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

PRODUCT SPECIFICATION

PRODUCT SERIES NAME：A2005 SERIES

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			APPROVED	CHECKED	WRITTEN
A3	REVISE	2022.11.29	BY	BY	BY
A2	REVISE	2022.08.04	***Jack Yin***	***Lailin***	***Haisen Li***
A1	REVISE	2019.03.04			
A0	NEW RELEASE	2012.09.01			
REV.	DESCRIPTION	DATE	DOCUMENT NO: PS-2005-002		

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1.SCOPE:

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

2.PART NAME & PART NUMBERS

Part name	Part number
Housing	A2005H A2005HB
Terminal	A2005-T A2005-T-B
Wafer	A2005WV A2005WR A2005WV-N A2005WR-N A2005WVD-F

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		PBT/Nylon 66	UL94V-0
Terminal		Phosphor bronze	Gold over Nickel/Tin over Nickel
Wafer	Post	Brass	Gold over Nickel/Tin over Nickel
	Body	PBT/Nylon 6T/Nylon 9T/LCP	UL94V-0

4. RATINGS & APPLICABLE WIRES

Item	Standard		
Rated Voltage (max.)	250V AC DC		Insulation O.D. 1.40mm (max.)
Rated Current (max.) and Applicable Wires	AWG #26	2.0A AC DC	
	AWG #28	1.5A AC DC	
	AWG #30	1.2A AC DC	
Ambient Temperature Range	-40℃~105℃*		

*: Including terminal temperature rise

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5. CONDITIONS：

The conditions shall be in accordance with the referenced drawing of next page.

Number	Item	Requirement
(1)	Bend up	4°max.
	Bend down	4°max.
	Twisting	3°max.
	Rolling	8°max.
(2)	Bell mouth (flare)	0.2-0.5 mm
(3)	Cut-off tab length	0.2 mm max.
(4)	Extruded wire length	0-0.5 mm
(5)	Seam	Seam shall not be opened and no wire allowed out of crimping area
(6)	Wire strip length	1.2-1.7 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 (Kg)
		Crimp Width	Crimp Height	Crimp Width	Crimp Height	
#26	A2005-T A2005-T-B	1.35±0.15	0.75~0.83	1.45(MAX)	1.50(max)	1.80(min)
#28			0.70~0.78		1.30(max)	1.50(min)
#30			0.65~0.73		1.20(max)	1.30(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)	20mΩ 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 500V AC (rms) for 1 minute between adjacent terminal or ground. (Based upon JIS C5402 5.1/MIL-STD-202 Method 301)	No Breakdown

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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 ± 3mm/minute.		Mating Force: 0.6kgf Max per circuit Unmating Force: 0.1 Kgf Min per circuit
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 ± 3mm/minute. (Based upon JIS C5402 6.8)	AWG #26	19.6N/2.0kgf MIN.
			AWG #28	9.8N/1.0kgf MIN.
			AWG #30	4.9N/0.5kgf MIN.
6-2-3	Terminal/Housing Retention Force	Apply axial pull out force at the speed rate of 25 ± 3mm/minute on the terminal assembled in the housing.		1.2kgf min.
6-2-4	Pin Retention Force	Apply axial push force at the speed rate of 25 ± 3mm/minute.		1.2kgf min.
6-2-5	Durability	When mated up to 30 cycles repeatedly by the rate of 10 cycles per minute.	Contact Resistance	30mΩ max.
6-2-6	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	30mΩ max.
			Discontinuity	1μsec. max.
6-2-7	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	30mΩ 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)	Temperatur e Rise	30°C max.
6-3-2	Heat Resistance	105 ± 2°C, 96 hours (Based upon JIS C0021/MIL-STD-202 Method 108A Cond. A)	Appearance	No Damage
			Contact Resistance	30mΩ max.
6-3-3	Cold Resistance	-40 ± 3°C, 96 hours (Based upon JIS C0020)	Appearance	No Damage
			Contact Resistance	30mΩ max.
6-3-4	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	30mΩ max.
			Insulation Resistance	500MΩ min.
			Dielectric Withstandin	Must meet 6-1-3
6-3-5	Temperature Cycling	5 cycles of: a) - 55°C 30 minutes b) +85°C 30 minutes	Appearance	No Damage
			Contact Resistance	30mΩ max.
6-3-6	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	30mΩ max.
6-3-7	SO_2 Gas	24 hours exposure to 50 ± 5ppm. SO_2 gas at 40 ± 2°C.	Appearance	No Damage
			Contact Resistance	30mΩ max.
6-3-8	NH_3 Gas	40 minutes exposure to NH_3 gas evaporating from 28% Ammonia solution.	Appearance	No Damage
			Contact Resistance	30mΩ max.
6-3-9	Solderability	Soldering Time: 3~5 sec. Solder Temperature: 240 ± 5°C	Solder Wetting	95% of immersed area must show no voids, pin holes
6-3-10	Resistance to Soldering Heat	Normal materials Soldering Time: 3~5 sec. Solder Temperature: 250 ± 5°C High temperature resistant materials Soldering Time:3~5 sec. Solder Temperature: 260 ± 5°C	Appearance	No Damage