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

PRODUCT SPECIFICATION

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REV.	DESCRIPTION	DATE	DOCUMENT NO: PS-A2508-002		
A6	Added A2508-T-A	2023.07.21			
A5	MODIFY REV	2022.03.04	APPROVED	CHECKED	WRITTEN
A4	Modify "5.1"	2021.11.16	BY	BY	BY
A3	Modify "5" "7"	2019.08.08	*Jack Yin*	*Diankui Wan*	*Dengchun Yi*
A2	Modify "5"	2013.08.16			
A1	Modify "5"	2012.12.04			
A0	NEW RELEASE	2007.07.26			

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1.SCOPE:

This specification covers the requirements for product performance of 2.50 mm pitch wire to wire or wire to board connector series.

2.PART NAME & PART NUMBERS

Part name	Part number
Housing	A2508H/HA A2508HM/HMA
TPA	A2508SA
Terminal	A2508-T(-L/-H) A2508M-T A2508-T-A
Wafer	A2508WV/WR A2508WVA/WVT

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	Tin over Nickel/Gold over Nickel
Wafer	Post	Brass	Tin over Nickel/Gold over Nickel
	Body	Nylon 66/Nylon 9T	UL94V-0

4. RATINGS & APPLICABLE WIRES

Item	Standard		
Rated Voltage (Max.)	250V AC DC		Insulation O.D. 1.20~1.90mm.
Rated Current (Max.) and Applicable Wires	AWG #20	3A AC DC	
	AWG #22	3A AC DC	
	AWG #24	2.5A AC DC	
	AWG #26	2.0A AC DC	
	AWG #28	1.5A 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 data of next table.

Number	Item	Requirement
(1)	Bend up	3°Max.
	Bend down	3°Max.
	Twisting	4°Max.
	Rolling	5°Max.
(2)	Bell mouth (flare)	0.1-0.3 mm
(3)	Cut-off tab length	0.3 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	2.20 mm ref.
(7)	Lance height	0.5 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	
#20	A2508-T-H	1.40	0.85~0.95	1.90(Max)	2.0	5.00(Min.)
#22			0.75~0.85		1.9	4.00(Min.)
#24			0.70~0.80		1.8	3.00(Min.)
#22	A2508-T A2508-T-L A2508M-T		0.70~0.80		1.9	4.00(Min.)
#24			0.65~0.75		1.8	3.00(Min.)
#26			0.60~0.70		1.7	2.00(Min.)
#28			0.57~0.62		1.7	1.00(Min.)

Crimp width at the conductor part & crimp height at the insulation part is a reference value when UL1007 is used.

Note: When using the retainer, crimp height of the insulation part is 1.9mm at the maximum.

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

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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.		Refer to section 7
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 #20	50N/5kgf Min.
			AWG #22	40N/4kgf Min.
			AWG #24	30N/3kgf Min.
			AWG #26	20N/2kgf Min.
			AWG #28	10N/1kgf Min.
6-2-3	Crimp Terminal Insertion Force	Insert the crimped terminal into the housing. Testing speed: 25 ± 3mm/minute.		0.82kgf Max.
6-2-4	Terminal/Housing Retention Force	Apply axial pull out force at the speed rate of 25 ± 3mm/minute on the terminal assembled in the		1.5kgf Min.
6-2-5	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.		3.0kgf Min.
6-2-6	Header Terminal Retention Force	Apply axial push force at the speed rate of 25 ± 3mm/minute.		1.0kgf Min.
6-2-7	Durability	When mated up to 30 cycles repeatedly	Contact Resistance	20mΩ Max.
6-2-8	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 JIS C 60068-2-6/MIL-STD-202 Method 201)	Appearance	No Damage
			Contact Resistance	20mΩ Max.
			Discontinuity	1μsec. Max.
6-2-9	Physical Shock	Mate connectors and shock at 50 g's with ½ sine wave (11 milliseconds) shocks in the ±X,±Y,±Z axes (18 shocks total).	Appearance	N/A
			Contact Resistance	
			Discontinuity	

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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, 250 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 Withstanding Voltage	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 MIL-STD-202 Method 107 Cond. A-1)	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	Hydrogen Sulfide Gas	Concentration: 3 ± 1ppm. Temperature: 40 ± 2°C Relative Humidity: 80±5% 96 hours	Appearance	No Damage
			Contact Resistance	20mΩ Max.
6-3-7	NH_3 Gas	Ammonia solution: 3% Solution volume: 25ml / L Period: 7 hours.	Appearance	No Damage
			Contact Resistance	20mΩ Max.
6-3-8	Solderability	Soldering Time: 3~5 sec. Solder Temperature: 245 ± 5°C	Solder Wetting	95% of immersed area must show no voids, pin holes
6-3-9	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

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7. INSERTION AND WITHDRAWAL FORCE

unit: N

Number of Circuits (Single Row)	Insertion (Max.)	Withdrawal (Min.)	
	1 th	1 th	30 th
2P	20.0	1.0	0.8
3P	25.0	1.5	1.0
4P	30.0	2.0	1.0
5P	35.0	2.5	1.5
6P	40.0	3.0	2.0
7P	45.0	3.5	2.5
8P	50.0	4.0	3.0
9P	55.0	4.5	3.5
10P	60.0	5.0	4.0
11P	65.0	5.5	4.5
12P	70.0	6.0	5.0
13P	75.0	6.5	5.5
14P	80.0	7.0	6.0
15P	85.0	7.5	6.5
Number of Circuits (Dual Row)	Insertion (Max.)	Withdrawal (Min.)	
	1 th	1 th	30 th
2x4P	46.0	2.0	1.0
2x5P	50.0	5.0	2.0
2x6P	54.0	7.0	4.0
2x7P	58.0	10.0	6.0
2x8P	62.0	12.0	8.0
2x9P	66.0	15.0	10.0
2x10P	70.0	17.0	12.0
2x11P	74.0	20.0	14.0
2x12P	78.0	22.0	16.0
2x13P	82.0	25.0	18.0
2x14P	86.0	27.0	20.0
2x15P	90.0	30.0	22.0
2x16P	94.0	32.0	24.0
2x17P	98.0	35.0	26.0
2x18P	102.0	37.0	28.0
2x19P	106.0	40.0	30.0
2x20P	110.0	42.0	32.0