Product specification

1. Scope

This specification applies to the Pitch 1.25mm dual-row series connectors, specifying the product's performance indicators, test methods and test requirements.

Applicable Product Models: FWF12522/FWF12523/FHG12510/FT12511 series

2. Applicable Standards

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.

3. Parameter Range

Parameter Name	Value & Unit
Rated Current	1.0A AC /DC
Rated Voltage	150V AC/DC
Operating Temperature Range	-40 ℃ ~+105 ℃ (FHG12510: -25 ℃ ~+85 ℃)
Applicable Wire Gauge	26 AWG~32 AWG

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)	Natural
	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 25.4±3mm along the write direction are pulled out from the hole in the seat capacity	Retention Force≥8N
6.3	Retention Force for Pin	Exerts a force on the pin end at a rate per Minute 25.4±3mm until the needle exit Seat pull-out force	Retention Force ≥5N
6.4	Terminal crimping Wire strength	Fix the crimped terminal, apply axial pull out force on thewire	26AWG: ≥20N; 28AWG: ≥13N; 30AWG: ≥8N; 32AWG: ≥6N;
6.5	Insertion and Extraction Force for Connector	Apply Axial Insert and withdraw force on the contact in the housing at a rate of 25.4±3 mm/min	Refer to the attachment
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 ≤30mΩ
6.7	Durability	30 cycles mating and unmating test at the speed 10 cycles per minute	Appearance: No damage; Contact Resistance ≤30mΩ

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	Initial ⩽20mΩ; Final ⩽30mΩ

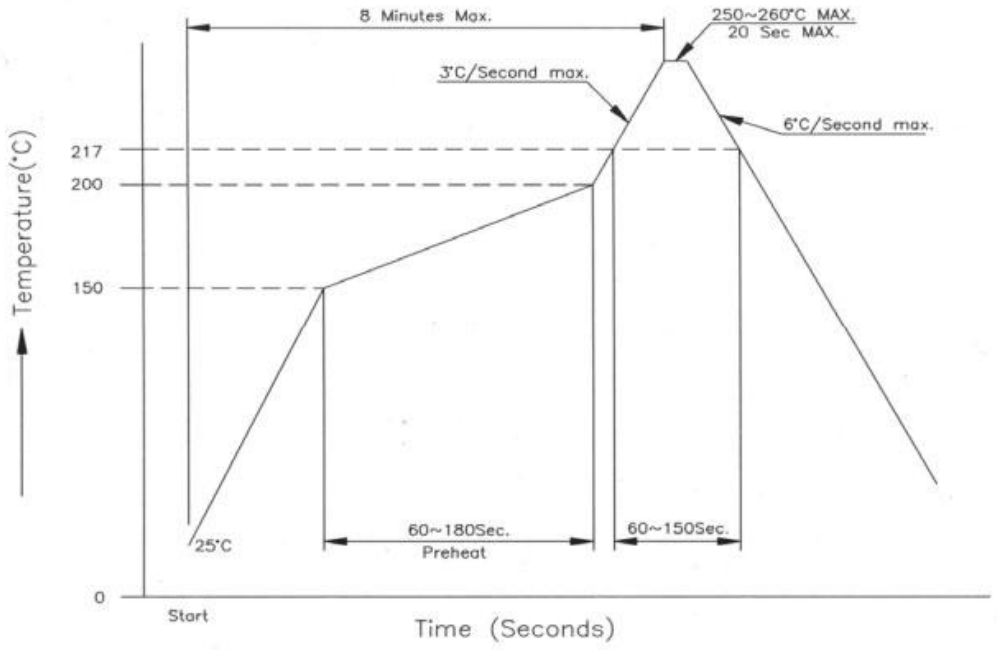
7.2	Insulation Resistance	Apply a voltage of 500V DC between adjacent contacts and between contacts to ground	Insulation Resistance ⩾500MΩ
7.3	Withstand Voltage	Apply a voltage of AC 500 V for 1 minute between adjacent contacts and between contacts to ground	No breakdown and arcing

8. Environmental Performance

Serial No.	Item	Test Method	Technical Requirements
8.1	Heat Resistance	105±2℃(FHG12510 85±2℃) for 96 hours, recovery time 1~2 hours	Appearance: No damage; Contact Resistance ≤30mΩ;
8.2	Cold Resistance	-40±2℃(FHG12510 -25±2℃) for 96 hours, recovery time 1~2 hours	
8.3	Temperature Cycling	-40±2℃(FHG12510-25±2℃)30min→105±2℃ (FHG12510 85±2℃)30min, total 5 cycles	
8.4	Salt Spray	Sample suspended, 5±1% NaCl mist at 35±2℃ for 24h	
8.5	Temperature Rise	Mate connector measure the temperature rise of contact when the maximum rated current is passed	△30℃ Max
8.6	Humidity	Mated connector exposed to 60±2℃, 90~95% Humidity for 96 hours, recovery time 1~2 hours	Appearance: No damage; Contact Resistance ≤30mΩ; Insulation Resistance ≥500MΩ; No breakdown and arcing
8.7	Solderability	Soldering test: Solder Temperature 245±5℃, Immersion period 3~5S	Area of Soldering ≥95%
8.8	Resistance to Soldering Heat	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.

6.5 Appendix: Insertion and Extraction Force of Finished Product

Circuits (n)	At Initial		At 30th
	Force (N) Max	Force (N) Min	Force (N) Min
2	20	5.0	4.0
3	25	5.5	4.4
4	30	6.0	4.8
5	35	6.5	5.2
6	40	7.0	5.6
7	45	7.5	6.0
8	50	8.0	6.4
9	55	8.5	6.8
10	60	9.0	7.2
11	65	9.5	7.6
12	70	10.0	8.0
13	75	10.5	8.4
14	80	11.0	8.8
15	85	11.5	9.2
16	90	12.0	9.6