU/VBS/VUC/VDE/TUC...
- 2 系列品名 Series Model : UBM/UBM-A
- 3 安培數 Ampere Rating : 400mA~16A
- 4 伏特數 Voltage Rating : 250V
- 5 包裝 Packing Code : Blank/TR
- 6 無鉛標示 Pb free : (PF)

11 建議生產參數(無鉛焊錫使用) Recommended Soldering Parameters (for Lead-Free Soldering) :

11.1 波峰焊參數 Wave Soldering Parameters :

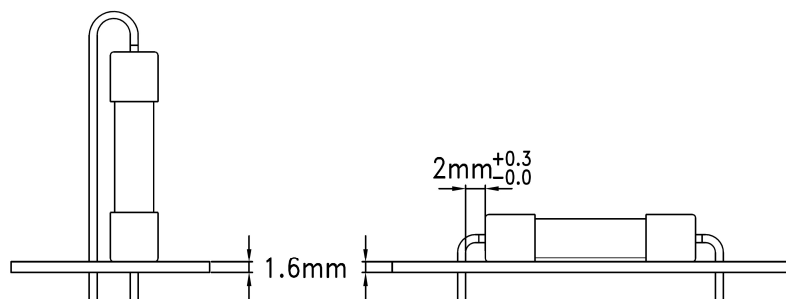
預熱溫度 / Preheat Temperature
 最低溫度 / Minimum Temperature : 100°C
 最高溫度 / Maximum Temperature : 150°C

錫槽溫度 / Solder Pot Temperature
 最高溫度 / Temperature Maximum : 260°C
 焊接時間 / Solder Dwell Time : 2 - 5 sec

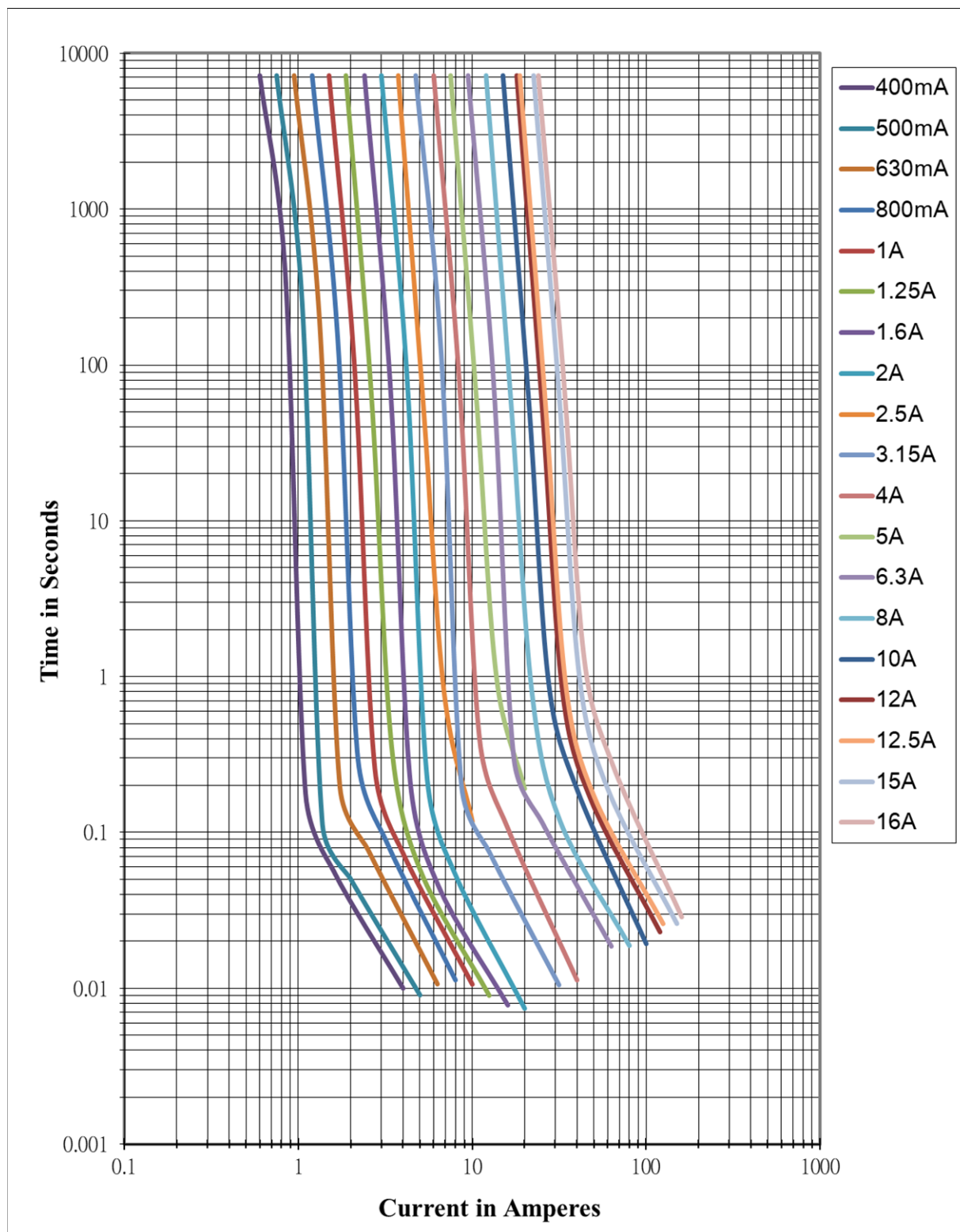
11.2 建議手持烙鐵焊接參數 Recommended Hand Soldering Parameters :

烙鐵溫度 / Soldering Iron Temperature: 350 ± 5°C
 加熱時間 / Heating Time : 5 sec max.

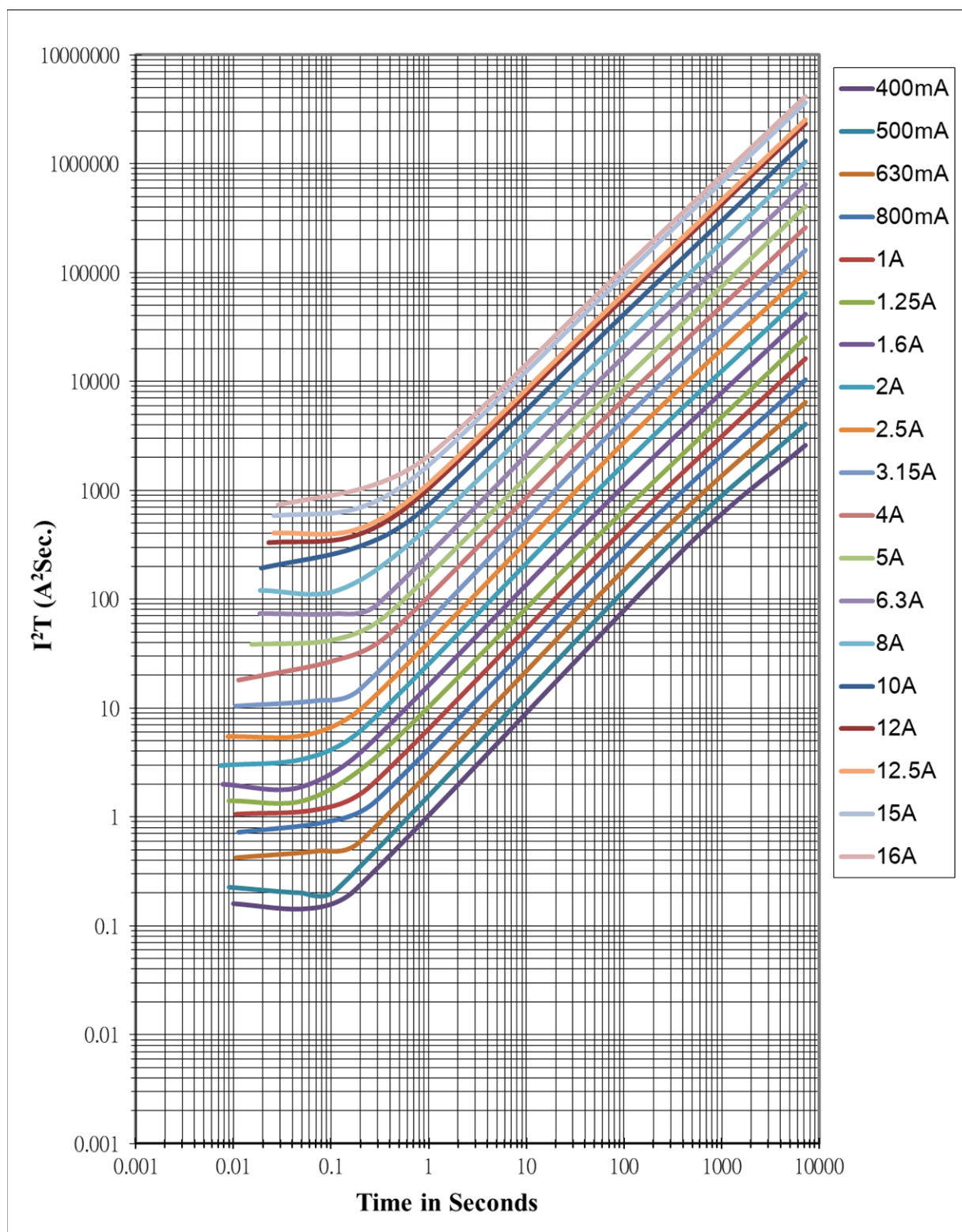
12 安裝方式及條件 Installation Way and Parameters :



13 It曲線圖 Time Current Characteristic Curve :



14 I^2t 曲線圖 Average Melting I^2t Curve :



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E-mail: conqfuse@ms62.hinet.net Official Website: <http://www.conquer.com.tw>

15 信賴性作業規定 Product Characteristics :

Test item	Test Description & Reference
Humidity unload test	MIL-STD-202G, Method 103B, Test Condition A Heat ($85 \pm 0.5^{\circ}\text{C}$) & High Humidity ($85 \pm 1\% \text{ RH}$), 240 hours, $\Delta\text{R}<15\%$
Thermal shock test	MIL-STD-202G, Method 107G, Test Condition B Temperature setup : $25^{\circ}\text{C} \sim -65^{\circ}\text{C} \sim 25^{\circ}\text{C} \sim 125^{\circ}\text{C}$ Time setup : $-65^{\circ}\text{C}(30\text{min}) \sim 25^{\circ}\text{C}(5\text{min}) \sim 125^{\circ}\text{C}(30\text{min}) \sim 25^{\circ}\text{C}(5\text{min})$ 5 cycles, $\Delta\text{R}<15\%$
Vibration test	MIL-STD-202G, Method 201A Frequency setup : $10 \sim 55 \sim 10 \text{ Hz}$ Time setup : 1 Minute/cycle (X-Y-Z , 120 Cycles) 6hours, $\Delta\text{R}<15\%$
Salt spray test	MIL-STD-202G, Method 101E, Test Condition A Salt spray concentration : $5 \pm 1\%$ Test liquid temperature : $35 \pm 0.5^{\circ}\text{C}$, 96hours, $\Delta\text{R}<15\%$
Solderability test	Reference IEC 60068-2-58 Temperature setup : $250 \pm 3^{\circ}\text{C}$, $3 \pm 0.3 \text{ sec}$ After test terminal electrode wetting area must be greater than 95%
Resistance to soldering heat test	Reference IEC 60068-2-58 Temperature setup : $260 \pm 3^{\circ}\text{C}$, $10 \pm 1 \text{ sec}$ $\Delta\text{R}<15\%$

16 其他 Other：

16.1 測試環境 Test Conditions：

除非另有指定，本規格書中所有測試皆於標準條件($25\pm 5^{\circ}\text{C}$, 35-75% RH.)下進行。
Unless otherwise specified, all tests in this specification are performed under standard conditions of $25\pm 5^{\circ}\text{C}$ and 35-75% RH.

16.2 保存與有效期 Storage Conditions and Shelf Life：

保險絲於儲存條件($25\pm 5^{\circ}\text{C}$, 35-75% RH.)下儲放一年內，可確保符合本規範中的機械與電氣之特性。

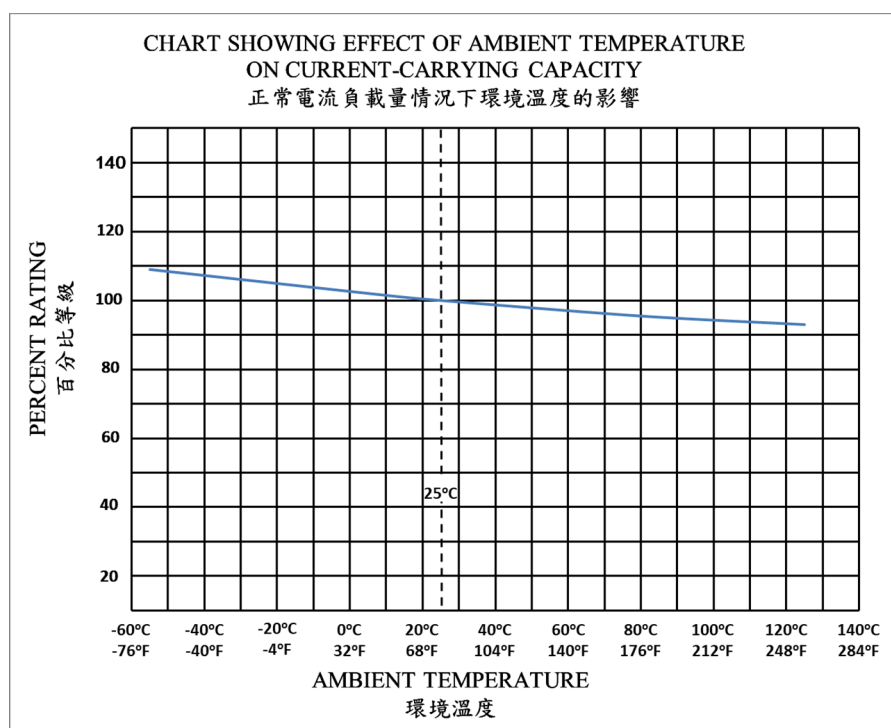
When stored under the specified storage conditions ($25 \pm 5^{\circ}\text{C}$ and 35–75% RH), the fuse will maintain its electrical and mechanical characteristics specified herein for up to one year.

16.3 環境溫度 Ambient Temperature：

保險絲的使用環境溫度是 $-55^{\circ}\text{C}\sim 125^{\circ}\text{C}$ 。但是當使用環境溫度超出 $25^{\circ}\text{C}\pm 5^{\circ}\text{C}$ 範圍，應考慮使用環境溫度對保險絲的影響，如圖一所示。

Fuse can be used at ambient temperature of $-55^{\circ}\text{C}\sim 125^{\circ}\text{C}$. However, when a fuse ambient temperature is not at the range of $25^{\circ}\text{C}\pm 5^{\circ}\text{C}$, customers should consider the ambient temperature affects the current carrying capacity of fuse as shown in Fig 1.

溫度降額曲線
Temperature Re-rating curve：



圖一 (Fig 1)