

CUSTOMER'S NAME

Spark Fun Electronics

ALPHA REFERENCE NO.

SP15010251



SPECIFICATION

PART NO.	ALPHA MODEL NAME
	SF17010F-0302-21R-L

MODEL NAME

MODEL NO.

APPROVAL

PREPARED BY	REVIEWED BY	APPROVED BY
		



台灣艾華電子工業股份有限公司

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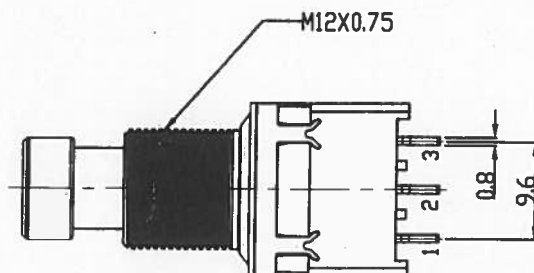
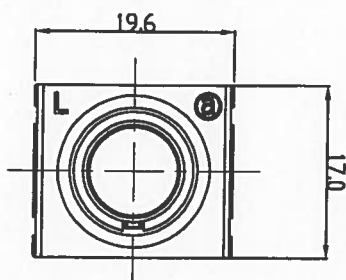
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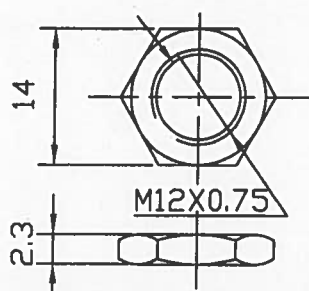
EMAIL: sales@taiwanalpha.com.tw

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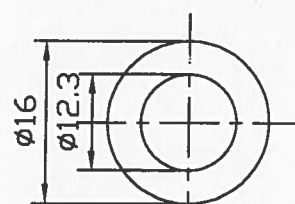
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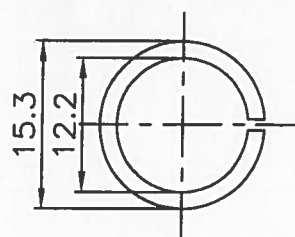
NUT 2 PC



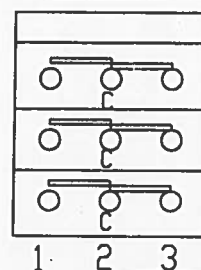
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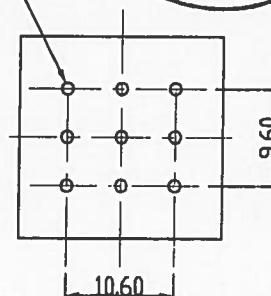
SPRINGWASHER 1 PC t=1.0



SCHEMATIC



PUSH
1-2 ON
OR
PUSH
2-3 ON


9- $\phi 1.2^{+0.1}_{0.0}$ HOLES

NOTE:

1.FUNCTION: LATCHING


SF17010F-0302-21R-L

No.	DATE	DESCRIPTION	MODEL NAME			
TOL.UNLESS OTHERWISE STATED		DIMENSION	SCALE	DRAWN BY	CHECKED BY	APPROVED BY
less than	10	± 0.3	mm	陳 101.3.14 筱婷	何 101.3.14 建志	劉 101.3.14 韋良
above	10~30	± 0.5				
above	30~100	± 1.0				
above		$\pm 5^\circ$				

	Specification SF17010F L Series	DOC. No: :SF17010F-0302-21R-L Rev. B
		Date: 2008.09.26
		Author: 呂芳誠
		Approved: 江進三

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1.0 SCOPE 目的

This specification covers the performance for 3PDT Foot Switch intended for related electronic apparatuses.

此規格包含腳踏開關之性能。

2.0 APPLICABLE DOCUMENTS AND SPECIFICATIONS 可應用的文件和規格

See drawings and any other sections of this specification for the relevant reference documents. In cases where the product specification differs from the product drawings, the product drawings take precedence.

在看產品圖及此規格的相關參考文件的任何部分，若發現產品規格與產品圖不同，產品圖應優先。

3.0 RATINGS 範圍

3.1 Voltage and Current 電壓及電流

DC9V; 1A

3.2 Durability 耐久性

30,000 cycles@ DC9V; 1A

3.3 Operating 操作溫度


-10°C to +70°C.
95%R.H. Max

3.4 Storage Temperature 儲存溫度

-40°C to +85°C
95%R.H. Max.

4.0 ELECTRICAL PERFORMANCE SPECIFICATIONS 電氣性能規格

Item 項目	Test Condition 測試條件	Requirement 需求
4.1 Contact Resistance 接觸電阻	Micro Resistance Meter 微電阻器	Initial 原始: <30mΩ After test 測試後: <100mΩ
4.2 Insulation Resistance 絕緣阻抗	More than 100MΩ .shall be measured applying 500VDC between two 於兩個鄰近的接點用 500VDC 量測 1 分鐘, 必須超過 100MΩ	Initial 原始: >100MΩ After humidity test 濕氣測試後: >50MΩ

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4.3 Withstanding voltage 耐電壓	500V AC ,(50~60Hz,2mA) shall be applied between all terminal and the terminal and frame for 1 minute. 於所有端子與端子之間，及端子與本體之間，使用 500V AC (50~60Hz 2mA)的負載並持續 1 分鐘	No function damage or breakdown. 無功能失效或損壞
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5.0 MECHANICAL PERFORMANCE SPECIFICATIONS 機械性能規格

Item 項目	Test Condition 測試條件	Requirement 需求
5.1 Operating Force 操作力量	Test with torsion meter. 使用力量計檢測	Initial 原始: 3.0±0.8Kgf After durability test 測試後: 3.0±1.0Kgf
5.2 Terminal Strength 端子強度	A static load of 1 Kgf shall be applied to the tip of the terminal in direction for 1 minute. 使用 1 Kgf 的負載於端子頂端的各個方向並持續 1 分鐘時間。	No function damage or Breakdown. 無功能失效或損壞。
5.3 Working Force For Bushing with Nut 軸套鎖上螺帽的鎖附力	Test with torsion meter and increase torsion greater than 8 Kgf-cm. 使用扭力計做測試並增加扭力到超過 8 Kgf-cm	No function damage or Breakdown. 無功能失效或損壞。

6.0 ENVIRONMENTAL PERFORMANCE SPECIFICATIONS 環境性能規格

Item 項目	Test Condition 測試條件	Requirement 需求
6.1 Soldering Heat Test 焊錫熱測試	The terminal shall be dipped in solder at a temperature of 350°±10° for of period of 3.5±0.5 seconds. 端子在 350°±10° 及 3.5±0.5 秒的條件下，不能有接觸不良情形	Contact Resistance: 接觸阻抗 <50mΩ Insulation Resistance: 絕緣阻抗 >100MΩ Withstanding voltage: 耐電壓 500VAC (50~60Hz,2mA) Terminal Strength: 端子強度 >1Kgf

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6.2 Humidity 濕氣

The switch shall be exposed in a humidity chamber at a temperature of $40^{\circ}\pm 2^{\circ}\text{C}$ (RH90~95) for 96 hours, shall be allowed to remain in a room ambient conditions for 30 minutes.
開關器必須置放於 $40^{\circ}\pm 2^{\circ}\text{C}$ 的濕氣室達 96 小時，之後再置放於室溫 30 分鐘。

Contact Resistance: 接觸阻抗
<50m Ω
Insulation Resistance: 絕緣阻抗
>50M Ω
Withstanding voltage: 耐電壓
500VAC (50~60Hz,2mA)

6.3 Low Temp Test 低溫儲存測試

The switch shall be subjected to a temperature of $-40^{\circ}\pm 2^{\circ}\text{C}$ for a period of 96 hours, then shall be allowed to remain in a room ambient conditions for 30 minutes.
開關器必須置放於 $-40^{\circ}\pm 2^{\circ}\text{C}$ 的環境 96 小時後，再置放於室溫 30 分鐘。

No function damage or Breakdown.
無功能失效或損壞

6.4 High Temp Test 高溫儲存測試

The switch shall be subjected to a temperature of $85^{\circ}\pm 2^{\circ}\text{C}$ for a period of 96 hours, then shall be allowed to remain in a room ambient conditions for 30 minutes.
開關器必須置放於 $85^{\circ}\pm 2^{\circ}\text{C}$ 的環境 96 小時後，再置放於室溫 30 分鐘。


No function damage or Breakdown.
無功能失效或損壞

7.0 ENDURANCE PERFORMANCE SPECIFICATIONS 耐久性規格

7.1 Durability 耐久性 (With Load) 加負載

30,000 cycles of operation shall be performed continuously at a rate 20 cycles per minute with load (DC9V; 1A).
在 1A @DC9V 的負載下以每分鐘 20 次的操作循環，操作 30,000 次。

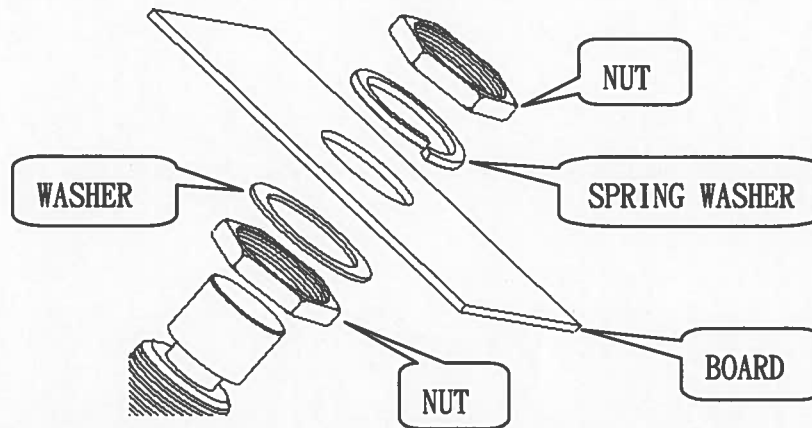
Contact Resistance: 接觸阻抗
<100m Ω
Insulation Resistance: 絕緣阻抗
>100M Ω
Withstanding voltage: 耐電壓
500VAC (50~60Hz,2mA)
Operating Force: 操作力
3.0 \pm 1.0 Kg

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8.0 Except for special request of accessory quantity, the accessories shall be applied according to

Following instruction

本產品附件鎖附方式, 請參照下圖說明, 若附件數量客戶有特殊需求則不在此限



Common Specification of Lead-Free Soldering and Storage conditions

以下焊錫條件以可變電阻置於單層 1.6mm 厚度之印刷電路板上測試為基準。

The specification below is based on testing results of 1.6mm thickness single layer printed circuit board.

1. 自動或半自動機台焊錫條件：

For Automated or Semi-Automated Soldering Equipments:

- 1.1 使用發泡式且比重 0.82 以上的助焊劑，發泡高度以印刷電路板厚度一半為標準，且助劑不能流入可變電阻基板表面及印刷電路板表面。

Flux of 0.82 specific gravity, applied by foam fluxer, shall be used. Foam head shall be limited to the height which is half thickness of printed circuit board to be soldered. No flux should be allowed to run up onto resistive element board of potentiometer and the surface of printed circuit board.

- 1.2 預熱時間不超過兩分鐘，焊錫接面（即印刷電路板底）最高預熱溫度不超過 100°C。

Regarding preheating, the entire flow duration should not exceed 2 minutes, and soldering surface temperature (undersurface of PCB) shall be settled within 100°C.

2. 手工焊錫、自動或半自動機台焊錫不得超過一回。

Regardless of soldering facility and method, solder dipping or solder smearing must not be carried out more than 1 time.

2.1 焊錫注意事項：

Caution for soldering:

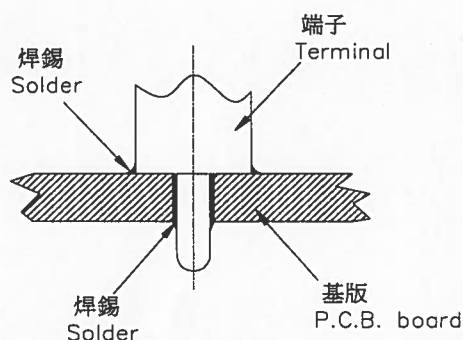
如圖所示，請避免 PCB 上層表面有焊錫

Please avoid soldering on upper surface of P.C.B. as shown.

3. 保管條件(Storage conditions):

產品需儲存在原始的包裝,以及保持常溫常濕、避免陽光直射、遠離任何腐蝕性氣體。產品需盡快完全地使用完,建議最慢不要超過交貨後 6 個月。產品經拆封後,全部的數量都需迅速地使用完。

The products shall be stored in the original packaging and kept at room temperature and humidity, out of direct sunlight, and away from any and all corrosive gas. The products shall be completely used as soon as possible, but no longer than 6 months from the date of delivery. Once product packaging is opened, the complete quantity of such products shall be promptly used.



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