



功得電子工業股份有限公司
CONQUER ELECTRONICS CO.,LTD.

規格書

Spec. No. SFA004

Specification For Approval

品名： UTE/UTE-A 系列 慢速型玻璃管保險絲
500mA~16A

Type： UTE/UTE-A *Time-Lag Low Breaking Capacity*
500mA~16A

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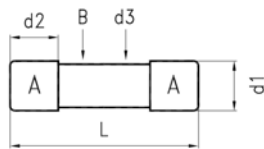


～ 筒管狀保險絲 ～

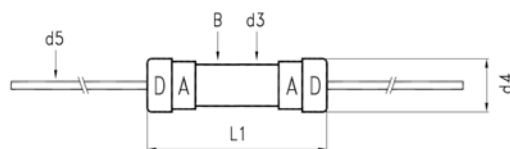
Fuses for Instrument, Power and Telephone (Non-indicating)

- 1 適用範圍: 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。
Available Range: For protecting instruments, power supplies and telephone sets.

- 2 形狀及尺寸如下圖 單位: mm
Shape & Size as following illustrations.



UTE Series



UTE-A Series

- 2.1 構造形狀 Structure & Shape : 如上圖 As shown in figure above
2.2 額定電壓 Rated Voltage: 250V AC
2.3 額定電流 Rated Current: 500mA~16A
3 材料 Material:
3.1 筒管本體: 透明玻璃管不可破裂或變形。
Tube (Body): Transparent glass tube. No breaking or deformation is allowed.
3.2 兩端銅蓋: 需以導電率良好之黃銅為材料。
Two brass end caps: Made of brass of good conductivity.
3.3 銅蓋處理: 銅蓋部份鍍鎳, 標示最後若加 "S" 者, 表示須鍍銀。
Coating of brass caps: Plating the surface with nickel. If the indication is added with "S", it needs to be plated with silver.

NO.	Part Name 部品名稱	Volume 數量
A	Brass Cap - Nickel Plating 銅帽 - 鍍鎳	2
B	Glass Tube - Transparent Glass 玻璃管 - 透明玻璃	1
C	Fuse Element 可熔體	1
D	Cap-on Lead-Cap - Tinned Copper Wire and Cap 銅帽附腳 - 銅蓋加鍍錫銅線	2
d1	Dia. of Cap - 5.2 ^{+0.1} _{-0.2} mm 銅頭直徑	
d2	Height of Cap - 5.25±0.1mm 銅頭高度	
d3	Dia. of Glass - 4.56±0.2mm 玻璃管直徑	
d4	Dia. of Cap - 5.9±0.2mm 銅帽直徑	
d5	Dia. of Lead Wire - (註1)±0.05mm 附腳直徑 Length of Lead Wire - 38±2mm 長度	
L	Body of Fuse - 20.00±0.50mm 本體尺寸	
L1	Total Length W/Cap-on on Both Ends 21.00±0.75mm	



4 電氣特性 Electrical Characteristics:

4.1 For UTE 500mA~16A & UTE-A 500mA~12A

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

Loading Capacity: Loading the 150 % Listed Electrical Current (i.e. $1.5 \times I_n$) for flowing, and it's available to let current keep on flowing 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 3。

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 3)

- 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~6.3A	60 min			2 min	600 ms	10 sec	150 ms	3 sec	20 ms	300 ms
8A~16A	30 min			2 min	600 ms	10 sec	150 ms	3 sec	20 ms	300 ms

4.2 For UTE-A 12.5A~16A

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

According to IEC 60127-2 Annex A, the UTE must to be conformed to the item 4.1 electrical characteristic test first, about UTE-A only need to test 210% rating current , and fuse must open in 2 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 3。

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 3)

- 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.
12.5A~16A		2 min

5 機械特性 Mechanical Properties:

- 5.1 拉力強度: 當施加軸拉力720g/cm於兩端附腳(或銅帽), 無鬆動或損壞現象發生。

Terminal Strength: Leads and/or caps are soldered (adhered) to withstand axial pulling force of 720g/cm without loosening or any harmfulness to firmly attachment.



5.2 彎折強度 Bending Strength:

(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(For UTE 500mA~16A & UTE-A 500mA~12A):

為適應電感或電容性電路所產之暫態電流，本品可承受最少20ms 10 In 電流之突波。

Surge Test: In order to stand transient current caused by inductive or capacitive, the fuses are designed to have minimum clearing time of 20 millisecond at 1000% rated current.

7 耐久實驗 Endurance(On-Off Test)(For UTE 500mA~16A & UTE-A 500mA~12A):

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4.2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(For UTE 500mA~16A & UTE-A 500mA~12A):

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 UTE 500mA~16A & UTE-A 500mA~12A): In an air circulating oven at 70°C, the fuses can load 110% rated current for 1 hour and they shall not operate.

9 遮斷能力 Breaking Capacity(Interrupting rating):

35 amperes or $10 \times$ rated current ; whichever is greater at 250V AC.

10 焊錫性實驗 Solderability of terminations(For UTE-A):

將保險絲安裝於電路板上，過錫爐試驗條件為 $235 \pm 5^\circ\text{C}$ ，時間 $2.0 \pm 0.5\text{S}$ ，浸泡深度 $2.0 \pm 0.5\text{mm}$ ，經過測試後，焊接點的金屬部份必須被焊錫完全覆蓋，呈現光滑明亮。

Fix the fuse in the pcb and into soldering pot, immersion conditions: $(235 \pm 5)^\circ\text{C}$; $(2.0 \pm 0.5)\text{S}$, depth of immersion: $2.0 \pm 0.5\text{mm}$. After test, the contact areas were covered with a smooth and bright solder coating.

11 耐溫實驗 Resistance to soldering heat(For UTE-A):

將保險絲安裝於電路板上，過錫爐試驗條件為 $260\pm5^{\circ}\text{C}$ ，時間 $10\pm1\text{S}$ ，浸泡深度 $2.0\pm0.5\text{mm}$ ，經過測試後，保險絲是不能破裂的，保險絲上的標記是清楚的，保險絲上的色碼顏色是不能有變化，再量測壓降值，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IEC 60127-2 Sheet 3。

Fix the fuse in the pcb and into soldering pot, immersion conditions: $(260\pm5)^{\circ}\text{C}$; $(10\pm1)\text{S}$.
depth of immersion: $2.0\pm0.5\text{mm}$.After test, the fuse-link were not be cracked , marking were readable , color coding have not changed color, voltage drop did not exceed the maximum allowed in standard sheet.

12 包裝 : UTE-1000 PCS/盒 ; UTE-A-500 PCS/盒 內盒印明下列標示:料號、額定(電壓、電流、遮斷能力)及安規名稱。包裝材料均符合RoHS或者HF的環保要求,且包裝材料不會和零件發生化學反應，造成不良。

Packing : UTE-1000 pcs in an inner box. ; UTE-A-500 pcs in an inner box. The following items indicated on the box. Mark: Catalog number; ratings (voltage, current, interrupting capacity), and safety mark.The packing material conforms to ROHS or the HF environmental protection request. And the packing material can't have the chemical reaction with the components.

13 其他 Other:

13.1 除非另有指定，上述機械、電器特性，係於常溫，標準狀況下測試之。

Unless otherwise, specified, all tests to be performed at $25\pm5^{\circ}\text{C}$ and 35-75% RH.

13.2 於標準狀況下儲放一年，本品乃確保上述機械與電氣之特性。

After one year's storage under normal condition, this item is guaranteed to meet the requirements mentioned above.

14 標記/安規認證 Mark/ Safety certification:

UTE Series

Mark Approvals													Nominal Resistance Cold Ohms
500 mA	**	**	**	**	**	**	*	**	*	*	*	*	0.1989
630 mA	**	**	**	**	**	**	*	**	*	*	*	*	0.1403
800 mA	**	**	**	**	**	**	*	**	*	*	*	*	0.1089
1 A	*	**	**	**	**	**	*	**	*	*	*	*	0.0776
1.25 A	*	**	**	**	**	**	*	**	*	*	*	*	0.0566
1.6 A	*	**	**	**	**	**	*	**	*	*	*	*	0.0438
2 A	*	**	**	**	**	**	*	**	*	*	*	*	0.0349
2.5 A	*	**	**	**	**	**	*	**	*	*	*	*	0.0241
3.15 A	*	**	**	**	**	**	*	**	*	*	*	*	0.0187
4 A	*	**	**	**	**	**	*	**	*	*	*	*	0.0145
5 A	*	**	**	**	**	**	*	**	*	*	*	*	0.0107
6.3 A	**	**	**	**	**	**	*	*	**	*	*	*	0.0083

UTE Series

Mark Approvals												Nominal Resistance Cold Ohms
8 A	*	**		**	**	*			*			0.0059
10 A	*	**		**	**	*			*			0.0043
11 A						*				**	**	0.0040
12.5 A						*				**	**	0.0032
15 A						*				**	**	0.0027
16 A											*	0.0026

*: 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 and safety mark on the cap

UTE-A Series

Mark Approvals												Nominal Resistance Cold Ohms
500 mA	*	*	*	*		*						0.1989
630 mA	*	*	*	*		*						0.1403
800 mA	*	*	*	*		*						0.1089
1 A	*	*	*	*	*	*						0.0776
1.25 A	*	*	*	*	*	*						0.0566
1.6 A	*	*	*	*	*	*						0.0438
2 A	*	*	*	*	*	*						0.0349
2.5 A	*	*	*	*	*	*						0.0241
3.15 A	*	*	*	*	*	*						0.0187
4 A	*	*	*	*	*	*						0.0145
5 A	*	*	*	*	*	*						0.0107
6.3 A	*	*	*	*	*	*						0.0083
8 A	*	*	*	*	*	*		*				0.0059
10 A	*	*	*	*	*	*		*				0.0043
11 A					*				*	*		0.0040
12.5 A					*				*	*		0.0032
15 A					*				*	*		0.0027
16 A										*		0.0026

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



15 系列品名列表 series model list :

品名	安培數
UTE ___A ___V(PF)	16A
VBS UTE ___A ___V(PF)	500mA~6.3A
VBS UTE-A ___A ___V(PF)	
VUC UTE ___A ___V(PF)	8A/10A
VUC UTE-A ___A ___V(PF)	
TUC UTE ___A ___V(PF)	11A/12.5A/15A
TUC UTE-A ___A ___V(PF)	

例： VBS UTE A 250V (PF)
 1 2 3 4 5

- 1 安規認證 Safety Approval
- 2 系列品名 Series Model : UTE/UTE-A
- 3 安培數 Ampere Rating : 500mA~16A
- 4 伏特數 Voltage : 250V
- 5 無鉛標示 Pb Free : (PF)

※註1 (Note1)	
安培數 Ampere Rating	腳徑 Lead Wire
500mA~12A	φ 0.8 mm
12A(不含)以上	φ 1.0 mm