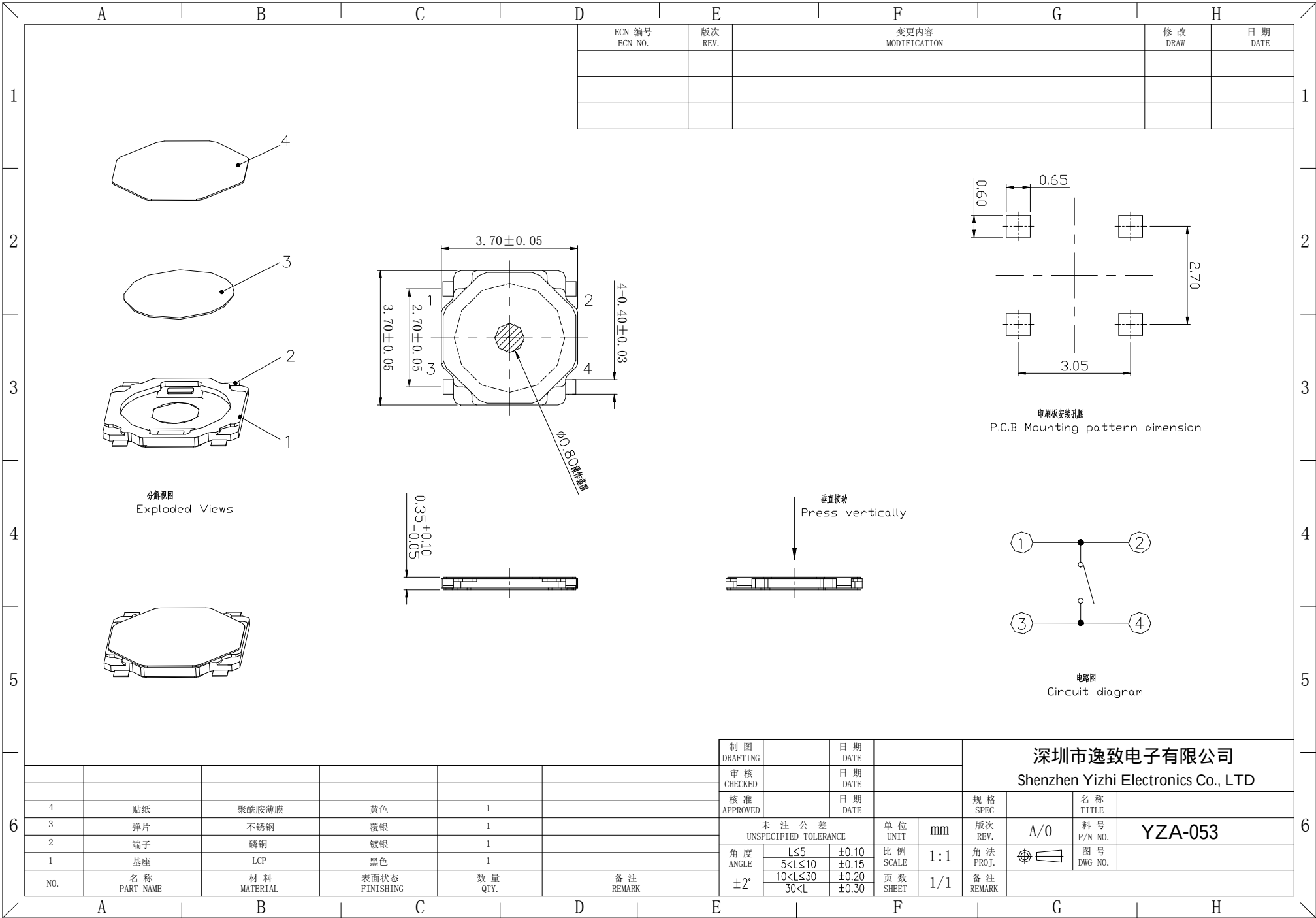
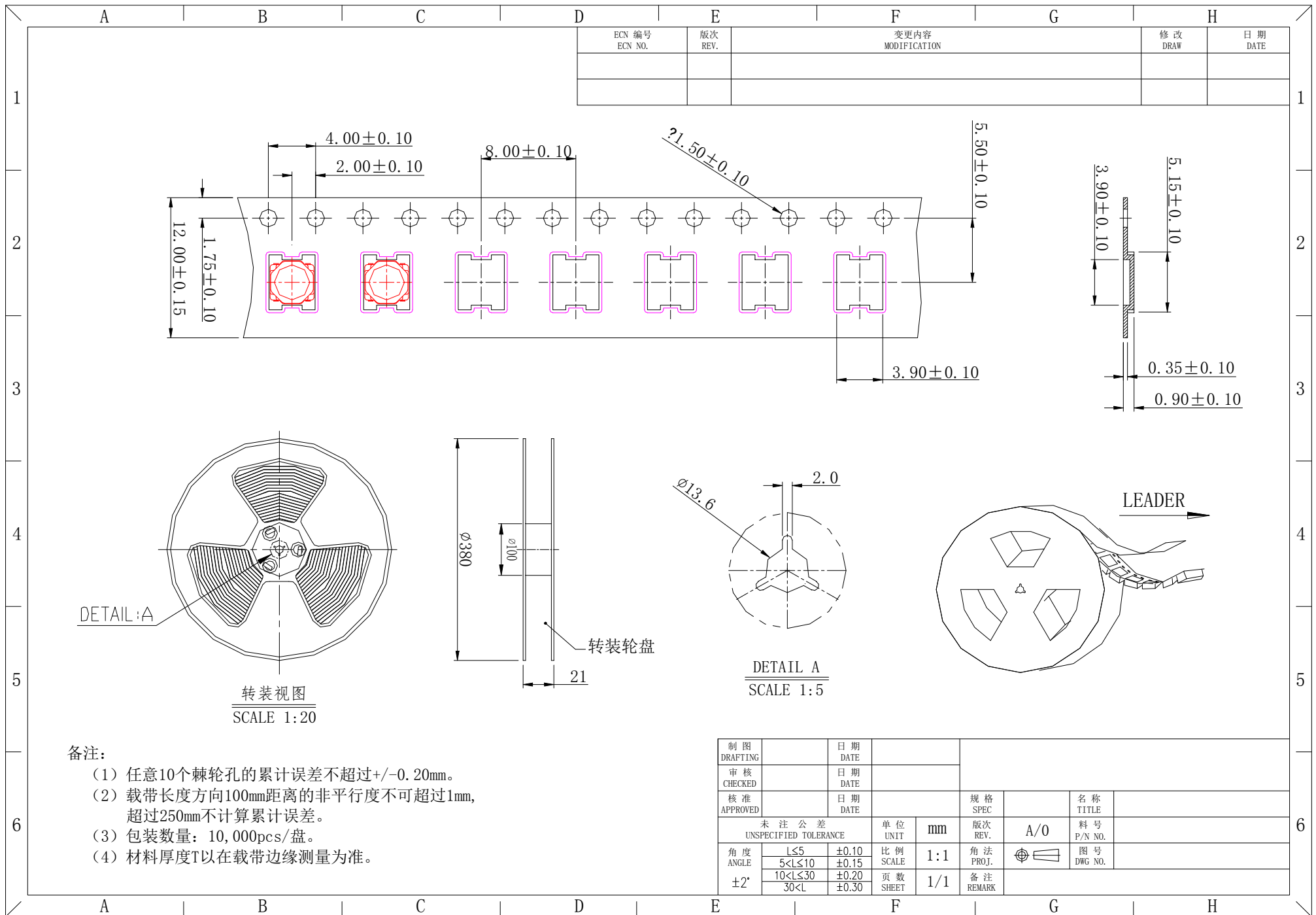






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APPROVAL SHEET

客 户 CUSTOMER			
客户产品型号/规格 CUSTOMER SPECIFICATION			
客户品名 CUSTOMER PN			
本公司制品名 PRODUCT CODE	TACT SWITCH		
本公司料号 PRODUCT PN	YZA-053		
本公司规格书编号 PRODUCT DRAWING NO.			
☒ 新品承认 NEW APPROVE ☐ 规格变更再承认 CHANGE CODE APPROVE AGAIN ☐ 材料变更再承认 CHANGE MATERIAL APPROVE AGAIN	DESIGN 设计 DATE:	CHECK 审查 DATE:	APPROVAL 批准 DATE:
客户确认签印栏 APPROVED BY CUSTOMER			

1. General specification 基本事项

1.1 Switch Service 开关种类: Tact Switch 轻触开关

1.2 Operating temperature range 使用温度范围:

-20 ~ 70 °C (normal humidity, normal air pressure 常湿 • 常压)

1.3 Storage temperature range 保存温度范围:

-25 ~ 85 °C (normal humidity, normal air pressure 常湿 • 常压)

1.4 Test conditions 试验状态:

Unless otherwise specified the atmosphere for making measurements and tests are as follows 除非另有说明, 进行测量和试验的大气状态如下:

Ambient temperature 温度: 5 ~ 35°C,

Relative humidity 相对湿度: 45 ~ 85%,

Air pressure 气压: 86 ~ 106kPa (860 ~ 1060mbar)

However, if doubt arises on the decision based on the measured values under the above-mentioned conditions, the following conditions be employed 但是在对判定产生疑义时, 按下述状态实施:

Ambient temperature 温度: 20 ± 2°C,

Relative humidity 相对湿度: 60 ~ 70%,

Air pressure 气压: 86 ~ 106kPa (860 ~ 1060mbar)

1.5 Appearance, style and dimensions 外观、形状、尺寸

1.5.1 Appearance 外观:

There shall be no defects that affect serviceability of the product 不得有任何影响产品正常使用的缺陷。

1.5.2 Style and dimensions 形状、尺寸: Refer to the assembly drawing 参考图纸.

1.6 Contact arrangement : 1 poles 1 throws

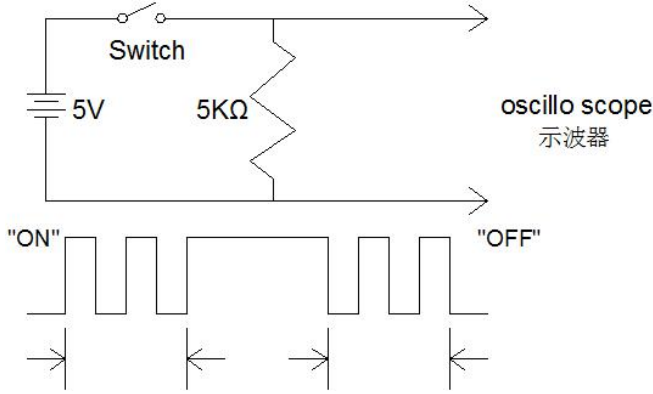
回路形式 : 1 回路 1 接点 (Details of contact arrangement are given in the assembly drawing 具体参考图纸)

1.7 Ratings 定格

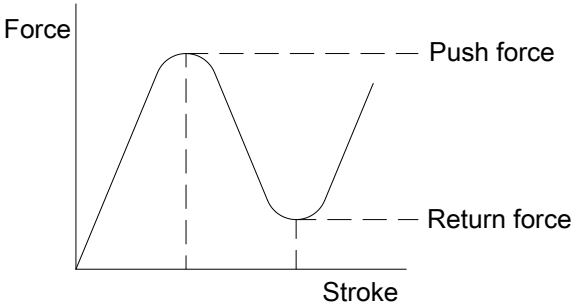
1.7.1 Maximum ratings 最大定格 16 V DC 50 mA

1.7.2 Minimum ratings 最小定格 1 V DC 10 uA

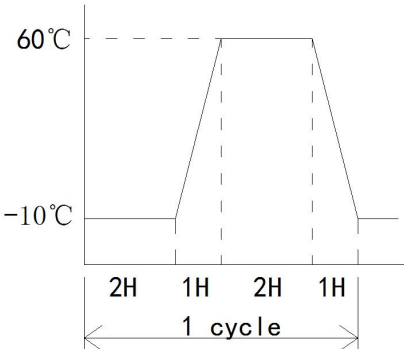
2. Performance 性能

2.1 Electrical characteristics 电气性能			
No.	Item 项目	Test condition 测试条件	Performance 规格
2.1.1	Contact resistance 接触电阻	Push force: (Operation force) x 2. 测定时的负荷：操作方向动作力基准值的2倍。 Measurement tool : Contact resistance meter. 测定器：微电流接触电阻计(1kHz, 20mV, 5~50mA).	100mΩ max 100 毫欧以下
2.1.2	Insulation resistance 绝缘电阻	Measurements shall be made following the test forth below测量应测以下： (1)Test voltage 测试电压：100V DC for 1 minute; (2)Applied position 测试位置： between all terminals. And if there is a metal frame, between terminals and ground.在所有的终端。如果有 一个金属框架，端子和地之间。	100MΩ min 100 兆欧 以上
2.1.3	Withstand voltage 耐电压	Measurements shall be made following the test forth below测量应测以下： (1)Test voltage 测试电压：250V AC(50~60Hz) for 1 minute; (2)Applied position 测试位置： between all terminals. And if there is a metal frame, between terminals and ground.在所有的终端。如果有 一个金属框架，端子和地之间。	No insulation destruction 无绝缘破坏
2.1.4	Bouncing 触点抖动	Operation speed : 3~4 times/s 操作速度： 每秒3~4次 	ON bounce: <u>5</u> ms max. “开” 跳动 <u>5</u> 毫秒以内 OFF bounce: <u>5</u> ms max. “关” 跳动 <u>5</u> 毫秒以内
		DESIGN 设计	CHECK 检测
			APPROVAL 批准

2.2 Mechanical Characteristics 机械性能

No.	Item 项目	Test condition 测试条件	Performance 规格
2.2.1	Operation force 动作力	Push by recommended operating condition. 测量时在开关顶端的面中央、侧方向拨开关动作方向均匀施加静负荷。  The graph shows Force on the vertical axis and Stroke on the horizontal axis. A solid line represents the 'Push force' curve, which rises linearly to a peak and then falls linearly. A dashed line represents the 'Return force' curve, which is a lower, flatter line following the same stroke path. Dashed vertical lines indicate the start and end of the stroke.	Push force 推动力 $2.60 \pm 0.5\text{N}$
2.2.2	Travel to closure 动作行程	Push by recommended operating condition. $F = (\text{Operation force}) \times 2$ 在开关顶端的面中央沿开关动作方向施加2倍操作力测量行程，测量仪器的顶端应平。	$0.15 \pm 0.1\text{mm}$
2.2.3	Push strength 按压强度	Push by recommended operating condition. 测量时在开关顶端的面中央、按开关动作方向均匀施加静负荷。 <u>20</u> N for 15 second <u>20</u> N 15 秒	No damage (Electrical and mechanical) 无异常(电气、机械性能)
2.2.4	Vibration test 耐振性	1) Amplitude 全振幅: 1.5mm 2) Sweep rate: 10-55-10Hz for 1 minute 扫描速度: 10-55-10Hz 1分钟 3) Sweep method: Logarithmic frequency sweep rate 扫描方式: 对数频率扫描速度 4) Vibration direction : X、Y、Z (3 directions) 振动方向: X、Y、Z (3方向) 5) Time: Each direction 2 hours (Total 6 hours) 时间: 每个方向 2 个小时 (共 6 小时)	No.2.1 and 2.2.1 to 2.2.2 shall be satisfied 满足2.1 项和2.2.1至2.2.2 项.
2.2.5	Soldering heat test 耐焊接热	Soldering area: t/2 of P.W.B. thickness (P.W.B:T=1.6) 焊接面积: 印刷基板的1/2厚度处 Soldering temperature 焊接温度 : $260 \pm 5^\circ\text{C}$ soldering time 焊接时间 : $3 \pm 0.5\text{ sec.}$	No damage (electrical and mechanical) 无异常 (电气、机械特性)

2.2.6	Solderbility 可焊性	After sprated flux涂上助焊剂后 temperature温度 :245± 5℃ soldering time焊接时间 :3±0.5 sec	90% or more of surface area of the portion immersed in solder shall be covered by new solder 90% 或更多的浸焊 面积能被焊锡覆盖
		DESIGN 设计	CHECK 检测
			APPROVAL 批准

2.3 Climatic characteristics 耐候性能			
No.	Item 项目	Test condition 测 试 条 件	Performance 规 格
2.3.1	Cold test 耐寒性	1) Temperature温度 ： - 40±2℃ 2) Duration of test持续时间: 96h 3) Take off a drop water去掉水珠 4) Standard conditions after test试验 后的放置条件 ：1h	Contact resistance: 200m Ω max 接触电阻:200毫欧以下 Insulation resistance: 10M Ω min 绝缘电阻: D.C.100V,大于10兆欧 Withstand voltage: No destruction 耐电压： 无绝缘破坏 No. 2.2.1 to 2.2.2 shall be satisfied 满足 2.2.1 到 2.2.2 项
2.3.2	Heat test 耐热性	1) Temperature 温度: 80±2℃ 2) Duration of test持续时间: 96h 3) Standard conditions after test试验 后的放置条件 ：1h	Contact resistance: 200m Ω max 接触电阻:200毫欧以下 Insulation resistance:10M Ω min 绝缘电阻:D.C.100V,大于10兆欧 Withstand voltage: No destruction 耐电压： 无绝缘破坏 No. 2.2.1 to 2.2.2 shall be satisfied 满足 2.2.1 到 2.2.2 项
2.3.3	Temperature Cycle test 温度交变试 验	1) Test cycles试验周期: <u>20</u> cycles 2) Standard condition after test试验后 的放置条件 ：1h 	Contact resistance: 200m Ω max 接触电阻:200毫欧以下 Insulation resistance:10M Ω min 绝缘电阻:D.C.100V:大于10兆欧 Withstand voltage: No destruction 耐电压： 无绝缘破坏 No. 2.2.1 to 2.2.2 shall be satisfied 满足 2.2.1 到 2.2.2 项

2.3.4	Humidity test 耐湿性	1) Temperature 温度: $60 \pm 2^{\circ}\text{C}$ 2) Relative humidity相对湿度: 90~95% 3) Duration of test持续时间: 96h 4) Take off a drop water 去掉水珠 5) Standard conditions after test试验后的放置条件 : 1h	Contact resistance: $200\text{m}\Omega$ max 接触电阻:200毫欧以下 Insulation resistance: $10\text{M}\Omega$ min 绝缘电阻:D.C.100V,大于10兆欧 Withstand voltage: No destruction 耐电压: 无绝缘破坏 No. 2.2.1 to 2.2.2 shall be satisfied 满足 2.2.1 到 2.2.2 项		
2.3.5	Endurance (switching) action) 耐久特性 (开关寿命)	1) D.C.12V 50mA resistance load 电阻负荷 2) Operation speed动作速度: 60times/m 60次/分 3) Push force按力 : Maximum value of operation force 动作力规格值的上限 4) Operation number动作次数: <u>30,000</u> times <u>3</u> 万次	Contact resistance: $200\text{m}\Omega$ max 接触电阻:200毫欧以下 Bouncing: 10 ms max 触点抖动: 10 秒以下 Insulation resistance: $10\text{M}\Omega$ min 绝缘电阻:D.C.100V,大于10兆欧 Withstand voltage: No destruction 耐电压: 无绝缘破坏 Variation rate of operation force shall be within $\pm 30\%$ to the value before testing 动作力的变化范围在初始值的 $\pm 30\%$ 以内 2.2.2 shall be satisfied 满足2.2.2 项		
2.3.6	Withstand H_2S 耐硫化氢	1) Density浓度: $3 \pm 1\text{ppm}$ 2) Temperature温度 : $40 \pm 2^{\circ}\text{C}$ 3) Relative humidity相对湿度: 75% 4) Duration of test持续时间 : <u>12</u> h 5) Standard conditions after test试验后的放置条件:1h	Contact resistance: $200\text{m}\Omega$ max 接触电阻:200毫欧以下 Insulation resistance: $10\text{M}\Omega$ min 绝缘电阻:D.C.100V,大于10兆欧 Withstand voltage: No destruction 耐电压: 无绝缘破坏 No. 2.2.1 to 2.2.2 shall be satisfied 满足 2.2.1 到 2.2.2 项		
2.3.7	Withstand SO_2 耐二氧化硫	1) Density浓度: $10 \pm 2\text{ppm}$ 2) Temperature温度 : $40 \pm 2^{\circ}\text{C}$ 3) Relative humidity相对湿度: 75% 4) Duration of test持续时间: <u>24</u> h 5) Standard conditions after test试验后的放置条件: 1h	Contact resistance: $200\text{m}\Omega$ max 接触电阻:200毫欧以下 Insulation resistance: $10\text{M}\Omega$ min 绝缘电阻:D.C.100V,大于10兆欧 Withstand voltage: No destruction 耐电压: 无绝缘破坏 No. 2.2.1 to 2.2.2 shall be satisfied 满足 2.2.1 到 2.2.2 项		
		DESIGN 设计	CHECK 检测	APPROVAL 批准	

3. Precaution 注意事项

3.1 Soldering condition 浸焊条件

Item 项目	Condition 条 件
Preheat temperature 预热温度	110℃ max (Embilomental temperature of soldering surface of P. W. E) 110℃ 以下(印刷基板焊锡面周围的温度)
Preheat time 预热时间	60 sec, max 60 秒以内
Area of flux 助焊剂的面积	1/2 max of P. W. B. thickness 印刷基板厚度的 1/2 以内
Temperature of solder 焊锡温度	265℃ max 265℃ 以下
Time of immersion 浸焊时间	Within 5 sec 5 秒以内
Soldering number 浸焊次数	Within 2 times (But should bring down heat of the first soldering) 2 次以内 (但应把第一次焊锡的温度降下来)
Printed wiring board 印刷基板	Single sided copper-clad laminates 单面铜箔

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 280℃ max and 3 sec. max
在使用烙铁的情况下,焊锡温度应在280℃ 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.

3.2 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. W. 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温、高湿和腐蚀性气体的环境,如需长期保存,请勿打开包装箱。

4) Panasert RH and RH6 shall be used as the standard insert machine (use N type clinch).
使用标准插入机器PANASERT 和RH6 (使用N 式钉)。

3.3 Design instructions(设计中应注意的事项)

Follow recommended P. W. B. piercing plan in outside drawing page.
印刷基板的安装孔尺寸参见如下产品图：

4. Packaging items 包装事项

4.1 Scope 适用范围:

This specification covers the requirements of the taping packaging for standard type of slide switch.

该规范涵盖标准型滑动开关的编带包装要求。

4.2 Packaging Quantity 包装单位

4.2.1 The number of the reel: 10 reels at maximum, which contain 100,000 switches, shall be packed in a package. 包装一箱最多10卷,共10万个开关。

4.2.2 The number of the switches: 10000 switches shall be packed in a reel.
每个卷盘包装1万个开关。

4.3 Packaging Procedure 包装方法

4.3.1 At the beginning of reel, the end of the tape, 200mm or more, shall be empty and fill into the grove in the reel core. 在卷盘初端和末端,多200mm的空缺部分应放到卷盘的轴心。

4.3.2 After reeling, the end of the tape, 15 or more, shall be empty and the tape edge shall be cut in 45°. The cover tape shall be extended 150mm or more from the tape edge and fixed with tape. 卷完卷盘后,在末端最少留15个空缺位并将胶带切成45°的角。从胶带末端用长于150毫米的胶纸带固定包装。

4.3.3 Total number of missing switches shall be 0 in one reel. 每卷卷盘中不允许有开关丢失。

4.4 Storage Condition 保存条件

4.4.1 Storage environment: -20 to 50°C, 35 to 70% RH (storage in high temperature and high humidity shall be avoided).

保存环境: -20~50摄氏度, 35~70%的相对湿度(应避免在高温和高湿度的环境里保存)。

4.4.2 Storage period 保存期限: maximum of 6 months after the date of delivery
交货日期之后最多6个月。

4.5 Packaging form and dimensions as shown below 包装形式和尺寸如下图: