PRODUCT SPECIFICATION

PRODUCT SERIES NAME：A2508-C SERIES | PAGE： 1/6

Index

			APPROVED BY	CHECKED BY	WRITTEN BY
A1	REVISE	2022.08.01	*Jack Yin*	*Diankui Wan*	*Haisen Li*
A0	NEW RELEASE	2020.06.10			
REV.	DESCRIPTION	DATE	DOCUMENT NO: PS-A2508-C-002		

PRODUCT SPECIFICATION

PRODUCT SERIES NAME：A2508-C SERIES

1.SCOPE:

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

2.PART NAME & PART NUMBERS

Part name	Part number
Housing	A2508HC
Terminal	A2508-T-C(-H)
Wafer	A2508WVC A2508WRC

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 Nicke
Wafer	Base	Nylon 9T	UL94V-0
	Pin	Brass	Tin over Nickel/Gold over Nicke

4. RATINGS & APPLICABLE WIRES

Item	Standard		
Rated Voltage (Max)	250V AC DC		Insulation O.D.
Rated Current (Max) and Applicable Wires	AWG #20	5.0A AC, DC	1.50~1.80mm
	AWG #22	4.5A AC, DC	
	AWG #24	4.0A AC, DC	1.28~1.42mm
	AWG #26	3.5A AC, DC	
Ambient Temperature Range	-40°C ~ +105°C*		

*: Including terminal temperature rise

PRODUCT SPECIFICATION

PRODUCT SERIES NAME：A2508-C SERIES

5. CONDITIONS：

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

Number	Item	Requirement
(1)	Bend up	3°max.
	Bend down	3°max.
	Twisting	3°max.
	Rolling	6°max.
(2)	Bell mouth (flare)	0.05-0.4mm
(3)	Cut-off tab length	0.2 mm max.
(4)	Extruded wire length	0-0.80mm
(5)	Seam	Seam shall not be opened and no wire allowed out of crimping area
(6)	Wire strip length	2.3-2.8 mm ref.
(7)	Lance height	/

5.1 Crimp width、crimp height & crimp strength

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-C A2508-T-C-H	1.40	0.90~0.98	1.90	1.90~2.00	5.00(Min.)
#22			0.81~0.86			4.00(Min.)
#24		0.90	0.65~0.70		1.86~1.90	3.00(Min.)
#26			0.60~0.65		1.81~1.85	2.00(Min.)

The crimp width at the conductor part & crimp height at the insulation part is a reference value, so adjust it according to a wire to be used。

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 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.

PRODUCT SPECIFICATION

PRODUCT SERIES NAME： A2508-C SERIES

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	49.0N/5.0kgf Min.
			AWG #22	39.2N/4.0kgf Min.
			AWG #24	29.4N/3.0kgf Min.
			AWG #26	19.6N/2.0kgf Min.
6-2-3	Locking Strength	A socket housing and a header 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.		2P:2.0kgf Min. 3P~15P:3.0kgf Min.
6-2-4	Crimp Terminal Insertion Force	Insert the crimped terminal into the housing. Testing speed: 25 ± 3mm/minute.		1.0kgf Max.
6-2-5	Terminal/Housing Retention Force	Apply axial pull out force at the speed rate of 25 ± 3mm/minute on the terminal assembled in the housing.		1.5kgf Min.
6-2-6	Header Terminal Retention Force	Apply axial push force at the speed rate of 25 ± 3mm/minute.		1.5kgf Min.
6-2-7	Retainer Insertion Force	Apply axial push force at the speed rate of 25 ± 3mm/minute.		0.5kgf Min.
6-2-8	Durability	When mated up to 30 cycles repeatedly by the rate of 10 cycles per minute.	Contact Resistance	40mΩ Max.
6-2-9	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	40mΩ Max.
			Discontinuity	1μsec. Max.
6-2-10	Physical Shock	Mate connectors and shock at 490m/s² {50G}'s with ½ sine wave (11 milliseconds) shocks in the ±X,±Y,±Z axes (18 shocks total).	Appearance	No Damage
			Contact Resistance	40mΩ Max.
			Discontinuity	1μsec. Max.

PRODUCT SPECIFICATION

PRODUCT SERIES NAME： A2508-C SERIES

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 C60068-2-2 / MIL-STD-202 Method 108)	Appearance	No Damage
			Contact Resistance	40mΩ Max.
6-3-3	Cold Resistance	-40 ± 3°C, 96 hours (Based upon JIS C60068-2-1)	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 Withstanding Voltage	Must meet 6-1-3
6-3-5	Temperature Cycling	5 cycles of: a) - 55°C 30 minutes b) +105°C 30 minutes Shift time : Within 5 minutes (Based upon JIS C60068-2-14)	Appearance	No Damage
			Contact Resistance	40mΩ Max.
6-3-6	Salt Spray	48 hours exposure to a salt spray from the 5 % solution at 35 ± 2°C. (Based upon JIS 60068-2-11 / MIL-STD-202 Method 101)	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	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	<u>High temperature resistant materials</u> Soldering Time:3~5 sec. Solder Temperature: 260 ± 5°C	Appearance	No Damage

PRODUCT SPECIFICATION

PRODUCT SERIES NAME：A2508-C SERIES

7. INSERTION FORCE (I.F.) & WITHDRAWAL FORCE (W.F.)

unit: kgf

Number of Circuits		Insertion (MAX.)			Withdrawal (MIN.)		
		1 th	6 th	30 th	1 th	6 th	30 th
Single Row	2	1.70	1.70	1.70	0.20	0.20	0.20
	3	2.25	2.25	2.25	0.30	0.30	0.30
	4	3.00	3.00	3.00	0.40	0.40	0.40
	5	3.75	3.75	3.75	0.50	0.50	0.50
	6	4.50	4.50	4.50	0.60	0.60	0.60
	7	5.25	5.25	5.25	0.70	0.70	0.70
	8	6.00	6.00	6.00	0.80	0.80	0.80
	9	6.75	6.75	6.75	0.90	0.90	0.90
	10	7.50	7.50	7.50	1.00	1.00	1.00
	11	8.25	8.25	8.25	1.10	1.10	1.10
	12	9.00	9.00	9.00	1.20	1.20	1.20
	13	9.75	9.75	9.75	1.30	1.30	1.30
	14	10.50	10.50	10.50	1.40	1.40	1.40
	15	11.25	11.25	11.25	1.50	1.50	1.50