CJTconn 長江連接器有限公司 CHANGJIANG CONNECTORS CO.,LTD.

PRODUCT SPECIFICATION

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			APPROVED	CHECKED	WRITTEN
			BY	BY	BY
			Jack Yin	***Diankui Wan***	***Dengchun Yi***
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1.SCOPE:

This specification covers the requirements for product performance of 2.00 mm pitch wire to wire or wire to board water proof connector series.

2.PART NAME & PART NUMBERS

Part name	Part number
Housing	A2009HFA A2009HMA
Terminal	A2009F-T-A A2009M-T-A
Wafer	A2009WVA

3. CONSTRUCTION. DIMENSIONS . MATERIAL & SURFACE FINISH

Construction and dimensions shall be in accordance with the referenced drawings.
Material and surface finish shall be as specified below.

Part name	Material		Surface finish
Housing	Body	PBT	UL94V-0
	Seal Ring	Silicone rubber	/
Terminal	Phosphor bronze		Tin over Nickel/Gold over Nickel
Wafer	Post	Brass	Tin over Nickel
	Body	PBT	UL94V-0

4. RATINGS & APPLICABLE WIRES

Item	Standard		
Rated Voltage (Max.)	100V AC DC		Insulation O.D. 1.40~1.70mm
Rated Current (Max.) and Applicable Wires	AWG #22	3.0A AC DC	
	AWG #24	2.0A AC DC	
	AWG #26	1.0A AC DC	
Ambient Temperature Range	-55℃~85℃*		

*: Including terMinal temperature rise

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5. CONDITIONS：

The conditions shall be in accordance with the referenced data of next table.

Number	Item	Requirement
(1)	Bend up	3°Max.
	Bend down	3°Max.
	Twisting	3°Max.
	Rolling	5°Max.
(2)	Bell mouth (flare)	0.15-0.50 mm
(3)	Cut-off tab length	0.2 mm Max.
(4)	Extruded wire length	0.3-0.7 mm
(5)	Seam	Seam shall not be opened and no wire allowed out of crimping area
(6)	Wire strip length	3.6-3.8 mm ref.
(7)	Lance height	0.3 mm ref.

After crimping，the crimped areas [(5)、(6)] should be as follows.

Wire Size (AWG)	Terminal Part Number	Conductor(mm)		Insulation(mm)		Crimp Strength (kgf)
		Crimp Width	Crimp Height	Crimp Width	Crimp Height	
#22	A2009F-T-A A2009M-T-A	1.0±0.15	0.92±0.05	1.40(Max)	2.00(Max.)	3.63(Min.)
#24			0.85±0.05		1.90(Max.)	2.27(Min.)
#26			0.80±0.05		1.80(Max.)	1.37(Min.)

6. PERFORMANCE

6.1 ELECTRICAL PERFORMANCE

Test Description		Procedure	Requirement
6-1-1	Contact Resistance	Mate connectors, measure by dry circuit, 20mV Max. 10mA. (Based upon JIS C5402 5.4)	10mΩ Max.
6-1-2	Insulation Resistance	Mate connectors, apply 500V DC between adjacent terminal or ground. (Based upon JIS C5402 5.2/MIL-STD-202 Method 302 Cond. B)	1000MΩ Min.
6-1-3	Dielectric Withstanding Voltage	Mate connectors, apply 1000V AC (rms) for 1 minute between adjacent terminal or ground. (Based upon JIS C5402 5.1/MIL-STD-202 Method 301)	No Breakdown
6-1-4	Contact Resistance on Crimped Portion	Crimp the applicable wire to the terMinal, measured by dry circuit, 20mV Max, 10 mA Max.	5mΩ Max.

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6.2 MECHANICAL PERFORMANCE

Test Description		Procedure		Requirement
6-2-1	Insertion & Withdrawal Force	Insert and withdraw connectors at the speed rate of 25.4 ± 3mm/minute. releasing the housing lock.		Mating Force: 1.6kgf Max. Unmating Force: 0.1kgf Min.
6-2-2	Crimping Pull Out Force	Fix the crimped terminal, apply axial pull out force on the wire at the speed rate of 25.4 ± 3mm/minute. (Based upon JIS C5402 6.8)	AWG #22	3.63kgf Min.
			AWG #24	2.27kgf Min.
			AWG #26	1.37kgf Min.
6-2-3	Terminal/Housing Retention Force	Apply axial pull out force at the speed rate of 25.4 ± 3mm/minute on the terminal assembled in the housing.		3.0kgf Min.
6-2-4	Locking Retention Force	Load shall be applied to a mated receptacle assembly and a tab housing assembly. The load required to separate the locking section from the housings shall be measure at a speed of 25.4±3mm/minute.		4.0kgf Min.
6-2-5	Crimp Terminal Insertion Force into Housing	Insert the terminal crimp wire into the housing at a speed of 25.4±3mm/minute.		1.0kgf Max.
6-2-6	Durability	When mated up to 30 cycles repeatedly by the rate of 10 cycles per minute.	Contact Resistance	20mΩ Max.
6-2-7	Vibration	Amplitude: 1.52mm P-P Sweep time: 10-55-10 Hz in 1 minute Duration: 2 hours in each X.Y.Z. axes (Based upon MIL-STD-202 Method 201A)	Appearance	No Damage
			Contact Resistance	20mΩ Max.
			Discontinuity	1μsec. Max.
6-2-8	Physical Shock	490m/s² {50G}, 3 strokes in each X.Y.Z. axes. (Based upon JIS C0041/MIL-STD-202 Method 213B Cond. A)	Appearance	No Damage
			Contact Resistance	20mΩ Max.
			Discontinuity	1μsec. Max.

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6.3 ENVIRONMENTAL PERFORMANCE AND OTHERS

Test Description		Procedure		Requirement
6-3-1	Temperature Rise	Carrying rated current load. (Based upon UL 498)	Temperature Rise	30°C Max.
6-3-2	Heat Resistance	85 ± 2°C, 96 hours (Based upon JIS C0021/MIL-STD-202 Method 108A Cond. A)	Appearance	No Damage
			Contact Resistance	20mΩ Max.
6-3-3	Humidity	Temperature: 40 ± 2°C Relative Humidity: 90 ~ 95% Duration: 96 hours (Based upon JIS C0022/MIL-STD-202 Method 103B Cond. B)	Appearance	No Damage
			Contact Resistance	20mΩ Max.
			Insulation Resistance	500MΩ Min.
			Dielectric Withstandin	Must meet 6-1-3
6-3-4	Temperature Cycling	25 cycles of: a) - 55°C 30 minutes b) +85°C 30 minutes (Based upon JIS C0025)	Appearance	No Damage
			Contact Resistance	20mΩ Max.
6-3-5	Salt Spray	24 hours exposure to a salt spray from the 5 % solution at 35 ± 2°C. (Based upon JIS C0023/MIL-STD-202 Method 101D Cond. B)	Appearance	No Damage
			Contact Resistance	20mΩ Max.
6-3-6	SO_2 Gas	24 hours exposure to 50 ± 5ppm. SO_2 gas at 40 ± 2°C.	Appearance	No Damage
			Contact Resistance	20mΩ Max.
6-3-7	NH_3 Gas	40 Minutes exposure to NH3 gas evaporating from 28% Ammonia solution.	Appearance	No Damage
			Contact Resistance	20mΩ Max.
6-3-8	Solderability	Soldering Time: 3~5 sec. Solder Temperature: 240 ± 5°C	Solder Wetting	95% of immersed area must show no voids, pin holes
6-3-9	Waterproof grade	Mated connectors shall be immersed for 30 minutes in water of 1000mm in depth. After that, invasion of water shall be checked. The end of wires shall be waterproofed.		Water shall not invade. Waterproof Test-IPX7.