PRODUCT SPECIFICATION

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			APPROVED	CHECKED	WRITTEN
A3	REVISE	2023.06.30	BY	BY	BY
A2	REVISE	2023.04.03	***Jack Yin***	***Lailin***	***Haisen Li***
A1	REVISE	2019.11.22			
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REV.	DESCRIPTION	DATE	DOCUMENT NO: PS-A2008-004		

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1.SCOPE:

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

2.PART NAME & PART NUMBERS

Part name	Part number
Housing	A2008H A2008HM
Terminal	A2008-T(-H) A2008-T-A(-H)
Wafer	A2008WV A2008WR A2008WV-S A2008WR-S

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		Nylon 66	UL94V-0
Terminal		Phosphor bronze	Gold over Nickel/Tin over Nicke
Wafer	Post	Brass	Gold over Nickel/Tin over Nicke
	Body	Nylon 46/Nylon 66/Nylon 6T/Nylon 9T/LCP	UL94V-0

4. RATINGS & APPLICABLE WIRES

Item	Standard		
Rated Voltage (max.)	250V AC DC		Insulation O.D. 1.45mm (max.)
Rated Current (max.) and Applicable Wires	AWG #22	3.0A AC DC (W-B 2-circuit)	
	AWG #24	3.0A AC DC (W-B 2-circuit)	
	AWG #26	1.8A AC DC (W-B 2-circuit)	
	AWG #28	1.2A AC DC (W-B 2-circuit)	
	AWG #30	0.5A AC DC (W-B 2-circuit)	
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	
#22	A2008-T A2008-T-A A2008-T-H A2008-T-A-H	1.30±0.10	0.72~0.81	1.65(MAX)	1.75(max)	4.00(min)
#24			0.70~0.75		1.70(max)	3.00(min)
#26			0.65~0.72		1.60(max)	1.80(min)
#28			0.60~0.65		1.50(max)	1.00(min)
#30			0.60~0.62		1.40(max)	0.70(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)	30mΩ 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

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6.2 MECHANICAL PERFORMANCE

Test Description		Procedure		Requirement
6-2-1	Insertion & Withdrawal Force (Wire to Board & Wire to Wire)	Insert and withdraw connectors at the speed rate of 25 ± 3mm/minute.		Mating Force: 0.6kgf Max per circuit Unmating Force: 0.06 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 #22	39.2N/4.0kgf MIN.
			AWG #24	29.4N/3.0kgf MIN.
			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		1.2kgf min.
6-2-4	Locking Strength	A socket housing and a header (A plug housing and receptacle housing) shall be mated. A load shall be applied between them.The load to come them off etch other shall be measured. Testing speed: 25 ± 3mm/minute.		2.0kgf min.
6-2-5	Pin Retention Force	Apply axial push force at the speed rate of 25 ± 3mm/minute.		1.2kgf min.
6-2-6	Durability	When mated up to 30 cycles repeatedly	Contact Resistance	40mΩ 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	40mΩ 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	40mΩ 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	105 ± 2°C, 96 hours (Based upon JIS C0021/MIL-STD-202 Method 108A Cond. A)	Appearance	No Damage
			Contact Resistance	40mΩ max.
6-3-3	Cold Resistance	-40 ± 3°C, 96 hours (Based upon JIS C0020)	Appearance	No Damage
			Contact Resistance	40mΩ 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	40mΩ max.
			Insulation Resistance	100MΩ 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	40mΩ 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	40mΩ 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	40mΩ max.
6-3-8	NH_3 Gas	40 minutes exposure to NH_3 gas evaporating from 28% Ammonia solution.	Appearance	No Damage
			Contact Resistance	40mΩ 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