

## 产品规格书

### 【1】适用范围 SCOPE

本规格书适用于：1.0mm 间距 FPC 连接器（抽屉式）16PIN 上接/16PIN

This specification covers the 0.5mm Pitch FPC/FFC Connectors (series Locking)

### 【2】产品名称及型号 PRODUCT NAME AND PART NUMBER

| 产品名称 Product Name | 产品型号 Part Number |
|-------------------|------------------|
| FPC/FPC 扁平电缆连接器   |                  |
|                   |                  |

### 【3】定格 RATINGS

| 项目 Item                             | 规 格         | Requirement                    |
|-------------------------------------|-------------|--------------------------------|
| 最大容许电压<br>Rated Voltage(MAX)        | 50V         | [AC/DC(有效值 Virtual value)50Hz] |
| 最大容许电流<br>Rated Current(MAX)        | 0.4A        |                                |
| 使用温度范围<br>Ambient temperature Range | -25℃ ~ +85℃ |                                |

## 【4】性能 PERFORMANCE

### 4.1 电气性能 Electrical Performance

| 项目 Item |                               | 条件 Test Condition   | 规格 Requirement                        |
|---------|-------------------------------|---|---------------------------------------|
| 4.1.1   | 接触电阻<br>Contact Resistance    | 适合 FPC/FFC 嵌合；开放电压 20mV 以下；短路电流 10mA 的状态下测定。<br>Mate applicable FPC/FFC and measure by dry circuit, 20mV MAX, 10mA.   | $\leq 20 \text{ m}\Omega \text{ MAX}$ |
| 4.1.2   | 绝缘电阻<br>Insulation Resistance | 适合 FPC/FFC 嵌合；相邻端子间或端子与地面间加 DC 500V 下测定。<br>Mate applicable FPC/FFC and apply 500V DC between adjacent terminal or ground.  | $500\text{M}\Omega \text{ MIN}$       |
| 4.1.3   | 耐电压<br>Dielectric             | 适合 FPC/FFC 嵌合；相邻端子间或端子与地面间加 AC 200V（有效值）历时 1 分钟下测定。<br>Mate applicable FPC/FFC and apply 200V AC (virtual value) for 1minute between adjacent terminal or ground. | 无击穿现象<br>No Breakdown                 |

### 4.2 机械性能 Mechanical Performance

| 项目 Item |  | 条件 Test Condition   | 规格 Requirement  |
|---------|--|---|---|
| 4.2.1   | 锁紧力及拔出力<br>Locking and Withdrawal Force    | 适合 0.3mm 厚的 FFC；用每分钟 $25\pm 3\text{mm}$ 的速度；平行地插入、锁紧、拔出。<br>Insert and extract applicable FFC at the speed rate of $25\pm 3\text{mm}/\text{minute}$ . | 锁紧力 Locking<br>$1.96*n \text{ (N) MAX}$<br>拔出力 Withdrawal<br>$0.49*n \text{ (N) MIN}$ |
| 4.2.2   | 端子保持力<br>Terminal /Housing Retention Force | 以用每分钟 $25\pm 3\text{mm}$ 的速度平行向外拉<br>Pull the terminal at the speed rate of $25\pm 3\text{mm}$ per minute   | $3.92\text{N MIN}$  |

### 4.3 环境和其他性能 Environmental Performance and Others

| 项目 Item |   | 条件 Test Condition  | 规格 Requirement   |
|---------|---|--|--|
| 4.3.1   | 重复插拔<br>Repeated Insertion and Withdrawal | 无通电状态；以 10 次/分钟的速度插拔 20 次<br>Insertion and withdrawal actuator up to 20 cycles at the speed rate of less than 10 cycles/minute | 接触抵抗<br>Contact Resistance<br>$60 \text{ m}\Omega \text{ MAX}$ |
| 4.3.2   | 温度上升<br>Temperature Rise                  | 适合 FPC/FFC 嵌合；最大容许电流通电，温度测定。（UL 498）<br>Carrying rated current load. (UL 498)  | 温度上升<br>Temperature Rise<br>$30^\circ\text{C MAX}$             |

| 项目 Item |                             | 条件 Test Condition  | 规格 Requirement                |                                     |
|---------|-----------------------------|--|-------------------------------|-------------------------------------|
| 4.3.3   | 耐振动性<br>Vibration           | DC 1mA 通电状态下; 嵌合轴沿 XYZ 三个方向振动; 振幅 1.5mm; 频率 10-55-10Hz/分; 历时 2 小时<br>Amplitude: 1.5mm P-P<br>Sweep time: 10-55-10Hz in 1 minute<br>Duration: 2 hours in each X.Y.Z. axes | 外观<br>Appearance              | 无损坏<br>No Damage                    |
|         |                             |  | 接触抵抗<br>Contact Resistance    | 60 m Ω MAX                          |
|         |                             |  | 瞬断<br>Discontinuity           | 1 ms MAX.                           |
| 4.3.4   | 耐冲击性<br>Shock               | DC 1mA 通电状态下; 嵌合轴沿相互垂直的 6 个方向; 以 490m/s <sup>2</sup> {50G}冲击; 各 3 次<br>490m/s <sup>2</sup> {50G}, 3 strokes in each X.Y.Z. axes.   | 外观<br>Appearance              | 无损坏<br>No Damage                    |
|         |                             |  | 瞬断<br>Discontinuity           | 1 ms MAX.                           |
| 4.3.5   | 耐热性<br>Heat Resistance      | 适合 FPC/FFC 嵌合; 85±2℃的空气中; 放置 96 小时; 再回到室温中放置 1-2 小时<br>85±2℃, 96 hour  | 外观<br>Appearance              | 无损坏<br>No Damage                    |
|         |                             |  | 接触抵抗<br>Contact Resistance    | 60 m Ω MAX                          |
| 4.3.6   | 耐寒性<br>Cold Resistance      | 适合 FPC/FFC 嵌合; -40±2℃的空气中; 放置 96 小时; 再回到室温中放置 1-2 小时<br>-40±2℃, 96 hour  | 外观<br>Appearance              | 无损坏<br>No Damage                    |
|         |                             |  | 接触抵抗<br>Contact Resistance    | 60 m Ω MAX                          |
| 4.3.7   | 耐湿性<br>Humidity             | 适合 FPC/FFC 嵌合; 40±2℃、相对湿度 90-95%的空气中; 放置 96 小时; 再回到室温中 0.5 小时内测定<br>Temperature: 40±2℃<br>Relative Humidity: 90-95%<br>Duration: 96 Hours                                | 外观<br>Appearance              | 无损坏<br>No Damage                    |
|         |                             |  | 接触抵抗<br>Contact Resistance    | 60 m Ω MAX                          |
|         |                             |  | 耐电压<br>Dielectric Strength    | 必须满足<br>4.1.3<br>Must meet<br>4.1.3 |
|         |                             |  | 绝缘抵抗<br>Insulation Resistance | 20 M Ω MIN                          |
| 4.3.8   | 温度循环<br>Temperature Cycling | 适合 FPC/FFC 嵌合; -55±3℃ 30 分钟; 常温常湿 10-15 分钟; 85±2℃ 30 分钟; 常温常湿 10-15 分钟, 循环 5 次。<br>5 cycles of:<br>a) -55±3℃ 30 minutes<br>b) 85±2℃ 30 minutes                           | 外观<br>Appearance              | 无损坏<br>No Damage                    |
|         |                             |  | 接触抵抗<br>Contact Resistance    | 60 m Ω MAX                          |

| 项目 Item |                                      | 条件 Test Condition  | 规格 Requirement             |                     |
|---------|--------------------------------------|--|----------------------------|---------------------|
| 4.3.9   | 耐盐雾性<br>Salt Spray                   | 适合 FPC/FFC 嵌合；35±2℃、5±1%的盐水喷雾 48 小时；试验后常温水洗；再室温干燥。<br>48±4 hours exposure to a salt spray from the 5±1% solution at 35±2℃.             | 外观<br>Appearance           | 无损坏、腐蚀<br>No Damage |
|         |                                      |  | 接触抵抗<br>Contact Resistance | 60 m Ω MAX          |
| 4.3.10  | 耐亚硫酸<br>SO2 Gas                      | 适合 FPC/FFC 嵌合；40±2℃、50±5ppm 的亚硫酸中放置 24 小时<br>24 hours exposure to 50±5ppm. SO2 gas at 40±2℃.   | 接触抵抗<br>Contact Resistance | 60 m Ω MAX          |
| 4.3.11  | 耐氨性<br>NH3 Gas                       | 适合 FPC/FFC 嵌合；浓度为 28% 的氨水容器中；放置 40 分钟。<br>40 minutes exposure to NH3 gas evaporating from 28% Ammonia solution                         | 外观<br>Appearance           | 无损坏<br>No Damage    |
|         |                                      |  | 接触抵抗<br>Contact Resistance | 60 m Ω MAX          |
| 4.3.12  | 可焊性<br>Solder ability                | 端子前端基准面 0.2mm 处浸入 235±5℃ 的锡槽中；历时 2±0.5 sec。<br>Soldering Time: 2±0.5 sec.<br>Soldering Temperature: 235±5℃<br>0.2 mm from terminal tip | 沾敷性<br>Solder Wetting      | 沾敷面积 95% 以上         |
| 4.3.13  | 耐焊接热<br>Resistance to Soldering heat | 端子前端基准面 0.2mm 处浸入 260±5℃ 的锡槽中；历时 5±0.5 sec。<br>Soldering Time: 5±0.5 sec.<br>Soldering Temperature: 260±5℃<br>0.2 mm from terminal tip | 外观<br>Appearance           | 无损坏、变形<br>No Damage |

【5】外观形状、寸法及材质 PRODUCT SHAPE, DIMENSIONS AND MATERIALS

图面参照 Refer to the drawing.

| 名称 NAME         | 材质 MATERIALS        |
|-----------------|---------------------|
| 主体 Main body    | LCP(本色) UL 94V-0    |
| 锁扣 Housing Lock | LCP(黑色) UL 94V-0    |
| 端子 Sit up       | 磷青铜 Phosphor Bronze |
| 焊片 Contact      | 磷青铜 Phosphor Bronze |
| 备注 Remark       | 金属表面镀锡              |

# 产品封装

**RoHS**

备注:  
 1: 塑胶件表面应光洁、无毛刺; 无明显收缩、裂胶等现象。  
 2: 额定电流 Current rating: 0.4A.  
 3: 额定电压 Voltage rating: 50V.  
 4: 耐电压 Withstand coltage: 200V AC/minute.  
 5: 接触电阻 Contact resistance : ≤20mΩ.  
 6: 绝缘电阻 Insulation resistance: 500MΩ.  
 7: 工作温度 Working temperature: -20° C --- +80° C.

通用FPC寸法  
Applicable FPC

FPC 寸法  
FPC Layout

TABLE :

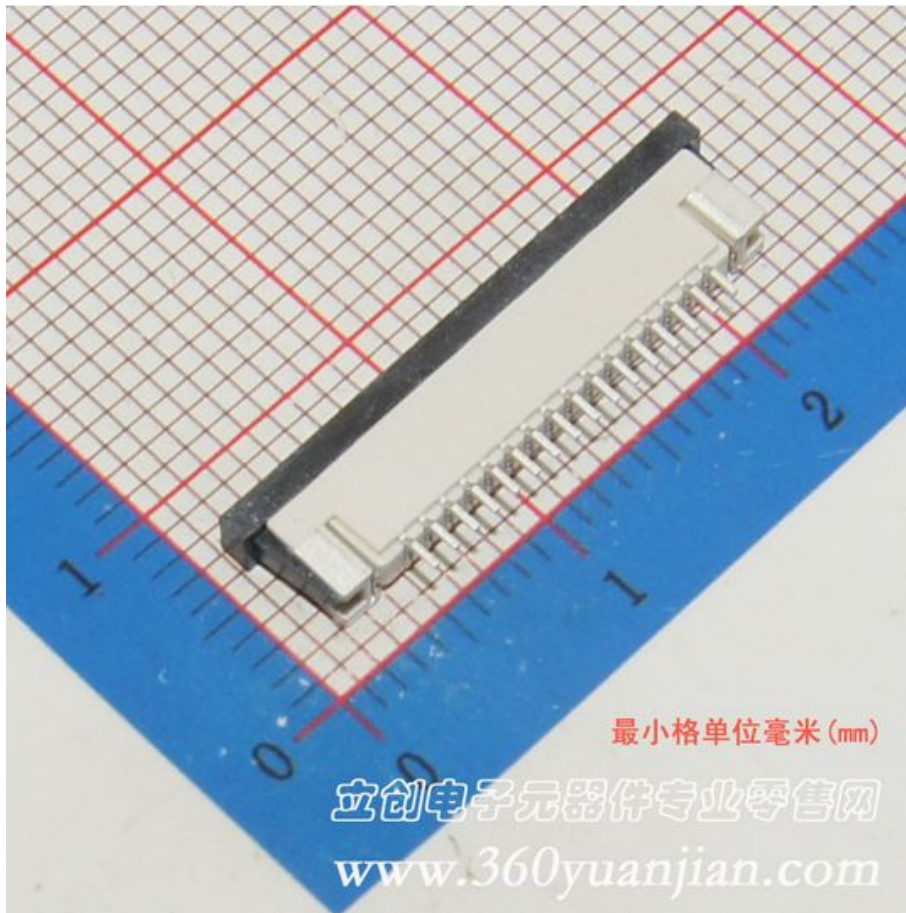
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|----|----|------|----|
| 4  | 5  | 5.1  | 11 |
| 5  | 6  | 6.1  | 12 |
| 6  | 7  | 7.1  | 13 |
| 7  | 8  | 8.1  | 14 |
| 8  | 9  | 9.1  | 15 |
| 9  | 10 | 10.1 | 16 |
| 10 | 11 | 11.1 | 17 |
| 11 | 12 | 12.1 | 18 |
| 12 | 13 | 13.1 | 19 |
| 13 | 14 | 14.1 | 20 |
| 14 | 15 | 15.1 | 21 |
| 15 | 16 | 16.1 | 22 |
| 16 | 17 | 17.1 | 23 |
| 17 | 18 | 18.1 | 24 |
| 18 | 19 | 19.1 | 25 |
| 19 | 20 | 20.1 | 26 |
| 20 | 21 | 21.1 | 27 |
| 21 | 22 | 22.1 | 28 |
| 22 | 23 | 23.1 | 29 |
| 23 | 24 | 24.1 | 30 |
| 24 | 25 | 25.1 | 31 |
| 25 | 26 | 26.1 | 32 |
| 26 | 27 | 27.1 | 33 |
| 27 | 28 | 28.1 | 34 |
| 28 | 29 | 29.1 | 35 |
| 29 | 30 | 30.1 | 36 |
| 30 | 31 | 31.1 | 37 |
| 31 | 32 | 32.1 | 38 |
| 32 | 33 | 33.1 | 39 |
| 33 | 34 | 34.1 | 40 |
| 34 | 35 | 35.1 | 41 |
| 35 | 36 | 36.1 | 42 |
| 36 | 37 | 37.1 | 43 |
| 37 | 38 | 38.1 | 44 |
| 38 | 39 | 39.1 | 45 |
| 39 | 40 | 40.1 | 46 |
| 40 | 41 | 41.1 | 47 |

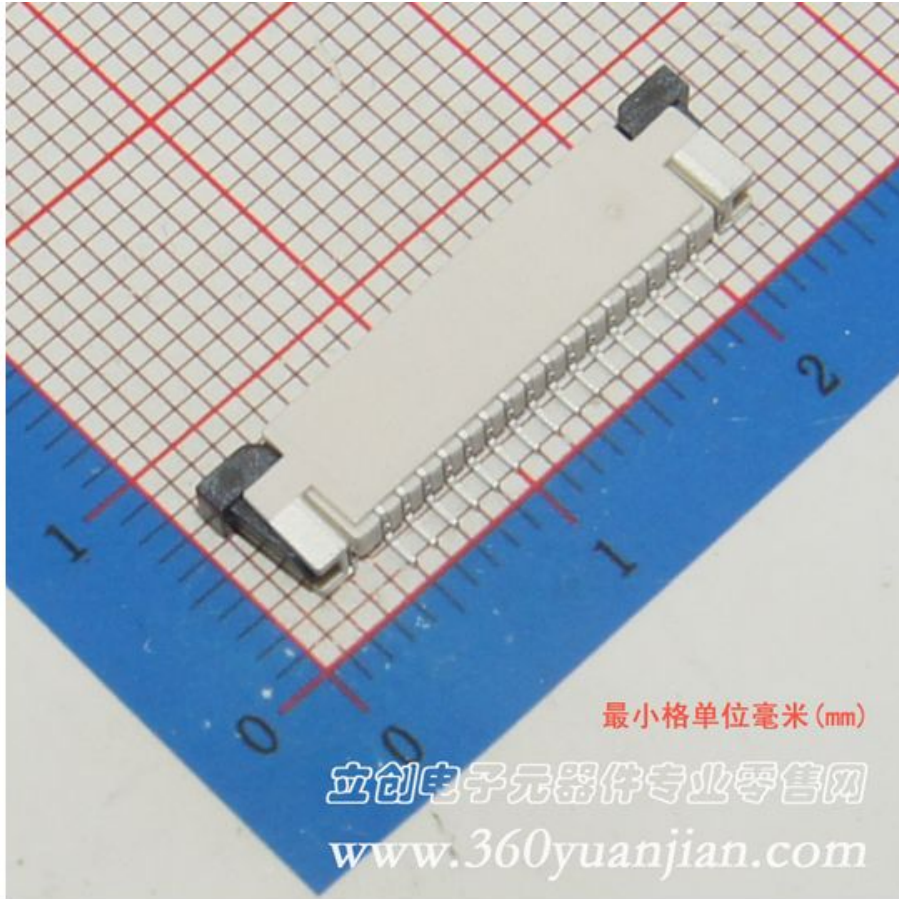
FPC050A039-**N Y Z**

包装代码  
塑胶材质代码  
PIN孔代码

| Z | 包装方式 | Y | 材质    |
|---|------|---|-------|
| 1 | 盘装   | A | PA 46 |
| 2 | 盒装   | B | LCP   |
| 3 | 袋装   | C | PA 9T |

# 产品图片





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