



产 品 规 格 书

PRODUCT SPECIFICATION

【1】 适用范围 SCOPE

本规格书适用于 0.5mmPitch FPC H=2.0 拉拔卧式 SMT 型 4 代连接器系列。

This specification covers the 0.5mmPitch H=2.0 FPC ZIF R/A SMT Type(4) Connectors series.

【2】 外观尺寸 CONNECTOR DIMENSIONS

请参照图面

See attached drawings.

【3】 材质 MATERIAL

绝缘胶体 Housing: LCP

颜色 Color:自然色 Natural

耐燃等级 (UL94V-0) Flammability Rating (UL94V-0).

后盖 Actuator: PA6T

颜色 Color:黑色 Black

耐燃等级 (UL94V-0) Flammability Rating (UL94V-0).

端子 Terminal: 磷青铜 Phosphor Bronze.

焊片 Fitting Nail:磷青铜 Phosphor Bronze.

【4】 建议 P. C. B LAYOUT 图 ACCOMMODATED P. C. B LAYOUT

请参照图面

See attached drawings.

【5】 等级 RATING

| 项 目 ITEM | 规 格 SPECIFICATIONS |
|---------------------------------------|---|
| 最大容许电压 Operating Voltage(Max.) | 50V AC |
| 最大容许电流 Current Rating(Max.) | 0.4A DC |
| 使用温度范围 Operating Temperature range | -55°C ~ +85°C |
| 使用湿度范围 Operating humidity range | 相对湿度90%以下 Relative humidity 90% max. |
| 保存温度范围 Storage temperature range | -10°C ~ +50°C |
| 保存湿度范围 Storage humidity range | 相对湿度90%以下 Relative humidity 90% max. |

*:包含电流通过所产生的上升温度 Including terminal temperature rise.



【6】性能 PERFORMANCE

6.1 电气特性 ELECTRICAL PERFORMANCE

| 项目 ITEM | 测试条件 TEST CONDITION | 规格 REQUIREMENT |
|-------------------------------|---|-----------------------------|
| 接触阻抗 Contact Resistance | 将样品与适合之FPC连接, 测试电压20mV, 限电流10mA下进行阻抗测试。(EIA-364-23) Mate applicable FPC and measure by dry circuit, 20mV Max, 10mA. (EIA-364-23) | 40 mΩ最大. 40 mΩ Max. |
| 绝缘阻抗 Insulation Resistance | 将样品与适合之FPC连接, 提供相邻端子间测试电压500V DC进行绝缘阻抗测试(EIA-364-21) Mate applicable FPC and apply 500V DC between adjacent terminal or ground. (EIA-364-21) | 500MΩ最小. 500 MΩ Min. |
| 耐电压 Dielectric Strength | 将样品与适合之FPC连接, 相邻端子间需可承受250V AC(rms) 1分钟。(EIA-364-20) Mate applicable FPC, apply 250V AC(rms) for 1 minute between adjacent terminal or ground.(EIA-364-20) | 目视外观无任何损坏异状 No Breakdown |

6.2 机械特性 MECHANICAL PERFORMANCE

| 项目 ITEM | 测试条件 TEST CONDITION | 规格 REQUIREMENT |
|-----------------------------------|---|---------------------------------|
| FPC保持力 FPC Retention Force | 将盖子盖上, 与FPC连接, 以操作速度每分钟位移25±3mm进行FPC保持力测试。 Insert the actuator, pull the FPC at a rate of 25±3mm per minute. | Pos.x 0.3N最小 Pos.x 0.3N Min. |
| 端子保持力 Terminal Retention Force | 端子与Housing组装后, 以操作速度每分钟位移25±3mm将端子拔出Housing, 进行端子保持力测试。 Apply axial pull out force at the rate of 25±3 mm/minute on the terminal assembled in the housing. | 3N最小. 3N Min. |



| 项目 ITEM | 测试条件 TEST CONDITION | 规格 REQUIREMENT |
|---------------------------------------|---|-------------------|
| 焊片保持力 Fitting Nail Retention Force | 焊片与Housing组装后，以操作速度每分钟位移 25 ± 3 mm将焊片拔出Housing，进行焊片保持力测试。 Apply axial pull out force at the rate of 25 ± 3 mm/minute on the Fitting Nail assembled in the housing. | 1N最小. 1N Min |

6.3 环境特性及其它性能 ENVIRONMENTAL PERFORMANCE AND OTHERS

| 项目 ITEM | 测试条件 TEST CONDITION | 规格 REQUIREMENT | |
|--------------------------|--|----------------------------|---------------------------|
| 耐久性 Durability | 将盖子与FPC反复连接，以每分钟小于10 cycles连续操作20次。 Insert and withdraw actuator up to 20 cycles at the speed rate of less than 10 cycles/minute. | 接触阻抗 Contact Resistance | 60mΩ最大. 60mΩ Max. |
| 温度上升 Temperature Rise | 量测通过FPC最大容许电流时，样品接触点之温升 (EIA-364-70 METHOD 2) Mate applicable FPC and measure the temperature rise of contact when the maximum AC rated current is passed. (EIA-364-70 METHOD 2) | 温升 Temperature rise | 30°C最大. 30°C Max. |
| 耐振性 Vibration | 通过DC电流1mA，位移相对距离1.5mm，振动周期10~55~10 Hz在1分钟内，持续2小时，方向在X,Y,Z轴做测试。(EIA-364-28 Condition I) Mate connectors and subject to the following vibration conditions, for period of 2 hours in each of 3 mutually perpendicular axes, passing DC 1mA during the test. Amplitude : 1.5mm P-P Frequency : 10~55~10 Hz in 1 minute. Duration : 2 hours in each of X,Y,Z axes. (EIA-364-28 Condition I) | 外观 Appearance | 目视外观无任何损坏异状 NoDamage |
| | | 接触阻抗 Contact Resistance | 60mΩ最大. 60mΩ Max. |
| | | 瞬间断电 Discontinuity | 1 μ sec最大 1 μ sec Max. |



| 项目 ITEM | 测试条件 TEST CONDITION | 规格 REQUIRMENT | |
|------------------------|--|----------------------------|----------------------------|
| 耐冲击性 Shock | 将样品与适合之FPC连接, 通过DC 1 mA测试条件, 连续测试3次。在X、Y、Z 3轴6个垂直方向施予重力加速度490m/s2 {50G} 冲击。 (EIA-364-27, test condition A) Mate applicable FPC and subject to the following shock conditions. 3 times of shocks shall be applied for each 6 directions along 3 mutually perpendicular axes, passing DC 1 mA current during the test. (Total of 18 shocks) Peak value : 490m/s2 {50G}(EIA-364-27, test condition A) | 外观 Appearance | 目视外观无任何损坏异状 NoDamage |
| | | 接触阻抗 Contact Resistance | 60mΩ 最大. 60mΩ Max. |
| | | 瞬间断电 Discontinuity | 1 μ sec 最大 1 μ sec Max. |
| 耐热性 Heat Resistance | 将样品与适合之FPC连接, 置于环境温度85±2°C测试时间96小时, 再置放于室温下1~2小时。 Mate applicable FPC and expose to 85±2°C for 96 hours. Upon completion of the exposure period, the test specimens shall be conditioned at ambient room conditions for 1 to 2 hours, after which the specified measurements shall be performed. | 外观 Appearance | 目视外观无任何损坏异状 NoDamage |
| | | 接触阻抗 Contact Resistance | 60mΩ 最大. 60mΩ Max. |
| 耐寒性 Cold Resistance | 将样品与适合之FPC连接, 置于环境温度-40±2°C, 测试时间96小时, 再置放于室温下1~2小时。 Mate applicable FPC and expose to -40±2°C for 96 hours. Upon completion of the exposure period, the test specimens shall be conditioned at ambient room conditions for 1 to 2 hours, after which the specified measurements shall be performed. | 外观 Appearance | 目视外观无任何损坏异状 NoDamage |
| | | 接触阻抗 Contact Resistance | 60mΩ 最大. 60mΩ Max. |



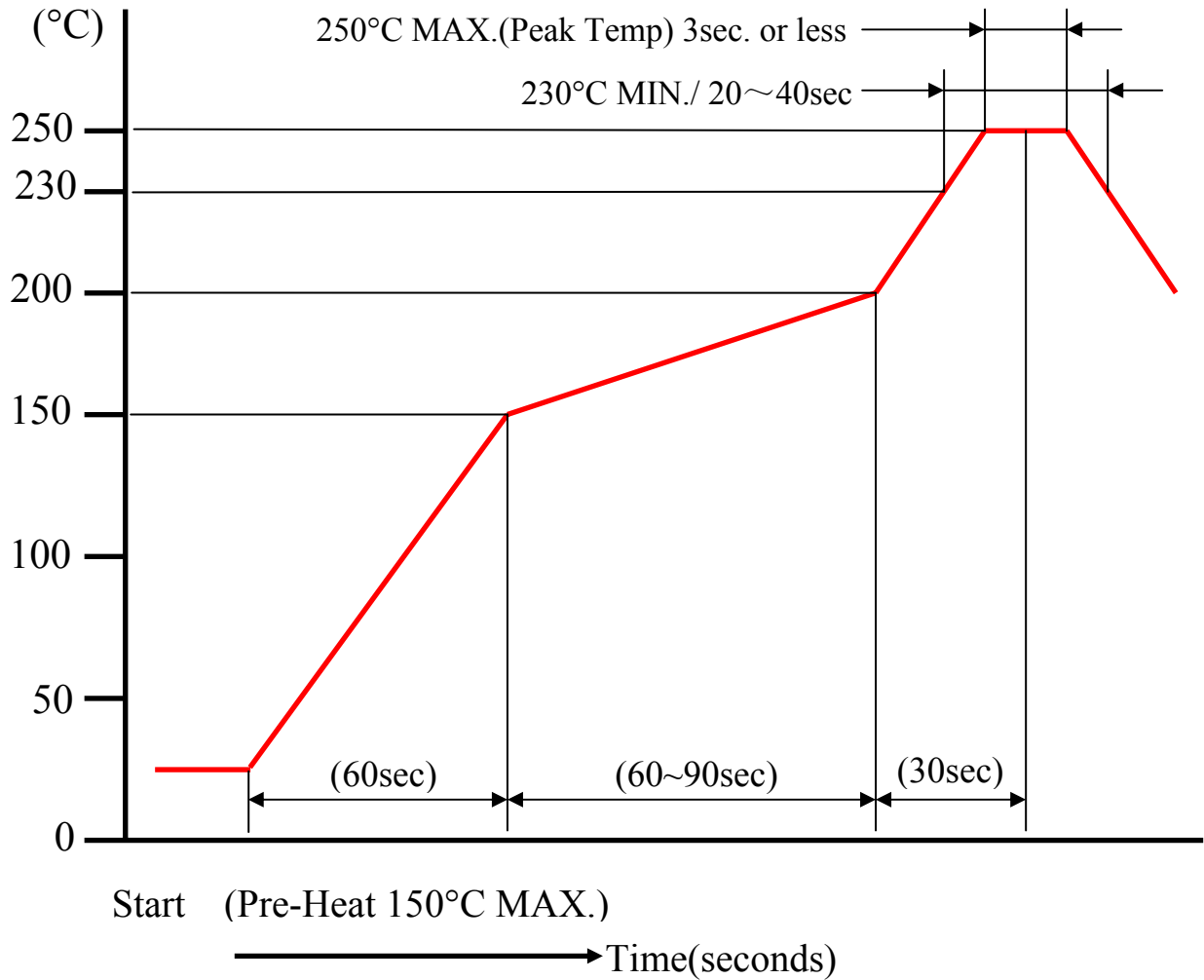
| 项目 ITEM | 测试条件 TEST CONDITION | 规格 REQUIREMENT | |
|-----------------------------|---|-------------------------------|---------------------------|
| 耐湿性 Humidity | 将样品与适合之FPC连接，置于环境温度 $60\pm 2^{\circ}\text{C}$ ，相对湿度90~95%，测试时间96小时，再置放于室温下1~2小时。 Mate applicable FPC and expose to $60 \pm 2^{\circ}\text{C}$, relative humidity 90 to 95% for 96 hours. Upon completion of the exposure period, the test specimens shall be conditioned at ambient room conditions for 1 to 2 hours, after which the specified measurements shall be performed. | 外观 Appearance | 目视外观无任何损坏异状 NoDamage |
| | | 接触阻抗 Contact Resistance | 60mΩ最大. 60mΩMax. |
| | | 耐电压 Dielectric Strength | 需能符合耐电压测试 No Breakdown |
| | | 绝缘阻抗 Insulation Resistance | 40 MΩ 最小. 40 MΩ Min |
| 冷热冲击 Temperature Cycling | 将样品与适合之FPC连接，承受5 cycles冷热冲击后置放于室温下1~2小时。1 cycle time如下 a) $-55\pm 3^{\circ}\text{C}$ 30分钟 b) $+85\pm 3^{\circ}\text{C}$ 30分钟 Mate applicable FPC and subject to the following conditions for 5 cycles. Upon completion of the exposure period, the test specimens shall be conditioned at ambient room conditions for 1 to 2 hours, after which the specified measurements shall be performed. 1 cycle a) $-55\pm 3^{\circ}\text{C}$ 30minutes b) $+85\pm 3^{\circ}\text{C}$ 30minutes | 外观 Appearance | 目视外观无任何损坏异状 NoDamage |
| | | 接触阻抗 Contact Resistance | 60mΩ 最大. 60mΩ Max. |
| 盐水喷雾 Salt Spray | 将样品与适合之FPC连接，使用 $5\pm 1\%$ 浓度盐水，测试温度 $35\pm 2^{\circ}\text{C}$ ，测试时间 48 ± 4 小时,后于室温下使用清水冲洗后再干燥。 Mate applicable FPC and expose to the following salt mist conditions. Upon completion of the exposure period, salt deposits shall be removed by a gentle wash or dip in running water, after which the specified measurements shall be performed. NaCl solution Concentration : $5 \pm 1\%$ Spray time : 48 ± 4 hours Ambient temperature : $35 \pm 2^{\circ}\text{C}$ | 外观 Appearance | 目视外观无任何损坏异状 NoDamage |
| | | 接触阻抗 Contact Resistance | 60mΩ 最大. 60mΩ Max. |



| 项目 ITEM | 测试条件 TEST CONDITION | 规格 REQUIRMENT | |
|---------------------------------------|---|-----------------------|---|
| 二氧化硫(气体) SO2 Gas | 将样品与适合之FPC连接，将其置于50±5 ppm浓度二氧化硫气体中，测试温度40±2°C，测试时间24小时。 Mate applicable FPC and expose them to the following SO2 gas atmosphere. Temperature 40 ± 2°C Gas Density 50 ± 5 ppm Duration 24 hours | 外观 Appearance | 目视外观无任何损坏异状 NoDamage |
| 氨(气体) NH3 Gas | 暴露来自浓度28%阿摩尼亚之蒸发气体NH3中，测试时间40分钟。 40 minutes exposure to NH3 gas evaporating from 28% Ammonia solution. | 外观 Appearance | 目视外观无任何损坏异状 NoDamage |
| 焊锡性 Solderability | 锡温245±5°C，将导电端子浸入锡炉液面至Housing距离锡面0.1mm位置，焊锡时间3±0.5秒。 Tip of solder tails and fitting nails into the molten solder (held at 245±5°C) up to 0.1mm from the bottom of the housing for 3±0.5 seconds. | 润湿性 Solder Wetting | 润湿面积75%以上，并不得有漏焊针孔现象 75% of immersed area must show no voids, pin holes. |
| 焊锡耐热性 Resistance to Soldering Heat | 使用红外线回焊时请参考第7 When reflowing Refer to paragraph 7. 使用烙铁手焊时须可符合下述焊锡条件 Soldering iron method 0.3mm from terminal tip and fitting nail tip. Soldering time : 3 seconds Max. Solder temperature : 370 ~ 400°C | 外观 Appearance | 目视外观无任何损坏异状 NoDamage |



【7】 红外线回焊温度曲线 INFRARED REFLOW CONDITION



温度条件TEMPERATURE CONDITION GRAPH
(基板表面温度) (TEMPERATURE ON BOARD PATTERN SIDE)