

SPECIFICATION 规格书		DOCUMENT NO 文件编号	YYT-SPEC-PS013
		EDITION 版本	A/4
		DATE 日期	2017.08.03
WRITTEN 编制	LUO JIE	APP'D 审批	
SERIES 系列	PUSH SWITCH	MODEL NO 型号	YTSPS-22E59系列
<p>1. General 一般事项</p> <p>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)</p> <p>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)</p> <p>1.3 Test conditions : The standard test conditions shall be $5 \sim 35^{\circ}\text{C}$ in temperature $45 \sim 85\% \text{RH}$ and $860 \sim 1060 \text{mbar}$ in atmospheric pressure. Should any doubt arise in judgement, tests shall be conducted at $20 \pm 2^{\circ}\text{C}$, $65 \pm 5\% \text{RH}$. and $860 \sim 1060 \text{mbar}$. 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 $45 \sim 85\%$, 气压 $860 \sim 1060 \text{mbar}$ 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 $65 \pm 5\%$, 气压 $860 \sim 1060 \text{mbar}$) 为准测定。</p> <p>2. Appearance, construction and dimensions. 外观. 构造. 尺寸</p> <p>2.1 Appearance : There shall be no defects that affect the serviceability of the product. 外观: 产品外观无缺陷, 不影响可用性。</p> <p>2.2 Construction dimensions : Shall conform to the assembly drawings. 结构及尺寸: 必须与组立图符合。</p> <p>3. Type of actuation : Tactile feedback 动作型式: 有触感之回馈</p> <p>4. Contact arrangement: 2 poles 2 throws (Details of contact arrangement are given in the assembly drawings.) 接触型式: 2P2T (详细如组立图所示)</p> <p>5. Maximum ratings : 最大额定: DC 30 V 0.1A</p>			

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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	Measurement shall be made at 1000Hz with small current (100mA or less). 通过1000Hz的微型电流进行测试(100mA之内).	50 mΩ Max. 50 毫欧 以下
6.2	Insulation resistance 绝缘阻抗	Measurements shall be made at following application of DC 500V potential across terminals and terminals , last for 1 minute. 设定电压为DC 500V, 测试相邻端子至少1分钟.	100 MΩ min. 100 兆欧 以上
6.3	Dielectric with standing voltage 耐电压	AC 500V (50Hz to 60Hz) shall be applied across terminals and across terminals and frame for one minute. 设定电压AC 500V (50~60Hz), 测试相邻端子1分钟.	No damage/deformation 无损伤/变形
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 ontact 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±80gf <input type="checkbox"/> 250gf±80gf
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

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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	Contact resistance: 100 m ohm max. Insulation resistance: 100 M ohm min. Item 7.1, 7.2 接触阻抗在100 mΩ 以下, 绝缘阻抗在100 MΩ 以上 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	
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: $40 \pm 2^{\circ}\text{C}$ (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.	

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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: 350Max Time 3 ± 1S 手工焊锡温度: 350Max 时间3 ± 1秒</p>	<p>More than 75% of the dipped part shall recovered by solder. 浸泡部份须附着75%以上.</p>
8.6	Resistance to soldering heat test 耐焊性试验	<p>Terminal tails into the molten solder 2-3mm (hold at 260 ± 5°C), up to from the bottom of the housing for 5 ± 0.5 seconds. 本体朝上, 将端子焊脚浸入 (260 ± 5°C) 锡炉内2-3mm进行测试5 ± 0.5秒.</p>	<p>No damage/deformation 无损伤/变形/ Function pass 功能合格</p>
9. Endurance 耐久性能			
ITEM 项目	TEST CONDITIONS 测试条件		CRITERIA 判定基准
9.1	LifeTest 寿命测试	<p>1. Endurance without loading: a switch shall be subjected to 10,000 cycles at a speed of 25-30 cycles for 1 min. 无负荷: 在无负荷的条件下以每分钟25-30次的速度进行10,000次的测试.</p> <p>2. Endurance with loading: a switch shall be subjected to 5,000 cycles at a speed of 25-30 cycles for 1 min. 负荷: 在负荷的条件下以每分钟25-30次的频率作5,000回之负荷测试.</p> <p>3. Depression: Twice the actuating force; 按力: 两倍动作力;</p>	<p>Contact resistance 接触电阻: 1Ω 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</p>
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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. 扫瞄周期:10-55-10 Hz 约1 分钟 (4).Mode of sweep:Logarithmic sweep or uniform sweep. 扫瞄振动之变化方式: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
9.3	Impact shock resistance 耐冲击性	Shall be made following the test set below: (1).Operation :vertical drop at 1 meter. (2).Test: select 6 surfaces, 3 cycles per direction . 如下设定方法操作: (1). 操作方式: 从1米高位置, 自由垂直跌落; (2). 测试方法: 如下图选择6个面, 每方向跌落3次.	Item 6.1 , 6.2 Item 7.1 , 7.2 同6.1 , 6.2项 同7.1 , 7.2项
Other precautions其他注意事项: The switch must be free of welding. 焊接时开关必须是放锁状态。			

