

承认书

SPECIFICATION FOR APPROVAL

CUSTOMERS

客户名称:

RADIOTECH LOGISTIC LLC

DESCRIPTION

产品名称:

TACT SWITCH

CUSTOMERS PART NO

客户料件号:

CHI FUNG MODEL NO

志丰产品型号:

TS-1197A-2

PRODUCT SPECIFICATION

产品规格说明:

T/R

APPROVAL NO

承认书编号:

CF-CRS-C035002

SPECIFICATION NO

规格书编号:

CF-SPEC-TS195

DRAWING NO

图纸编号:

CF-ENL-0TS5125

DATE

日期:

2020年4月2日

WRITTEN制定:

林伟珍

APPROVAL核准:

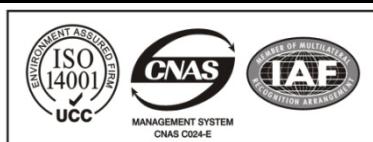
客户承认栏 CUSTOMER APPROVAL SIGNATURE

APPROVAL批准:

DATE日期:



GB/T19001-2008/ISO9001:2008 NO:02415Q2012001R2M



GB/T24001-2004/ISO14001:2004 NO:02415E2010831R2M

UC 2011/65/EU
NO:UCC15R01007R2M 志丰电子(香港)有限公司
CHI FUNG ELECTRONICS (H. K) CO., LTD 东莞演丰电子有限公司
DONGGUAN WELL FUNG ELECTRONICS CO.,LTD. 陆川县志诚电子有限公司
LUCHUAN CHI CHENG ELECTRONICS CO.,LTD. 印尼志丰
PT CHIFUNG ELECTRONICS INDONESIA

VERSION 版本

A/0

REVISION DATE 修订日期

2020.04.02

专业*品质*信赖



TEL:0769-23068188

FAX:0769-23068368



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REVISION

POSITION	DESCRIPTION	DATE
△		

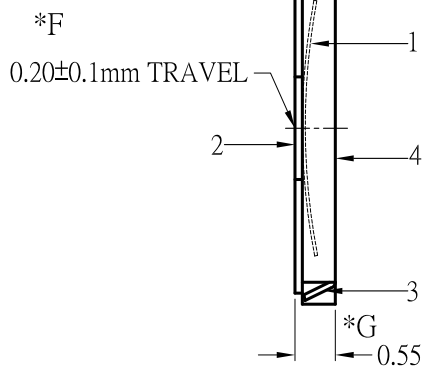
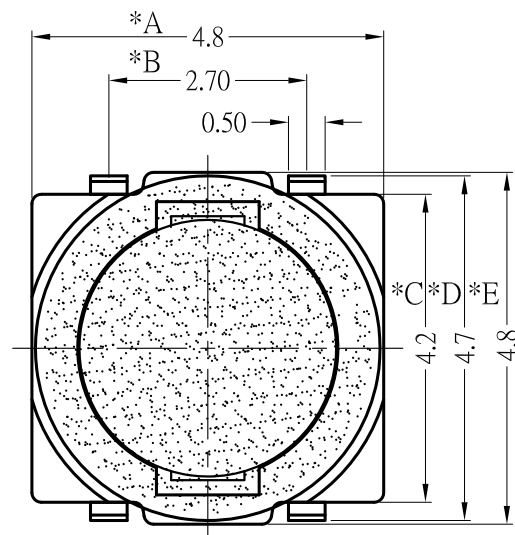
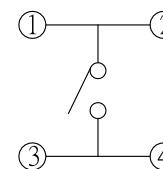
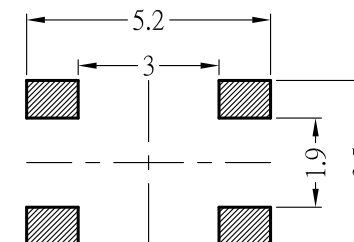


Table 1

F= (force)	✓	2	180gf
		3	250gf



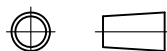
SCHEMATIC



P.C.B LAYOUT

* CRITICAL DIMENSION

CHI FUNG ELECTRONICS CO.,LTD.



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6
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SERIES : TACT SWITCH		DRAWING NO.	CF-ENL-OTS5125	4	CASE	LCP	1	□ WHITE □ BLACK
PART NAME : TS-1197A-F		GENERAL TOLERANCE		3	TERMINAL	C5210R-EH	4	Ag COATING
UNIT : MM	DWN.	X.XXmm±0.15mm X.Xmm±0.25mm		2	SCREEN	KAPTON	1	YELLOW
SCALE : 5:1	CHK'D			1	CONTACT	SUS	1	Ag CLAD
REV : A/0	APPD.			NO.	PART NAME	MATERIAL	QTY	FINISHING

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		DATE 日期	2017.06.30
WRITTEN 编制	林伟珍	APP'D 审批	
SERIES 系列	TACT SWITCH	MODEL NO 型号	TS-1197 系列

1. General 一般事项

1.1 Operating Temperature Range $-25^{\circ}\text{C} \sim +70^{\circ}\text{C}$ (normal humidity normal press.)

使用温度范围: $-25^{\circ}\text{C} \sim +70^{\circ}\text{C}$ (常湿常压条件下)

1.2 Storage Temperature Range $-30 \sim +80^{\circ}\text{C}$ (normal humidity normal press.)

存放温度范围: $-30 \sim +80^{\circ}\text{C}$ (常湿常压条件下)

1.3 Test conditions : The standard test conditions shall be $5 \sim 35^{\circ}\text{C}$ in temperature 45~85%RH and 860~1060mbar in atmospheric pressure. Should any doubt arise in judgement, tests shall be conducted at $20 \pm 2^{\circ}\text{C}$, 65±5%RH. and 860~1060mbar.

试验状态: 若无特别规定限制, 则以温度 $5 \sim 35^{\circ}\text{C}$, 相对湿度 45~85%, 气压860~1060mbar 之标准状态测之。但对此标准状态之测定值发生判定疑问或有特别要求则以基准状态(温度 $20 \pm 2^{\circ}\text{C}$, 相对湿度 65±5%, 气压 860~1060mbar) 为准测定。

2. Appearance, construction and dimensions. 外观. 构造. 尺寸

2.1 Appearance : There shall be no defects that affect the serviceability of the product.

外观: 不得有影响制品机能之缺陷.

2.2 Construction dimensions : Shall conform to the assembly drawings.

构造及尺寸: 必须与组立图符合.

3. Type of actuation : Tactile feedback

动作型式: 有触感之回馈

4. Contact arrangement: 1 poles 1 throws (Details of contact arrangement are given in the assembly drawings.)

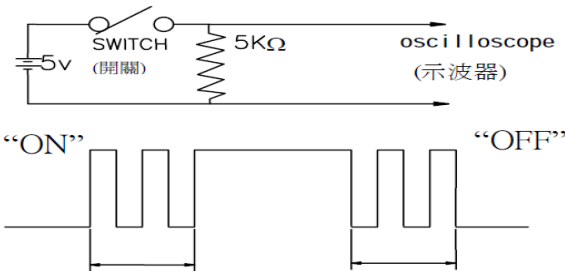
接点构成: 单极单投式(详细如组立图所示)

5. Maximum ratings : 最大额定: DC 12 V 50 mA



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6. Electrical Characteristics 电气性能规格:

ITEM 项目	TEST CONDITIONS 测试条件	CRITERIA 判定基准
6.1 Contact resistance 接触电阻	Applying a static load twice the actuating force to the center of the metal contact measurements shall be made with a 1 kHz small-current contact resistance meter. 将两倍于动作力之静负荷加于金属弹片之中央以1 k Hz小电流接触阻抗计测定之.	$\leq 100m\Omega$
6.2 Insulation resistance 绝缘阻抗	Measurements shall be made following application of DC 100V potential across terminals and across Terminals and frame for one minute . 以 DC 100V 之电压加于端子相互间及端子与外框间1 分钟测定之	$\geq 100M\Omega$
6.3 Dielectric with standing voltage 耐电压	AC 250V (50~60Hz) shall be applied across terminals and across terminals and frame for one minute. 以 AC 250V (50~60Hz) 之电压加于端子相互间及端子与外框间1 分钟测定之	There shall be no breakdown. 不可有绝缘破坏之现象
6.4 Bounce 接点之瞬间接触跳动时间	Lightly striking the center of the metal contact at a rate encountered in normal use (3 to 4 operations per sec) bounce shall be tested at "ON" and "OFF". 以 3~4 次/秒之正常使用速度轻轻地敲打金属弹片之中央, 开关在"开"及"关" 之位置均需测定之 	"ON" and "OFF": 10 m sec max. "开"及"关": 10 m sec 以下.

7. Mechanical performance 机械性能

ITEM 项目	TEST CONDITIONS 测试条件	CRITERIA 判定基准
7.1 Actuating force 动作力	Placing the switch such that the direction of switch operation is vertical and then gradually increasing the load applied to the center of the metal onctact the maximum load required for the metal contact to come to a stop shall be measured. 将开关之操作部置于垂直方向, 并在金属弹片之中央逐渐增加荷重, 直到金属弹片不动为止, 量取施力期间之最大荷重值	<input checked="" type="checkbox"/> 180gf \pm 50gf <input type="checkbox"/> 250gf \pm 50gf



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ITEM 项目	TEST CONDITIONS 测试条件		CRITERIA 判定基准
7.2	Travel行程	Placing the switch such that the direction of switch operations vertical and then applying a static load twice the actuating force to the center of the metal contact the travel distance for the metal contact to come to a stop shall be measured. 将开关之操作部置于垂直方向,并在金属弹片之中央加两倍于动作力之静负荷测量金属弹片被压到不动时之移动距离.	See drawings 见图纸
7.3	Stop strength 止动强度	Placing the switch such that the direction of switch operation is vertical a static load of 1 kgf shall be applied in the direction of stem operation for a period of <u>15</u> seconds. 固定开关,使开关与操作方向垂直,向按钮的操作方向加1Kgf的静负荷,时间为15秒.	There shall be no sign of damage mechanically and electrically. 不得有电气及机构上之破坏现象.
7.4	Stem Strength 推柄强度	Placing the switch such that the direction of switch operation is vertical, the maximum force to withstand a pull applied opposite to the direction of stem operation shall be measured. (static load) 固定开关,使开关与操作方向垂直,测量推柄能承受相反方向拉力的最大值。(静负荷)	Max <u>3</u> k g f
8. Weather-proof 耐候性能			
ITEM 项目	TEST CONDITIONS 测试条件		CRITERIA 判定基准
8.1	Resistance to low temperature 耐寒性能	Switch for testing being kept in the conditions at $-30 \pm 3^{\circ}\text{C}$ in temperature for 96 hours, and in anormal ambient condition for one hour, then to be measured within one hour. Drops of water being taken away. $-30 \pm 3^{\circ}\text{C}$ 放置96小时试验后,置于常温常湿中1小时,除去水滴后,在1小时内测定之	Item 6.1, 6.2 Item 7.1, 7.2 同6.1, 6.2项 同7.1, 7.2项
8.2	Heat resistance 耐热性能	Switch for testing being kept in the conditions at $85 \pm 2^{\circ}\text{C}$ in temperature for 96 hours, and in a normal ambient condition for one hour, then to be measured within one hour. $85 \pm 2^{\circ}\text{C}$ 放置96小时试验后,置于常温常湿中1小时,在1小时内测定之	Item 6.1, 6.2 Item 7.1, 7.2 同6.1, 6.2项 同7.1, 7.2项
8.3	Moisture Resistance 抗湿性	Following the test set forth below the sample shall be left in normal temperature and humidity conditions for one hour before measurements are made: 以下的试验必须要先将样品放置于下列实验要求内,然后将其放置于常温常湿的环境下1小时后进行测试: (1) Temperature 温度: $60 \pm 2^{\circ}\text{C}$ (2) Relative humidity 相对湿度: 90 to 95% (3) Time 时间: 96 hours (4) Water drops shall be removed 必须将水滴排除.	Contact resistance: 200 m ohm max. Insulation resistance: 100 M ohm min. Item 7.1, 7.2 接触阻抗在200 mΩ以下, 绝缘阻抗在100 MΩ以上 同7.1, 7.2 项



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ITEM 项目	TEST CONDITIONS 测试条件		CRITERIA 判定基准
8.4	Temperature Cycling 循环温度	<p>1. Following five cycles of the temperature cycling test set forth below the sample shall be left in normal temperature and humidity conditions for one hour before measurements are made: 以下五个步骤的温度循环测试必须要先将样品放置于下列实验要求内, 然后将其放置在常温常湿的环境下1 小时后进行测试:</p> <p>2. During this test, water drops shall be removed. 试验过程中, 必须将水滴排除。 Per cycle 每一个循环 - 25°C ± 2°C 60 min, +20°C ± 5°C 30 min, +70°C ± 2°C 60 min, +20°C ± 5°C 30 min</p>	<p>Item 6.1 , 6.2 Item 7.1 , 7.2 同6.1 , 6.2项 同7.1 , 7.2项</p>
8.5	Solderability test 可焊性试验	<p>1. The top of the terminals shall be dipped 2mm in the solder bath of 230 ± 5°C for 3 ± 0.5 seconds. 端子顶部被浸入焊锡池中2mm深, 温度为230 ± 5°C, 时间为 3 ± 0.5 秒。</p> <p>2. Manual Soldering: 350 Max Time 3 ± 1S 手工焊锡温度: 350 Max 时间 3 ± 1 秒。</p>	<p>More than 90% of the dipped part shall recovered by solder. 浸泡部份须附着90%以上。</p>
8.6	Resistance to soldering heat test 耐焊性试验	<p>1. The condition mentioned above is the temperature on the mounting surface of a pc board. there are cases where the pc board's temperature greatly differs from that of the switch, depending on the pc board's material, size, thickness, etc. care should be taken to prevent the switch's surface temperature from exceeding 260°C. 测试报告是以PC板铜箔面作基准, 因PC板分开关之温差是直接受PC板之物料, 大小, 厚度等影响, 不论任何情况及条件都需避免防止开关之表面温度超过 260°C.</p> <p>2. Soldering conditions differ depending on reflow soldering machine. you are requested to verify the soldering conditions thoroughly beforehand. 条件变化是直接受回流焊接仪器影响, 请注意, 其仪器是否正常。</p> <p>3. Temperature profile. 温度示意图。</p>	<p>Without deformation of case or excessive looseness of terminals electrical characteristics shall be satisfied. 本体无变形, 能满足于机械, 电气性能。</p>



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9. Endurance 耐久性能

ITEM 项目	TEST CONDITIONS 测试条件	CRITERIA 判定基准
9.1 Life Test 寿命测试	1、Rate of operation: 40-50 operations per minute; 动作速度: 每分钟40-50次; 2、Depression: Twice the actuating force; 按力: 两倍动作力; 3、No load to cycles of operation:100,000 cycles, 无负载动作次数: 100,000次,	Contact resistance 接触电阻: 200 Ω Max. Actuating force 动作力: + 30 % or - 30 % of initial force初始值的± 30 % Item 6.2 , 7.2 同 6.2 , 7.2项
9.2 Vibration resistance 耐振动性	Measurements shall be made following the set forth below: 依下列设定方式测试: (1).Range of oscillation : 10 to 55 Hz 振动数范围: 10~55 Hz (2).Amplitude pk-to-pk : 1.5 mm 全振幅:1.5 mm (3).Cycle of sweep : 10-55-10 Hz in one minute approx. 扫描周期:10-55-10 Hz 约1 分钟 (4).Mode of sweep:Logarithmic sweep or uniform sweep. 扫描振动之变化方式:近似对数或直线 (5).Direction of oscillation: Three mutually perpendicular directions. 振幅方向:相互垂直之三个方向(含柄移动之方向) (6).Duration of testing : 2 hours each for a total of 6 hours. 试验时间:各2 小时(计6 小时)	Item 6.1 , 6.2 Item 7.1 , 7.2 同6.1 , 6.2项 同7.1 , 7.2项

10 Precaution 注意事项

- 1) After switches were soldered, please be careful not to clean switches with solvent
开关浸焊后, 注意不要用溶剂清洗.
 - 2) In the case of using soldering iron, soldering conditions shall be 350°C max and 3 sec. max
在使用烙铁的情况下, 焊锡温度应在350°C以下、3秒以内.
 - 3) Right after switches were soldered; please be careful not to load on the knobs of switches.
浸焊后, 注意不要在顶部施加负荷.
- 10.2 Design instructions(设计中应注意的事项)
- 1) Follow recommended P. C. B. piercing plan in outside drawing page.
印刷基板的安装孔尺寸参见产品图.
- 10.3 Note(注意点)
- 1) Please be cautious not to give excessive static load or shock to switches.
注意不要施加超负荷的压力或晃动开关.
 - 2) Please be careful not to pile up P. C. B. after switches were soldered.
开关焊接以后, 印刷基板注意不要叠放.
 - 3) Preservation under high temperature and high humidity or corrosive gas should be avoided
especially. When you need to preserve for a long period, do not open the carton.
保管时尤其应注意避开高湿高温和有腐蚀性气体的环境. 如需长时间保存, 请不要打开包装箱.