# Product specification

## 1. Scope

This specification applies to the Pitch 1.5mm dual-row series connectors, specifying the product's performance indicators, test methods and test requirements.

Applicable Product Models: FWF15012/FHG15006/FT15006 series

## 2. Applicable Standards

The following documents form a part of this specification. In the event of conflict between the requirements of this specification and the product drawing, the product drawing shall take precedence. In the event of conflict between the requirements of this specification and the referenced documents, this specification shall take precedence.

| | |
|---|---|
| 2.1 GB/T2421 | Testing method for Environmental of Electrical Connectors Class1:General Principles |
| 2.2 GB/T2423 | Testing method for Environmental of Electrical Connectors |
| 2.3 GB/T2424 | Testing method for Environmental of Electrical Connectors |
| 2.4 GB/T5095 | Testing procedure/method for components of electric equipment |

## 3. Parameter Range

| Parameter Name | Value & Unit |
|---|---|
| Rated Current | 1.0A AC/DC |
| Rated Voltage | 100V AC/DC |
| Operating Temperature Range | -40 ℃ ~+105 ℃ (FHG15006: -25 ℃ ~+85 ℃) |
| Applicable Wire Gauge | 26 AWG~30 AWG |
| Applicable PCB Thickness | 0.6~1.2mm |

## 4. Appearance and Dimensions

4.1 Appearance: Product surface without defect、dirt、crack、and mechanical damage, Contact without rust plating not oxides and not peeled

4.2 Appearance and dimensions shall comply with the requirements of product drawings.

4.3 Exchangeable: Exchangeable with same specification products.

## 5. Materials

| Component | | Material Specification | Color |
|---|---|---|---|
| Wafer | Housing | LCP (UL94V-0) | Black |
| | Contact | Copper Alloy (Tin-Plated) | - |
| | Solder TAB | Copper Alloy (Tin-Plated) | - |
| Housing | | PA66 (UL94V-0) | White |
| Terminal | | Copper Alloy (Tin-Plated) | - |

## 6. Mechanical Performance

| Serial No. | Item | Test Method | Technical Requirements |
|---|---|---|---|
| 6.1 | Appearance | Checking by eye | Comply with Clause 4.1 |
| 6.2 | Retention Force for terminal | The terminal and the hole seat at a react per minute to 25±3mm along the write direction are pulled out from the hole in the seat capacity | Retention Force≥10N |
| 6.3 | Retention Force for Pin | Exerts a force on the pin end at a rate per Minute 25±3mm until the needle exit Seat pull-out force | Retention Force ≥5N |
| 6.4 | Terminal crimping Wire strength | Terminal crimping wire Axial per minute to 25±3mm rate of the pullout force | 26AWG: ≥20N;<br>28AWG: ≥13N;<br>30AWG: ≥8N |
| 6.5 | Insertion and Extraction Force for Single contact | The housing together with the terminal ends with wafer matched at a rate per minute to 25±3mm Insertion and Extraction Force test | Insertion Force:≤6N<br>Extraction Force：≥0.6N |
| 6.6 | Random Vibration | Mated connectors subjected to vibration conditions: 10~55~10Hz, amplitude 1.5mm, 2h per axis, current applied | Appearance: No damage; Current Discontinuity ≤1μs; Contact Resistance ≤40mΩ |

| | | | |
|---|---|---|---|
| 6.7 | Durability | 30 cycles mating and unmating test at the speed 10 cycles per minute | Appearance: No damage; Contact Resistance ≤40mΩ |

## 7. Electrical Performance

| Serial No. | Item | Test Method | Technical Requirements |
|---|---|---|---|
| 7.1 | Contact Resistance | A maximum voltage of 20mV and maximum current of 100mA are applied to the Mate connector | Contact Resistance: ⩽40mΩ |
| 7.2 | Insulation Resistance | Apply a voltage of 500V DC between adjacent contacts and between contacts to ground | Insulation Resistance ⩾500MΩ |
| 7.3 | Withstand Voltage | Apply a voltage of AC 500 V for 1 minute between adjacent contacts and between contacts to ground, leakage current 0.5mA | No breakdown and arcing |

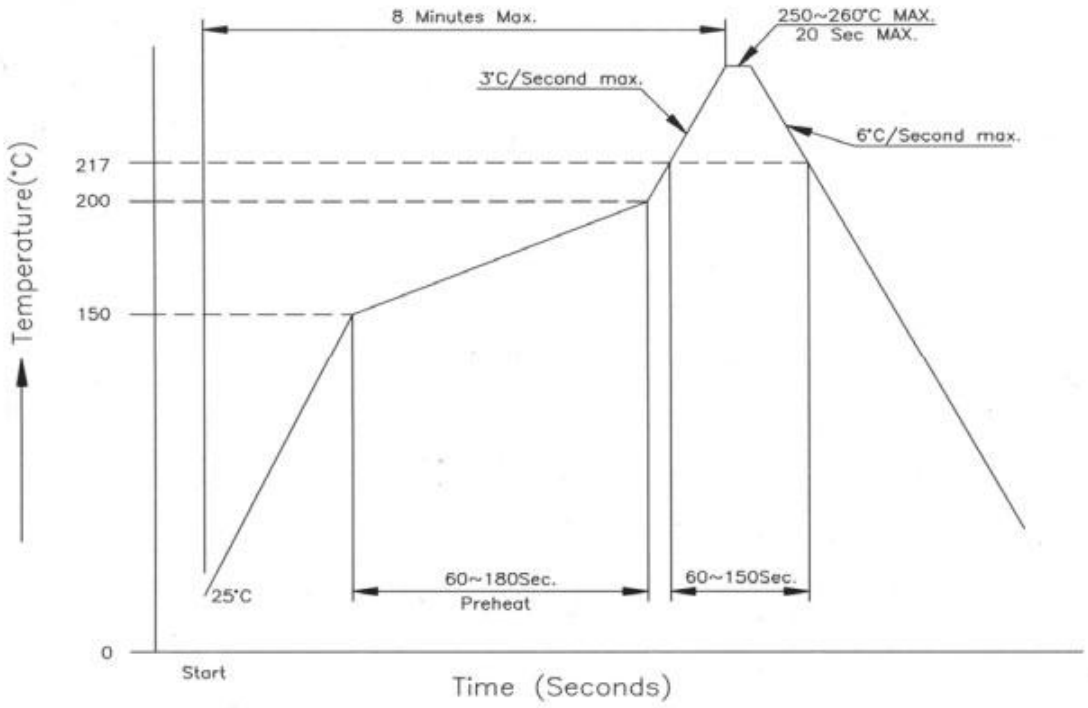
## 8. Environmental Performance

| Serial No. | Item | Test Method | Technical Requirements |
|---|---|---|---|
| 8.1 | Heat Resistance | Mate connector exposed to the condition of 85±2℃) for 96 hours, recovery time 1~2 hours | Appearance: No damage; Contact Resistance ≤40mΩ; |
| 8.2 | Temperature Rise | Mate connector measure the temperature rise of contact when the maximum rated current is passed | △30℃ Max |
| 8.3 | Humidity | Mated connector exposed to 40±2℃, 90~95% Humidity for 96 hours, recovery time 1~2 hours | Appearance: No damage; Contact Resistance ≤40mΩ; Insulation Resistance ≥50MΩ; No breakdown and arcing |
| 8.4 | Temperature Cycling | Thermal shock test: -25±3℃ 30min → Room temp 10-15min → 85±3℃ 30min → Room temp 10-15min, total 5 cycles | |
| 8.5 | Salt Spray | Sample suspended, 5±1% NaCl mist at 35±2℃ for 24h, rinsed with distilled water, recovery 1~2h | Appearance: No damage; Contact Resistance ≤40mΩ |

| | | | |
|---|---|---|---|
| 8.6 | Solderability | Soldering test: Solder Temperature 245±5℃, Immersion period 3±0.5S | Area of Soldering ≥95% |
| 8.7 | Resistance to Soldering Heat | 1.Manual soldering ： (350±5)℃ for (3±0.5) seconds; Soldering time: 20 S Max ; Soldering pot: 255±5℃; Please refer to the 9.1 solder reflow temperature curve | Appearance: No damage |

## 9. Reflow Temperature Curve

9.1 SMT Lead-Free Process Temperature Curve




Note: The above parameters are for the curve diagram; actual calibration shall be combined with production equipment.