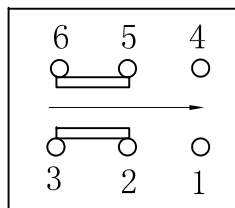
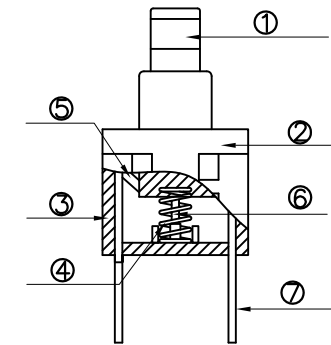
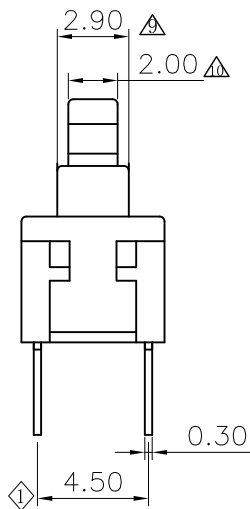
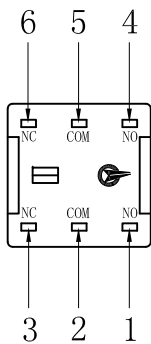
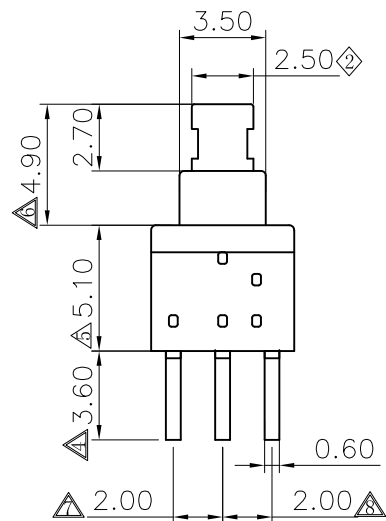
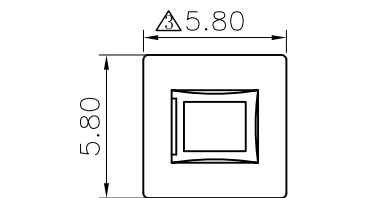
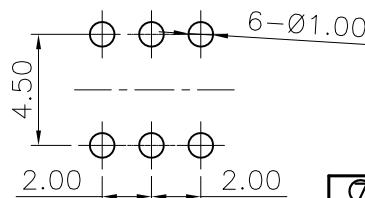


成品检验图



电路图



P.C基板尺寸图

规格：

1. 额定值：DC30V 0.5A
2. 接触电阻：100mΩ Max
3. 绝缘阻抗：100MΩ Min
4. 电压阻抗：
AC250V (50-60Hz) For 1 Minute
5. 操作力：150±50gf
6. 寿命测试：100,000 Cycles
7. 行程：2.0±0.15 mm
8. 操作类型：Self-Lock

备注：

- ◇：表示重点管控尺寸，一般为功能尺寸，首检及巡检时需量测。
- △：表示次重点管控尺寸，一般为装配尺寸，首检时需量测。
- 1) 重点及次重点管控尺寸中的序号不可重复，需依次往后增加。若其中有某个尺寸在变更或其它状况下，尺寸消失或不要求管控时，原序号不可再用。有其它尺寸需要增加管控时，序号往后增加。
- 2) 版次定义：新开发而未转量产之产品图面版次为A1, A2, A3... 已转量产之产品图面版次为A, B, C...

| 序号 | 零件 | 端子编号 | 用量 | 材料 | 镀层/颜色 | 备注 |
|----|----|------|----|------|-------|----|
| ⑦ | 端子 | | 6 | 黄铜 | 镀银 | |
| ⑥ | 钩针 | | 1 | 不锈钢丝 | | |
| ⑤ | 簧片 | | 1 | 复合银 | 单边覆银 | |
| ④ | 弹簧 | | 1 | 不锈钢 | | |
| ③ | 底座 | | 1 | PA66 | 灰色 | |
| ② | 上盖 | | 1 | POM | 黑色 | |
| ① | 导芯 | | 1 | POM | 白色 | |

| | | | | | | | | | | | | | | |
|---------|-------|--|---|--------------|---------|-------|--------|-----------|-----|-------|----|-------|--------|----|
| 承认 | | 日期 |  东莞市凯华电子有限公司 KAIHUA ELECTRONICS CO.,LTD | | | | | | | | | | | |
| 设计 | 章辉军 | 2017.04.20 | | | | | | | | | | | | |
| 审核 | | | 名称 | 5.8自锁6P白导 | | | | | | | | | | |
| 核准 | | | 料号 | CPG585110D01 | | | | | | | | | | |
| 未注尺寸公差 | | <table border="1"> <tr> <td>30<L</td> <td>±0.30</td> </tr> <tr> <td>10<L≤30</td> <td>±0.20</td> </tr> <tr> <td>5<L≤10</td> <td>±0.15</td> </tr> <tr> <td>L≤5</td> <td>±0.10</td> </tr> </table> | 30<L | ±0.30 | 10<L≤30 | ±0.20 | 5<L≤10 | ±0.15 | L≤5 | ±0.10 | 角度 | 单位：mm | 比例：4:1 | 视角 |
| 30<L | ±0.30 | | | | | | | | | | | | | |
| 10<L≤30 | ±0.20 | | | | | | | | | | | | | |
| 5<L≤10 | ±0.15 | | | | | | | | | | | | | |
| L≤5 | ±0.10 | | | | | | | | | | | | | |
| 工程变更单号 | | 版次 | 说明 | 修改 | 审核 | 核准 | 图号 | 页次 1 OF 1 | | | | | | |

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|--------|----|-----|----|----|----|----|----|----|--|----|--|
| A | | NEW | | 说明 | | 修改 | | 审核 | | 核准 | |
| 工程变更单号 | 版次 | 日期 | 说明 | | 修改 | 审核 | 核准 | | | | |



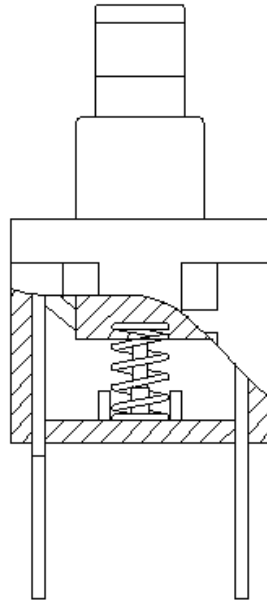
凱華電子
KAIHUA EEELETRONICS

Document Number:

KH-PS1704-10

产品规格书

Product Specification



P/N: _____

CPG585110D01

Title :

5.8 自锁 6P 白导

| Rev. | ECN | Release and Revision Description: | PreparedBy/Date: | Checked By/Date: | Approved By/Date: |
|------|-------|-----------------------------------|------------------|------------------|-------------------|
| A | ----- | New releasing 初版发行 | 章辉军 2016/8/29 | 吕攀豪 2016/8/29 | 马忠军 2016/8/29 |
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| P/N: CPG585110D01 | DOC. No.: KH-PS1704-10 | Rev.: A | Page: 2/10 |
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1. Scope/范围:

This Product Specification covers the requirement of Push button switch on product performance, test methods and quality assurance provisions.
本规格书内容涵盖按键开关产品的要求，包括性能指标、测试方法及质量保证方面等。

2. Product Application/产品应用:

The Switch is applied in all types of Computer. Please let us know before using any of the products in the application not described above.
该开关产品适用于所有类型的家用电器，如果用于本文中未提及的领域请在使用前告知。

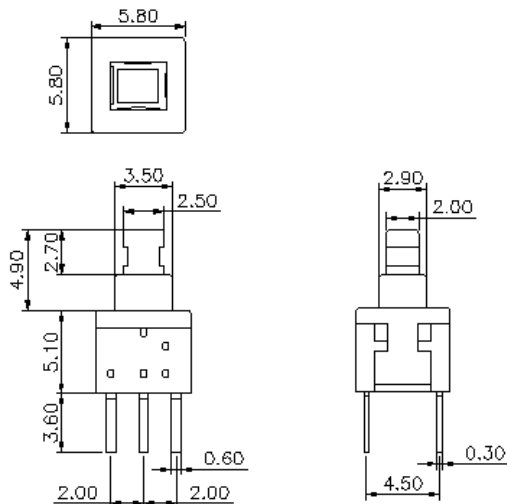
3. Technology Parameters/技术参数

| | |
|---------------------------------------|----------------|
| Ambient Humidity 工作湿度: | 45~85% R.H.; |
| Operating Temperature Range 使用温度范围: | -10℃~+70℃; |
| Storage Temperature Range 保存温度范围: | -20℃~+70℃; |
| Normal Condition: | |
| Ambient temperature 环境温度: | 20±5℃ |
| Relative humidity 相对湿度: | 65%±5% R.H.; |
| Air pressure 气压: | 86~101KPa; |
| Contact Resistance 接触阻抗: | 100 mΩ Max; |
| Operation Force 操作力: | 150±50gf; |
| Solder Ability 可焊性: | 245±5℃,3±0.5s; |
| Withstand Soldering Temperature 耐焊接热: | 260±5℃,3±0.5s; |

4. Ratings/额定性能要求

| | |
|----------------------------|---------------------------|
| Rating 额定负荷: | DC30V / 0.5A; |
| InsulationResistance 绝缘电阻: | ≥100MΩ/DC 250V; |
| Withstand Voltage 耐电压: | 250V AC 1 Minute; |
| Mechanical Life 机械寿命: | 100,000 Cycles (No lead). |

5. Profile Dimensions /外形尺寸



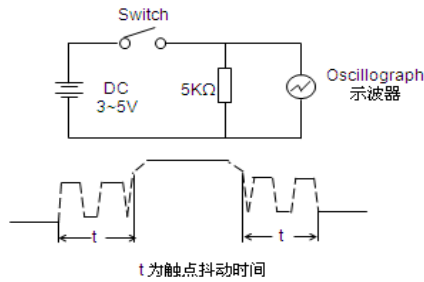


6. Electrical Performance/电气性能

| Item 项目 | Description 项目描述 | Test Condition 测试条件 | Requirement 规格要求 |
|------------|--|--|--|
| 6.1 | Contact Resistance 接触电阻 | <p>Static load: (Operation force)x2, which is applied on the center of Switch stem. 静态负载: 动作力的 2 倍, 施加在手柄中心.</p> <p>Measurement tool: Contact resistance Meter. 测量工具: 微电流接触电阻计(1KHz, 20mV,5~50mA)</p> <p>在低电流 (≤100mA) 条件下测试. Measured at low current (100mA or less).</p> | <p>100mΩ Max 100mΩ 以下</p> |
| 6.2 | Insulation Resistance 绝缘电阻 | <p>Apply a Voltage of DC 250 V for 1 minute, according to the below method. (1) Between terminals. (2) Between terminal and Body.</p> <p>输入 250V DC 电压 1 分钟, 按如下接触方法测试: (1) 端子与端子之间. (2) 端子与塑胶之间.</p> | <p>100MΩ Min 100 兆欧以上</p> |
| 6.3 | Dielectric withstanding voltage 耐电压 | <p>Apply a Voltage of AC 250 V (50~60Hz) for 1 minute, according to the below method. (1) Between terminals. (2) Between terminal and Body.</p> <p>输入 250V AC 电压 1 分钟, 按如下接触方法测试: (1) 端子与端子之间. (2) 端子与塑胶之间.</p> | <p>No evidence of breakdown 无瞬断、击穿等破坏.</p> |
| 6.4 | Bouncing 触点抖动 | <p>Operation speed: 1~2 times/s 操作速度: 每秒 1~2 次</p> <p>Slightly push the center of stem by 1~2 times/s, to test the bounce at "ON" and "OFF" 以每秒 1~2 次的速度, 轻轻在手柄中心加力, 在"导通"与"瞬断"间测试.</p> <p>Oscillo scope 示波器 Switch Bouncing Test Circuit 抖动测定回路.</p> | <p>Before Life cycle: On:5ms MAX,5 毫秒以下 Off: 5ms MAX,5 毫秒以下</p> <p>After Life cycle: On:10ms MAX,10 毫秒以下 Off: 10ms MAX,10 毫秒以下</p> |



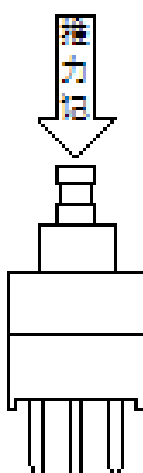
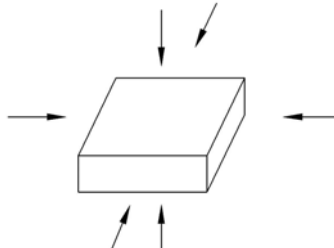
触点抖动用图：



7. Mechanical Performance/机械性能

| Item 项目 | Description 项目描述 | Test Condition 测试条件 | Requirement 规格要求 |
|---------|---------------------|---|---|
| 7.1 | Operation force 操作力 | <p>Operate the keystroke of the switch and then increase press strength gradually, Measured maximum operation force while the travel of the switch is full.</p> <p>逐渐施力操作开关按键，测量开关到达全部工作行程时所需的最大操作力度。</p> | 150±50gf |
| 7.2 | Travel 行程 | <p>Operate the keystroke of the switch vertically, the travel distance of keystroke moving from its free position to maximum moving distance shall be measurement.</p> <p>垂直操作开关按键，量测开关顶端最大移动距离。</p> | <p>Full travel:</p> <p>全行程 2.0±0.15mm</p> |



| | | | |
|-----|------------------------------|--|---|
| 7.3 | Static Strength 静止强度 | <p>A static load of 1 Kgf shall be applied in the direction of button operation for a period of 60 seconds. 在手柄动作方向施加 1kgf 的静负荷 60 秒, 然后测试参数.</p>  | No damage (Electrical And mechanical) 电气和机械性能正常. |
| 7.4 | Stem Pull Strength 手柄拉拔强度 | <p>Break by a pull force applied opposite to the direction of stem operation. 在推柄动作方向反向垂直施加拉力, 使其破坏的程度.</p> | 500gf Min |
| 7.5 | Shock 机械冲击 | <p>Measured by according to the below condition: (1) Acceleration: 80g 加速度 (2) Cycles of test: 3 cycles each in 6 directions, for a total of 18 cycles. 试验次数: 每个方向 3 次, 6 个方向共 18 次.</p>  | Shall meet No.6, 7.1, 7.2. 满足 6, 7.1, 7.2 要求. |

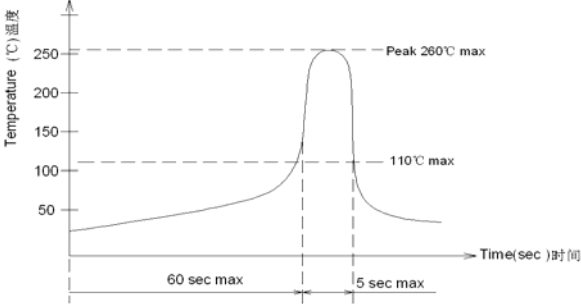


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| 7.6 | Life Test 寿命测试 | <p>(1) Weight:300gf 砵码: 300gf</p> <p>(2) Operation speed: 1~2cycles/s 操作速度: 1-2 次/秒</p> <p>(3) Push force: Maximum value of operation force. 按压力: 操作力规格值的上限.</p> <p>(4) Cycles: 100,000 times Min 操作次数: 10 万次以上</p> | <p>Contact resistance: 10000 mΩ Max 接触电阻: 10000 毫欧以下</p> <p>Bouncing: 10ms Max 触点抖动: 10 毫秒以下</p> <p>Operation force: Variation rate within ±30% 操作力的变化范围在初始值的±30%以内.</p> |
|-----|-------------------|---|--|

8.Environmental Performance/环境性能

| Item 项目 | Description 项目描述 | Test Condition 测试条件 | Requirement 规格要求 | | | | | | | | | | | | |
|-----------------|---------------------------|--|---|-------------------|--------------------------|-----------------|-------|----|--------|----|-------|----|-------|----|---|
| 8.1 | Cold test 耐寒性 | <p>(1) Temperature : - 20±2℃ 温度: - 20±2℃</p> <p>(2) Duration of test: 96h 持续时间: 96 小时</p> <p>(3) Take off a drop water 去掉水珠</p> <p>(4) Standard conditions after test : 1h 试验后的放置条件: 1 小时</p> | <p>Contact resistance: 200mΩ Max Shall meet : No. 6.2 to 6.4 No. 7.1 to 7.2 接触电阻 200mΩ 以下 满足: No. 6.2 to 6.4 No. 7.1 to 7.2</p> | | | | | | | | | | | | |
| 8.2 | Heat test 耐热性 | <p>(1) Temperature : 80±2℃ 温度: 80±2℃</p> <p>(2) Duration of test: 96h 持续时间: 96 小时</p> <p>(3) Take off a drop water 去掉水珠</p> <p>(4) Standard conditions after test : 1h 试验后的放置条件: 1 小时</p> | <p>Contact resistance: 200mΩ Max Shall meet : No. 6.2 to 6.4 No. 7.1 to 7.2 接触电阻 200mΩ 以下 满足: No. 6.2 to 6.4 No. 7.1 to 7.2</p> | | | | | | | | | | | | |
| 8.3 | Temperature cycle 温度循环 | <p>(1) Test cycles: 5 cycles 试验周期: 5 个周期</p> <p>(2) Standard condition after test:1h 试验后的放置条件: 1 小时</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>Temperature 温度</th> <th>Duration of test 持续时间</th> </tr> </thead> <tbody> <tr> <td rowspan="4" style="text-align: center;">1 cycle 一次循环</td> <td style="text-align: center;">20±5℃</td> <td style="text-align: center;">1h</td> </tr> <tr> <td style="text-align: center;">-20±2℃</td> <td style="text-align: center;">1h</td> </tr> <tr> <td style="text-align: center;">20±5℃</td> <td style="text-align: center;">1h</td> </tr> <tr> <td style="text-align: center;">70±5℃</td> <td style="text-align: center;">1h</td> </tr> </tbody> </table> | | Temperature 温度 | Duration of test 持续时间 | 1 cycle 一次循环 | 20±5℃ | 1h | -20±2℃ | 1h | 20±5℃ | 1h | 70±5℃ | 1h | <p>Contact resistance: 200mΩ Max Shall meet : No. 6.2 to 6.4 No. 7.1 to 7.2 接触电阻 200mΩ 以下 满足: No. 6.2 to 6.4 No. 7.1 to 7.2</p> |
| | Temperature 温度 | Duration of test 持续时间 | | | | | | | | | | | | | |
| 1 cycle 一次循环 | 20±5℃ | 1h | | | | | | | | | | | | | |
| | -20±2℃ | 1h | | | | | | | | | | | | | |
| | 20±5℃ | 1h | | | | | | | | | | | | | |
| | 70±5℃ | 1h | | | | | | | | | | | | | |



| | | | |
|-----|-----------------------------|---|--|
| 8.4 | Soldering heat test 耐焊接热 | <p>Soldering area: T/2 of PWB thickness. (PWB: T=1.6mm) 焊接面积: 印刷基板的 1/2 厚度处</p> <p>Soldering temperature: 260±5°C 焊接温度: 260±5°C</p> <p>Soldering time: 3±0.5s 焊接时间: 3±0.5 秒</p> | Appearance: No abnormality. 外观无异常 |
| 8.5 | Solderability 可焊性 | <p>1. Hand soldering 手工焊接: Please practice according to below condition: (1) Soldering Temperature : 350±5°C 焊接温度: 350±5°C (2) Continual soldering time: 3±0.5s 连续焊接时间: 3±0.5 秒 (3) Capacity of soldering iron: ≤20w 电烙铁功率: 20 瓦以下</p> <p>2. Automatic PIP soldering 自动焊接: For the product of T/H, according to below condition:</p>  | At least 95% of surface area of immersed portion shall be covered by solder. 侵焊面积大于 95%以上. |
| 8.6 | Humidity test 耐湿性 | <p>(1) Temperature : 60±2°C 温度: 60±2°C</p> <p>(2) relative humidity: 90~95% R.H. 相对湿度:90~95% R.H.</p> <p>(3) Duration of test: 96h 持续时间: 96 小时</p> <p>(4) Take off a drop water 去掉水珠</p> <p>(5) Standard conditions after test: 1h 试验后的放置条件: 1 小时</p> | Contact resistance: 200mΩ Max Shall meet : No. 6.2 to 6.4 No. 7.1 to 7.2 接触电阻 200mΩ 以下 满足: No. 6.2 to 6.4 No. 7.1 to 7.2 |

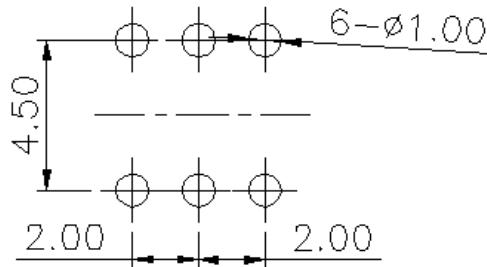


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|-----|---------------------------------------|--|---|
| 8.7 | Salt Spray 盐雾测试 | <p>Apply the following environment to test: 根据下列条件进行测试:</p> <p>(1) Temperature : $35 \pm 5^{\circ}\text{C}$ 温度: $35 \pm 5^{\circ}\text{C}$;</p> <p>(2) Salt water density: $5 \pm 1\%$ 盐水浓度: $5 \pm 1\%$;</p> <p>(3) Duration: 24 hours 持续时间: 24 小时;</p> <p>(4) After test, the salt deposit shall be removed by running water. 实验后将盐沉积物用水冲掉</p> | <p>Appearance: No corrosion spot, no crack, no base plate naked. 外观: 无腐蚀点, 无裂纹, 无裸露基材.</p> <p>Contact Resistance: 200 mΩ Max 接触电阻: 200 毫欧以下</p> |
| 8.8 | Withstand K ₂ S 硫化测试 | <p>Apply the following environment to test: 根据下列条件进行测试</p> <p>(1) Temperature: $35 \pm 5^{\circ}\text{C}$ 温度: $35 \pm 5^{\circ}\text{C}$</p> <p>(2) K₂S Density: 2%; 硫化钾浓度: 2%</p> <p>(3) Duration: 2 minute. 持续时间: 2 分钟</p> | <p>Appearance: No corrosion spot, no crack, no base plate naked. 外观: 无腐蚀点, 无裂纹, 无裸露基材.</p> <p>Contact Resistance: 200 mΩ Max 接触电阻: 200 毫欧以下</p> |

9. Recommended PCB Layout 推荐的 PCB 安装焊盘规格

(Top View)
(Single face board T=1.6mm)





10.Packaging 包装

Packaging type: PE Bag, 1000Pcs/Bag, 5000Pcs/Inner Carton. 20000Pcs/Outer Carton.

包装方式: PE 袋, 1000Pcs/袋. 5000Pcs/内箱. 20000Pcs/外箱



11.Precaution 注意事项

11.1 Immersion Soldering condition 浸焊条件

| ITEM 项目 | CONDITION 条件 |
|-------------------------------|---|
| Preheat temperature 预热温度 | 110°C Max (Ambient temperature of soldering surface of P.W.B) 110°C 以下(印刷基板焊锡面周围的温度) |
| Preheat time 预热时间 | 60s, Max 60 秒以内 |
| Area of flux 助焊剂面积 | 1/2 Max of PWB Thickness 印刷基板厚度的 1/2 以内 |
| Temperature of solder 焊锡温度 | 260±5°C 260±5°C |
| Time of immersion 浸焊时间 | Within 5s 5 秒以内 |
| Number of soldering 焊接次数 | 2time Max (But should down heat of the first soldering) 2 次以内 |
| Printed wiring board 印刷基板 | Single side 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) Under the condition of using soldering iron, soldering temperature shall be 350°C max within 3 sec.
在使用烙铁的情况下,焊锡温度应在350°C以下,焊接时间3秒以内.

11.2 Notes 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 stack 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.
- (4) Products meet the ROHS & REACH environmental management substances control standards
产品满足 **ROHS & REACH** 环境管理物质管制标准