

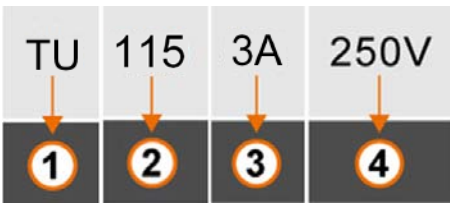
1. 適用範圍 / SCOPE

此規格書是溫度保險絲TU型系列，適合用於一般電化產品、電熱器產品、廚房機器、電動機及線圈類…產品。

This specification applies to thermal cutoff : TU Series, which use in electrochemical product、electric heater、kitchen equipment、power equipment and coil product.

2. 產品型號 / TYPE

例「example」：



- ① 系列號/ Series Number
- ② 額定動作溫度/Rated Functioning Temperature
- ③ 額定電流/ Rated Current
- ④ 額定電壓/ Rated Voltage

3. 額定電流、額定電壓及溫度規格 / RATED CURRENT, RATED VOLTAGE AND TEMPERATURE TYPE

3-1 額定電流 / Ampere Rating: 3A / 3.5A / 4A

3-2 額定電壓 / Voltage Rating: 250V AC / 125V AC / 50V DC

3-3 額定動作溫度 / Rated Functioning Temperature (T_F)

最高極限溫度 / Maximum Temperature Limit (T_M)

最高維持溫度 / Holding Temperature Limit (T_H)

實際動作溫度 / Cut-off Temperature

見下表 / See Table:

型號 Type No.	額定動作溫度 T_F, T_f (°C) Rated Functioning Temperature	實測動作溫度 (°C) Cut-off Temperature	最高維持溫度 T_H, T_C (°C) Holding Temperature Limit	最高極限溫度 T_M, T_m (°C) Maximum Temperature Limit	電氣額定值 Electrical Ratings	
					電流(A) Current	電壓(V) Voltage
TU115	115	112±3	85	200	3A	250V AC
			80	200	3.5A	125V AC
			80	200	4A	50V DC

4. 標示 / MARKING

溫度保險絲上需有下列標示 / The Thermal Cutoffs shall have the following marking:

- ① 製造工廠的標識 / Manufacture's Logo:
- ② 型號 / Type: TU
- ③ 額定動作溫度 / Rated Functioning Temperature(T_F): 115 °C
- ④ 額定電流 / Ampere Rating(A) : 3A
- ⑤ 額定電壓 / Voltage Rating(V) : 250V~
- ⑥ 批號 / Date Code : XX

注意 / NOTE : 對標示的大小和位置沒有規定 / Size and position of the markings shall not be provided.

5. 外觀及形狀 / APPEARANCES AND CONFIGURATION

5-1 外觀不應有顯著的汙點、鐵銹或裂紋；標示應該容易辨識。

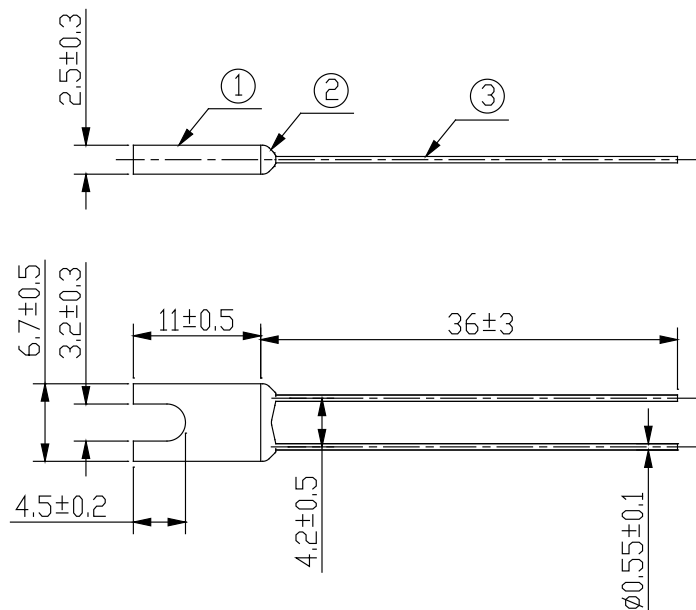
There shall not be any remarkable stain, rust or crack on the appearances;
marking shall be easily legible.

5-2 形狀：帶直線引腳的溫度保險絲。

Configuration : Radial Leaded Thermal Cutoffs.

6. 工程圖和結構 / OUTLINE DRAWING AND STRUCTURE

6-1 工程圖（單位：mm） / Outline Drawing and Dimensions (Unit: mm)



6-2 結構 / Structure

編號 No.	元件 Component	材質 Material	數量 Quantity
1	外殼 Casing	塑膠 Plastics	1
2	封口樹脂 Sealing Resin	環氧樹脂 Epoxy Resin	~
3	引線 Lead	CP線 CP line	2

7. 產品特性 / PRODUCT CHARACTERISTICS

7-1 拉力 / Pull

溫度保險絲樣品以任何不致傷害到它的方便方式支撐起來，用 4.75N 的拉力作用到每一隻引線腳上達 1 分鐘，每隻引線腳都不能斷裂或鬆開。

The thermal cutoff is to be supported in any convenient manner so as not to damage it and a pull force as 4.75N to each lead for 1 minutes.

7-2 推力 / Push

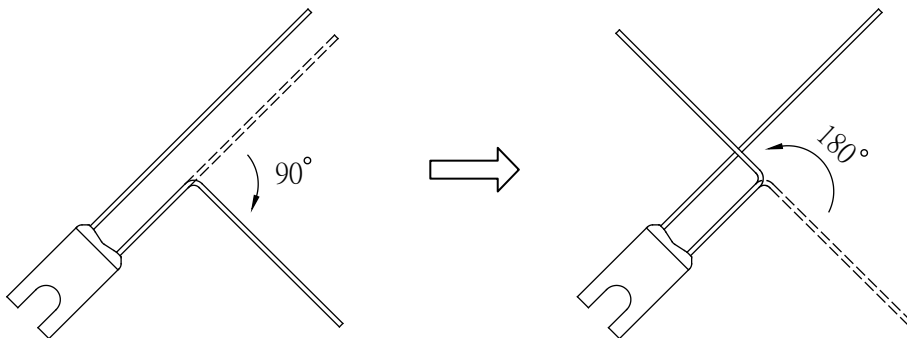
溫度保險絲樣品以任何不致傷害到它的方便方式支撐起來，用 1.18N 的推力作用到每一隻引線腳上達 1 分鐘，每隻引線腳都不能斷裂或鬆開。

The thermal cutoff is to be supported in any convenient manner so as not to damage it and a push force as 1.18N to each lead for 1 minutes.

7-3 扭轉力 / Twist

溫度保險絲樣品以任何不致傷害到它的方便方式支撐起來，在每一隻引線腳上距離溫度保險絲本體 10 mm 的地方折一個 90 度角，然後照下圖所說明的樣子扭轉 180 度，每隻引線腳都不能斷裂或鬆開。

The thermal cutoff is to be rigidly supported so as not to damage it. Each lead is to be bent through 90 degrees at a location 10 mm from the body of thermal cutoff and then twisted through 180 degrees.



8. 溫度特性 / TEMPERATURE CHARACTERISTICS

8-1 額定動作溫度 (TF.Tf) / Rated Functioning Temperature

當僅有不大於 10 mA 的偵測電流作為負載的情況下，使溫度保險絲改變其導電狀態之溫度，此溫度公差在 +0, -10°C 範圍以內。

The temperature at which a thermal cutoff changes its state of conductivity to open a circuit with detection current of 10mA or less as the only load .The temperature tolerance is +0,-10°C.

8-2 實際動作溫度 / Cut-off Temperature

溫度保險絲在以升溫速率為 0.5~1°C/min，且以不高於 10mA 的偵測電流偵測烤爐中動作時的溫度。

Cut-off temperature is the actual operating temperature range when the thermal cutoff is made to operate inside a constant temperature oven whose temperature is raised at the rate of 0.5 to 1°C/min, while a detection current of 10mA or lower is applied.

8-3 保持溫度 (TH.Th.TC) / Holding Temperature

在溫度保險絲中，通以額定電流能夠連續維持 168 小時導通狀態，在此情況下，溫度保險絲所能夠承受的不致改變電氣導通狀態的最高溫度。

The maximum temperature at which a thermal cutoff can be maintained while conducting rated current for 168 hours without functioning.

8-4 最高極限溫度 (TM.Tm) / Maximum Temperature Limit

溫度保險絲所能處在的最高溫度，在這個高溫狀態下，溫度保險絲已改變其電氣導通性，溫度保險絲在這個高溫持續達 10 分鐘而不致破壞其機械性能和電氣特性。

The maximum temperature at which mechanical and electrical properties of a thermal cutoff can be maintained for 10 minutes without resuming conductivity after functioning.

8-5 存儲條件 / Storage Conditions

溫度 / temperature : -10°C ~ 40°C

相對濕度 / Humidity : 75% 以下 (年平均)，在無露水的情況下，保存 30 天的最大相對濕度為 95%。

Relative humidity \leq 75% yearly average, without dew, maximum value for 30 days -95%.

9. 電氣特性 / ELECTRICAL CHARACTERISTICS

9-1 絕緣阻抗 / Insulation Resistance

以額定電壓值兩倍的直流電壓為測量電壓，斷開點之間的絕緣阻抗至少要有 $0.2M\Omega$ ；斷電的通路點與外殼之間的絕緣阻抗至少要有 $2M\Omega$ 。

The insulation resistance is to be measured with a DC Voltage of twice the rated voltage, and at least $0.2M\Omega$ across the disconnection; current path and the enclosures is not less than $2M\Omega$.

9-2 耐高電壓測試 / Dielectric Voltage-Withstand Test

溫度保險絲斷電的通路點之間，可承受兩倍額定電壓值 1 分鐘以上；溫度保險絲帶電部件與外殼之間，可承受兩倍額定電壓+1000V 1 分鐘以上。

A thermal cutoff shall withstand double the rated voltage for 1 minute without breakdown; Live parts and enclosure $2U_r+1000V$ for 1 minute without breakdown.

10. 安裝方式及條件 / INSTALLATION WAY AND PARAMETERS

溫度保險絲在使用、加工處理或安裝時，請特別注意以下幾點：

Please pay attention to the following notices when the thermal cutoff is used.

10-1 使用 / Cautions

a. 請在額定電壓、額定電流內使用溫度保險絲。

Use the thermal cutoff with a voltage and current level lower than the rated level.

b. 請勿當作電流保險絲使用。

Don't use this device for and purpose other than as a thermal cutoff.

c. 請勿在水、有機溶劑液体及亞硫酸氣體或高濕環境下使用。

Don't use the thermal cutoff in water, organic solvents or other liquids, or environments containing sulfurous acid gas, nirtous acid gas, or high humidity.

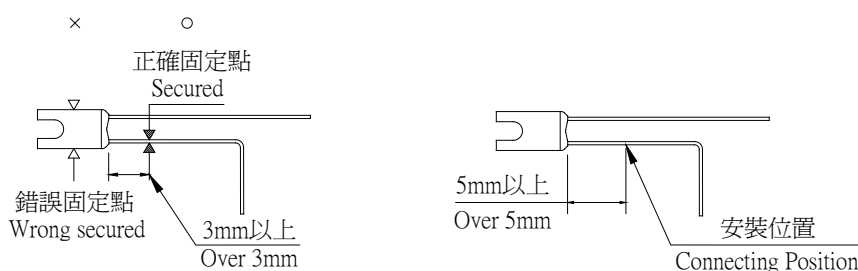
10-2 引線處理 / Lead wire process

a. 引線進行曲折加工時，請先在離本體 3mm 以上處固定后再進行曲折加工。

The lead wire should be bent at distance 3 mm or more from the body of the fuse.

b. 作業時，不要向引線施加過大的拉力，推力或扭力。

Don't be careful to apply force that may pull, push or twist to the lead wires.



10-3 安裝 / Mounting

- a. 溫度保險絲可以用焊接、鉚合等方式進行安裝。

The thermal cutoff can be mounted by soldering, caulking, or welding.

- b. 建議使引線（樹脂封口側）的安裝位置離開本體 5mm 以上。

It is recommended that the connecting position at the lead of resin-sealed side should be 5 mm or more from the body of the thermal cutoff.

- c. 如果是用焊接方式安裝：為防止焊接時的熱量引發保險絲動作，在焊接時，建議用散熱夾，夾在保險絲外殼附近，以便熱量散發，並在規定的焊錫時間內完成，具體焊錫時間如下表：

If soldering, note that the thermal cutoff may not function because of excessive solder temperature. To prevent such malfunctions, for example, holding the lead near the case by tool is effective for allowing the heat to escape, and the soldering should be done in short interval.

Tf 溫度 Tf Temp.	引線距離 Lead Distance			焊錫條件 Soldering Conditions
	10mm	15mm	20mm	
101°C ~ 130°C	3s	4s	5s	焊錫溫度：420±5°C Soldering Temperature: 420±5°C

注意：焊錫後 30 秒內不可進行如拉、扭、彎曲等加工。

Attention: After soldering, wait at least 30 seconds before resoldering, taping, securing, or repositioning the TCO.

- d. 如用鉚接的方法安裝，請勿使連接處電阻過大，以防止通過電流時異常發熱，導致溫度保險絲動作。

If caulking or welding, be careful to keep the resistance value of the connecting section low. If the connecting section has a high resistance value, the passing current may generate an abnormally high temperature that will cause the thermal cutoff to operate.

11. 其他使用注意事項 / OTHER NOTICE IN USED

符合本公司可能的其他檔的要求。

It could be in conformance with another file, which made by our company.

12. 包裝 / PACKING

散裝每膠袋 100 個保險絲

每盒 10 袋共 1000 個保險絲

Bulk 100 pcs/ poly bag

10 poly bags / box, altogether 1000 pcs

13. 其他 / OTHERS

13-1 如果在使用中有超出本規格書的要求，必須經由雙方協商確認。

In the event that an impropriety is found beyond this specification ,it shall be fixed by mutual agreement between the parties.

13-2 如果本規格書有不適當的情況，必須通過雙方協商並由本公司修改。

In the event that an impropriety is found in this specification , WALTER ELECTRONIC CO., LTD. shall amend it by mutual agreement between the parties.

版次	製作	確認	審核
第一版	饒紅	蔡明威	郭硯玲