Product specification

1. Scope

This specification applies to the Pitch 2mm series connectors, specifying the product's performance indicators, test methods and test requirements.

Applicable Product Models: FAH20003/FAH20004/-FAH20005/FAH20006/FAT20002/FAT20003 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. Materials

Component		Material Specification	Color
Male Housing	Housing	PBT (UL94V-0)	White or Black
	Inner Housing	PBT (UL94V-0)	Orange
	Inner/Wire Seal	Rubber Silicone	Blue
Female Housing	Housing	LCP (UL94V-0)	White or Black
Male Terminal		Copper Alloy (Tin Plated)	-
Female Terminal		Copper Alloy (Tin Plated)	-

4. Appearance and Dimensions

4.1 Appearance：The product surface shall be free from defects, dirt, cracks and mechanical damage. Contacts shall be free from rust, oxidation or plating peeling.

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

4.3 Exchangeable: Exchangeable with same specification products.

5. Parameter Range

Parameter Name	Value & Unit
Rated Current	3A AC/DC
Rated Voltage	100V AC/DC
Operating Temperature Range	-25 ℃ ~+85 ℃
Applicable Wire Gauge	26AWG~22AWG O.D Ø1.4~Ø1.7mm

6. Test Requirements and Procedures Summary

Serial No.	Item	Test Method	Technical Requirements
1	Examination of Product	Visual inspection	Meet the drawing requirements. No damage or abnormality in visual appearance
Electrical Requirement			
2	Dielectric Withstanding Voltage	Mated connectors: apply 1000 V AC between adjacent terminals and between terminals to ground.	No flashover.No insulation breakdown; leakage current ＜ 5 mA.
3	Contact Resistance	A maximum voltage of 20 mV and a maximum current of 10 mA shall be applied to the mate connector; wire resistance is not included.	Initial ≤5mΩ After tests ≤10mΩ
4	Insulation Resistance	Apply 500V DC(rms)for 1 minute between adjacent contacts to measure the insulation resistance	Initial ≥800MΩ After tests ≥100MΩ

5	Temperature Rise	Mate connectors: Measure the temperature rise at rated current. (Wire to be used AWG #22,Test current: 3A)	△30℃ Max
Mechanical Characteristics			
6	Connector Mate and Unmate Forces	Mate and unmate connector (male to female) at a rate of 1 to 5 mm/s.	See Fig. 1
7	Crimp Terminal Insertion Force	The load required to insert a crimped receptacle contact and a crimped tab contact into the housings shall be measured.(Testing speed: 1 to 5 mm/s.)	Insertion Force≤10N
8	Crimp Terminal Retention Force (in Housing)	Axial pullout force on the terminal in the housing at a rate of 1 to 5 mm/s.	Retention Force≥30N
9	Wire Pullout Force (Axial) (Wire from Terminal)	Apply an axial pullout force on the wire at a rate of 25±6mm per minute.	22 AWG = 50 N (Min.) 24 AWG = 30 N (Min.) 26 AWG= 20 N (Min.)
10	Locking strength	Full mate and then Unmate the connectors at a rate of 25±6 mm per minute	40 N (Min.)
11	Durability	Mate connectors up to 30 cycles at a maximum rate of 10 cycles per minute	Contact Resistance≤10mΩ；
Environmental Performance			
12	Random Vibration	Mated connectors subjected to vibration conditions: 10~55~10Hz, amplitude 1.52mm, 2h per axis, current applied	Appearance: No damage; Current Discontinuity ≤1μs; Contact Resistance≤10mΩ；

13	Thermal Aging	Mate connectors（Tin-Plated）:Expose for 250 hours at 85℃ + 2℃.	Appearance: No damage; Contact Resistance≤10mΩ;
14	Thermal shock	1 cycle consists of. -55℃±3℃ for 30 minutes +85℃±2℃ for 30 minutes Total cycles: 25 cycles	Appearance: No damage; Contact resistance≤10mΩ; Insulation resistance≥100MΩ; No flashover, no insulation breakdown;
15	Humidity Temperature Cycle	Temperature 40℃±2℃, relative humidity 90~95% for 240 h; after the test.	
16	Cold Resistance	Mate connectors Duration: 250 hours Temperature:-40°C + 3°C	Appearance: No damage; Contact Resistance≤10mΩ;
17	Salt Spray	Salt concentration: 5%, temperature: 35℃±2℃, test time: 48±2h; after the test, rinse residual salt with clean water, wipe dry before measurement	Contact resistance≤10mΩ;
18	Leak Test	A mated connector shall be connected to polyvinyl chloride tube. Lt shall be put in the water of 200mm depth and compressed air of 48 kilopascals shall be sent for 60 seconds. Air leakage shall be checked (Air leakage= Visual inspection for the occurrence of air bubbles)	No air bubbles emerge from the water.

Circuit	At Initial		At 30th	Circuit	At Initial		At 30th
	Insertion Force (Max)	Withdrawal Force (Max)			Insertion Force (Max)	Withdrawal Force (Max)	
2	16N	2N	2N	6	48N	6N	6N
3	24N	3N	3N	8	64N	8N	8N
4	32N	4N	4N				

Fig.1