



# 规格书

## SPECIFICATION

CUSTOMER NAME	客户名称:	
CUSTOMER NO.	客户编号:	
SERIES	系 列:	轻触开关
MODEL NO.	型 号:	XB-TS-115S
DRAWING NO.	图 形 号:	Tact Switches

**If specification of this product meets your request, please confirm all the items of it and return to us with signature and stamp, it will be basis of our production and record. Thanks your cooperation in advance!**

若此产品规格符合贵司要求，敬请确认此规格书内所有项目  
并签名和盖章后回传给我司，以作我司产品制作之  
依据和存档之用，多谢合作！

### EXAMINE & APPROVAL 审批

APPROVE 接受	NOT APPROVE 不接受
<div style="border: 1px solid black; height: 100px; width: 100%;"></div>	<div style="border: 1px solid black; height: 100px; width: 100%;"></div>
SIGNATURE 签署      STAMP 盖章      DATE 日期	

PREPARED BY.制表人	CHECKED BY.校对	APPROVED BY.审核	APPROVAL BY.批准
<div>研发部</div> <div>戴海明</div> <div>2022. 06. 08</div>	<div>品质部</div> <div>黄自清</div> <div>2022. 06. 08</div>	<div>工程部</div> <div>庞军</div> <div>2022. 06. 08</div>	<div>总经办</div> <div>吴量</div> <div>2022. 06. 08</div>

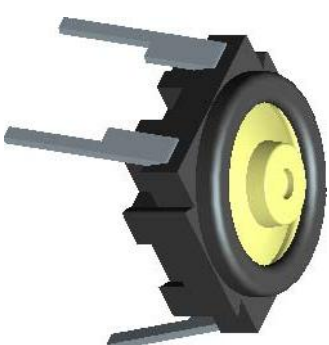
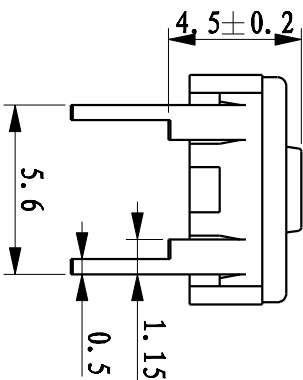
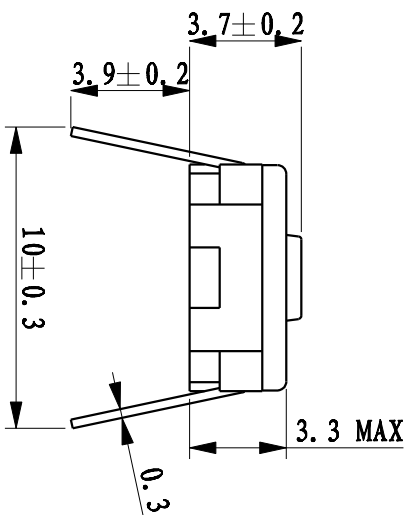
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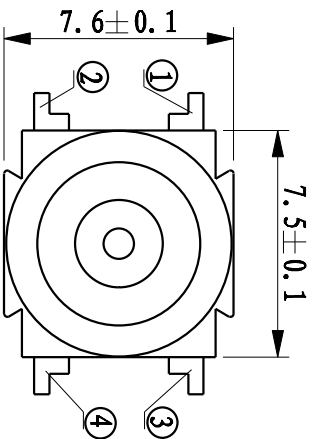
Dong Guan XB ElectronicsCo., Ltd

AccountNumber: 705540238  
BankName: CitibankN.A.,HongKongBranch  
Country/Region:Hong Kong  
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SWIFT/BIC: CITIHKHX (CITIHKHXXXX\*If11charactersare  
required)  
**MAiL: HK@ALPSR.CN XB@ALPSR.CN**  
**Quality core! Afterburner for Made in China!**

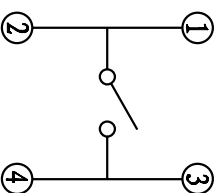


技术参数

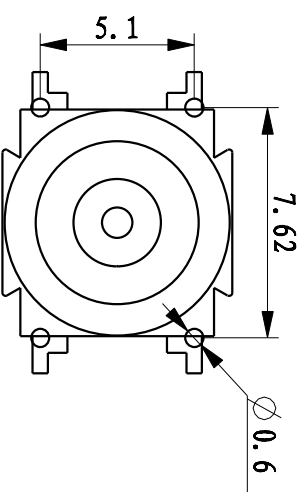
1. 额定电流: 0.2A 24VDC
2. 接触电阻: 100mΩ
3. 按力: 260±50gf
4. 行程: 0.45±0.15mm
5. 绝缘电阻: 100MΩ
6. 抗电强度: 100v 50Hz 1Min
7. 寿命: 100,000 次



原理图



P. C. B LAYOUT



TITLE	TACT SWITCH	DRAWN	TOLERANCE OTHERWISE UNLESS SPECIFIED			
PRODUCT NO.	XB-TS-115S	CHECKED	TOLERANCE			
DRAWING NO.		APPROVED	TOLERANCE			
SCALE	4:1	UNIT mm	ANGLE TOL			
		DATE	± 0.2			
			± 1°			



东莞市溪榜电子有限公司  
DONG GUAN XI BANG ELECTRONI CS CO., LTD.



NO.	PARTS	MATERIAL	QTY

# 規 格 書

## SPECIFICATION

SERIES 系列:TACT SWITCH

MODEL NO. 型號: XB-TS-115S

1. RATING 額定值:50mA 12V DC

2. CIRCUIT 回路:

3. TIMING 切換類型:

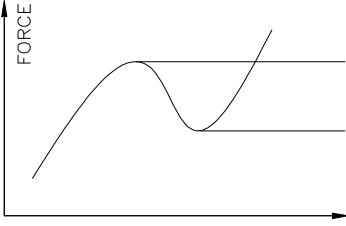
4. STANDARD TEST TEMPERATURE SHALL BE 5°C TO 35°C AND HUMIDITY SHALL BE 45% TO 85% .

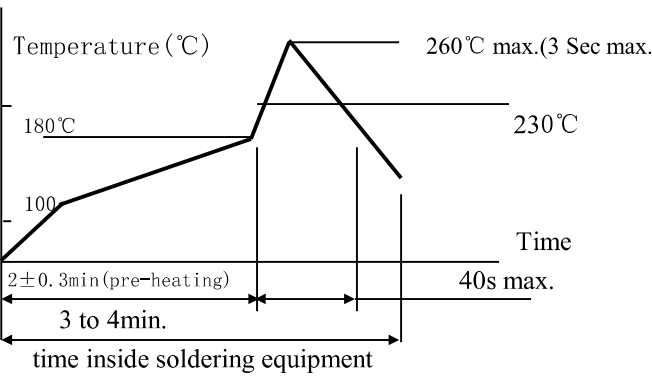
溫度 5~35°C，濕度 45~85% 標準狀態下測試。

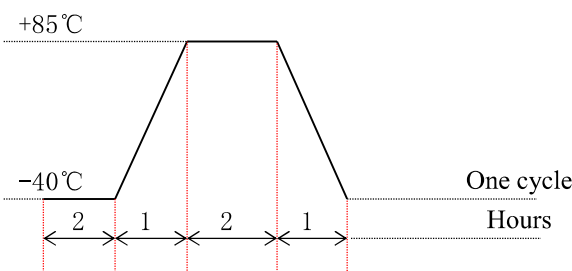
5. OPERATING TEMPERATURE RANGE IS -16°C TO 60°C. IT IS USUALLY APPLIED TO ELECTRONIC AND ELECTRICAL APPLIANCE PRODUCTS.

溫度 -16°C~60°C 環境內使用。一般適用於電子、電氣方面產品使用。

ITEM 項目		TEST CONDITION 測試條件	PERFORMANCE 性能
<b>6. ELECTRONICAL PERFORMANCE 電氣性能</b>			
6.1	CONTACT RESISTANCE 接觸電阻	Being tested at 1 kHz small current and voltage (100mA,20mV ) by contact resistance meter. 在 1kHz 小電流電壓 (100mA,20mV) 下測量。	100 mΩ max. 100毫歐 以下。
6.2	INSULATION RESISTANCE 絕緣電阻	DC 500 V shall be applied for test between terminals and between terminals and frame for one minute. 在端子之間和端子與殼之間加 DC 500 V 條件下，持續1分鐘測量。	100MΩ min. 100兆歐 以上。
6.3	WITHSTAND VOLTAGE 耐電壓	AC 250 V and induction current 1 mA shall be applied for test between terminals and between terminals and frame for one minute. 在端子之間和端子與殼之間加 AC 250 V (50Hz或60Hz) 感應電流 1mA 條件下，持續1分鐘測量。	There shall be no breakdown. 無擊穿現象出現。
6.4	BOUNCING 觸點反跳	By punching slightly the top of switch in normal operating condition after connection to the measuring circuit below, measur the bounce at ON and OFF position. 開關按照以下測定回路, 在開關中央施加通常使用狀態的操作力, 對開關ON時和OFF時進行時間測定。 <div style="text-align: center;"> <p>Measuring circuit 測定回路</p> </div>	10ms max. ≤ 10 ms. <div style="text-align: center;"> <p>t:bounce time</p> </div>

ITEM 項目	TEST CONDITION 測試條件	PERFORMANCE 性能
<b>7. MECHANICAL PERFORMANCE 機械性能</b>		
7.1	<p data-bbox="215 369 368 477">OPERATING FORCE 動作力</p> <div data-bbox="411 219 914 443">  <p data-bbox="766 268 893 291">PUSH FORCE</p> <p data-bbox="766 336 914 358">RETURN FORCE</p> <p data-bbox="766 414 829 436">TRAVEL</p> </div> <p data-bbox="399 448 941 649">Place the switch vertically to the operation direction, impress force to the centre of knob, and test the maximum force of onstate. 開關垂直於操作方向放置，在推杆中心逐漸施力，測量開關導通所需的最大力度。</p>	<p data-bbox="1109 331 1337 353">Push Force: 260±50gf</p> <p data-bbox="1109 409 1356 432">Return Force: 65gf min.</p>
7.2	<p data-bbox="220 712 363 819">TERMINAL STRENGTH 端子強度</p> <p data-bbox="399 667 925 828">A static force of 300 g being applied in one direction on the tip of the terminal for 1 minute. 一個 300 克之靜負荷施加於端子頂部的一個方向持續1分鐘。</p>	<p data-bbox="1109 667 1476 828">There shall be no sign of mechanical and electrical damage. 無任何跡象顯示機械及電器性能之損壞。</p>
7.3	<p data-bbox="220 925 363 1032">KNOB STRENGTH 推杆強度</p> <p data-bbox="399 880 1077 1187">Placing the switch such that the direction of switch operation is vertical and then a below static load shall be applied in the direction of stem operation. 開關垂直與操作方向放置，推杆可承受以下靜荷重。 (1) Depression                      施加力: 30 N (2) Duration                          時 間: 15 s (3) Number of times                次 數: 1 times</p>	
<b>8. DURABILITY 耐久性</b>		
8.1	<p data-bbox="220 1406 363 1514">SOLDERING TEST 可焊性試驗</p> <p data-bbox="399 1249 901 1433">The tip of the terminals shall be dipped 2 mm in the solder bath within temperature of 250±5°C for 3 seconds. 端子頂部被浸入焊錫池 2mm 深, 溫度250±5°C, 時間3秒。</p> <p data-bbox="399 1451 1021 1597">The condition mentioned is temperature for lead-free soldering . 無鉛錫測試 Alloy: Sn 96.5% Cu 3% Ag 0.5% 成份: 錫 96.5% 銅 3% 銀 0.5%</p>	<p data-bbox="1109 1249 1484 1395">Over 95% of the immersed surface was covered by tin. 浸入的部份95%以上表面將被錫覆蓋。</p>
8.2	<p data-bbox="220 1809 363 1955">SOLDERING RESISTANT TEST 耐焊性試驗</p> <p data-bbox="399 1653 885 1836">Manual soldering temperature 350±5°C, soldering time 3±0.5 seconds, however excessive pressure shall not be applied to the terminal. 手焊接的時候溫度需控制在350±5°C, 時間為3±0.5秒, 但不能在端子上施加異常壓力。</p> <p data-bbox="399 1899 1021 2045">The condition mentioned is temperature for lead-free soldering . 無鉛錫測試。 Alloy: Sn 96.5% Cu 3% Ag 0.5% 成份: 錫 96.5% 銅 3% 銀 0.5%</p>	<p data-bbox="1109 1653 1508 1798">Without deformation of case or excessive looseness of terminals, meet mechanical and electrical properties 本體無變形, 能滿足於機械、電器性能。</p>

ITEM 項目		TEST CONDITION 測試條件	PERFORMANCE 性能
8.3	REFLOW SOLDERING HEAT TEST 回流焊接熱試驗	 <p>Temperature (°C)</p> <p>260°C max.(3 Sec max.)</p> <p>180°C</p> <p>230°C</p> <p>100</p> <p>Time</p> <p>2±0.3min(pre-heating)</p> <p>3 to 4min.</p> <p>40s max.</p> <p>time inside soldering equipment</p> <p>*Temperature means The temperature of the PC board surface</p> <p>* PC board thickness for 1.0 mm</p> <p>*溫度指PC板表面的溫度</p> <p>*PC板厚度為1.0毫米</p> <p>The condition mentioned is temperature for lead-free soldering .            無鉛錫測試。            Alloy:Sn 96.5% Cu 3% Ag 0.5%            成份: 錫 96.5% 銅 3% 銀 0.5%            回流焊次數: 1次</p>	<p>Without deformation of case or excessive looseness of terminals, meet mechanical and electrical properties</p> <p>本體無變形,能滿足於機械、電器性能。</p>
8.4	LIFE TEST 壽命測試	<p>100,000 cycles of operation at a rate of 30-60 cycles per minute with unloading</p> <p>無負載條件下, 每分鐘 30-60 次的速度操作100,000次。</p>	<p>(1) Contact resistance 200mΩ max. 接觸電阻200毫歐以下</p> <p>(2) Operating force 30% initial value 動作力變化範圍初始值30%</p> <p>(3) ITEM 項目—6.2</p> <p>(4) ITEM 項目—6.3</p>
8.5	MOISTURE RESISTANT TEST 耐濕試驗	<p>40±2°C 90-95% RH for 96 hours.test after keeping in normal condition for 30 minutes.</p> <p>在40±2°C 90-95% RH 環境中放96小時, 再放在正常環境中, 30分鐘後進行測試。</p>	<p>(1) Contact resistance 200mΩ max. 接觸電阻200毫歐以下</p> <p>(2) Insulation resistance 50 MΩ min. 絕緣電阻50兆歐以上</p> <p>(3) ITEM 項目—6.3</p> <p>(4) ITEM 項目—7.1</p>
8.6	COLD RESISTANT TEST 耐冷試驗	<p>At -40±3°C for 96 hours, test after keeping in normal condition for 30minutes.</p> <p>在 -40±3°C 環境中放96小時, 再置於正常環境中, 30分鐘後進行測試。</p>	

ITEM 項目		TEST CONDITION 測試條件	PERFORMANCE 性能
8.7	HEAT RESISTANT TEST 耐熱試驗	85±2℃ for 96 hours,test after keeping in normal condition for 30 minutes. 在 85±2℃ 環境中放96小時,再放在正常環境中30分鐘後進行測試。	(1) Contact resistance 200mΩ max. 接觸電阻200毫歐以下 (2) Insulation resistance 50 MΩ min. 絕緣電阻50兆歐以上 (3) ITEM 項目—6.3 (4) ITEM 項目—7.1
8.8	TEMPERATURE CYCLING TEST 溫度交變試驗	According to following figure,after 5 cycles, test after keeping in normal condition for 30 minutes. 如圖示之環境中,循環5次後,再置於正常環境中,30分鐘後進行測試。 	
8.9	STORAGE ENVIROMENT 儲存環境	Under sealing pack condition,stored temperature don't exceed 30℃ and relative humidity is 75% RH; in the enviroment of no sunshine direct and no corrosive gas,the stored time ought to be three months but within six month at most. 密封包裝狀態下,儲存溫度為≤30℃,相對溫度 75% RH;無陽光直射,無腐蝕性氣體的環境中,儲存時間為3個月,最長不宜超過6個月。 Without sealing pack condition,stored temperature don't exceed 30℃ and relative humidity is 75% RH; in the enviroment of no sunshine direct and no corrosive gas,the stored time shouldn't exceed 48H 無密封包裝狀態下,儲存溫度為≤30℃,相對溫度 75% RH;無陽光直射,無腐蝕性氣體的環境中,儲存時間最長不宜超過48小時。 Don't excessive overlap or overstocking when keeping this goods,in case of damage. 保存時應注意物品不能過量重疊、積壓、以免損壞	