PRODUCT SPECIFICATION

PRODUCT SERIES NAME: A1001 SERIES-SINGLE ROW SMT TYPE | PAGE: 1/4

1.SCOPE:

This specification covers the requirements for product performance of 1.00mm pitch wire to board connector series.

2.CONSTRUCTION、DIMENSIONS 、 MATERIAL & PLATING:

See the attached drawings

3.RATINGS & APPLICABLE WIRES:

Item	Standard		
Rated Voltage (max.)	50V AC, DC		Insulation O.D. 0.80mm (max.)
Rated Current (max.) and Applicable Wires	AWG #28	1A AC, DC	
	AWG #30	1A AC, DC	
	AWG #32	0.5A AC, DC	
Ambient Temperature Range	-25°C ~ +85°C*		

*: Including terminal temperature rise

4.PERFORMANCE:

4-1.ELECTRICAL PERFORMANCE

Test Description		Procedure	Requirement
4-1-1	Contact Resistance	Mate connectors, measure by dry circuit, 20mV max. 10mA. (Based upon JIS C5402 5.4)	20mΩ max.
4-1-2	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)	100MΩ min.
4-1-3	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
4-1-4	Contact Resistance on Crimped Portion	Crimp the applicable wire on to the terminal, measure by dry circuit, 20mV max., 10mA.	5mΩ max.

			APPROVED	CHECKED	WRITTEN
			BY	BY	BY
			唐飞	李强	周新宇
A1	REVISE	2007.06.26			
A0	NEW RELEASE	2006.08.15			
REV.	DESCRIPTION	DATE	DOCUMENT NO: PS-1001-001		

4-2.MECHANICAL PERFORMANCE

Test Description		Procedure		Requirement
4-2-1	Insertion & Withdrawal Force	Insert and withdraw connectors at the speed rate of 25 ± 3mm/minute.		Refer to paragraph 5
4-2-2	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 #28	1.0kgf min.
			AWG #30	0.8kgf min.
			AWG #32	0.5kgf min.
4-2-3	Terminal Insertion Force	Insert the crimped terminal into the housing.		0.5kgf max.
4-2-4	Terminal/ Housing Retention Force	Apply axial pull out force at the speed rate of 25 ± 3mm/minute on the terminal assembled in the housing.		0.5kgf min.
4-2-5	Pin Retention Force	Apply axial push force at the speed rate of 25 ± 3mm/minute.		0.5kgf min.
4-2-6	Durability	When mated up to 50 cycles repeatedly by the rate of 10 cycles per minute.	Contact Resistance	40mΩ max.
4-2-7	Vibration	Amplitude: 1.5mm 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.
4-2-8	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.

PRODUCT SPECIFICATION

4-3.ENVIRONMENTAL PERFORMANCE AND OTHERS

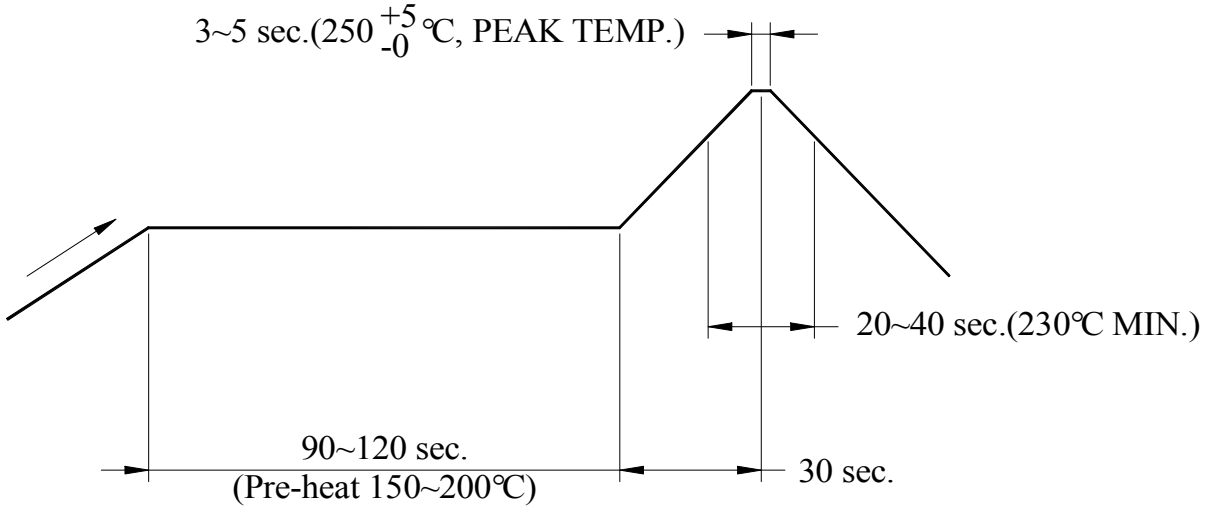
Test Description		Procedure		Requirement
4-3-1	Temperature Rise	Carrying rated current load. (Based upon UL 498)	Temperature Rise	30°C max.
4-3-2	Heat Resistance	85 ± 2°C, 96 hours (Based upon JIS C0021/MIL-STD-202 Method 108A Cond. A)	Appearance	No Damage
			Contact Resistance	40mΩ max.
4-3-3	Cold Resistance	-25 ± 3°C, 96 hours (Based upon JIS C0020)	Appearance	No Damage
			Contact Resistance	40mΩ max.
4-3-4	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	10MΩ min.
			Dielectric Withstanding Voltage	Must meet 4-1-3
4-3-5	Temperature Cycling	5 cycles of: a) - 55°C 30 minutes b) +85°C 30 minutes (Based upon JIS C0025)	Appearance	No Damage
			Contact Resistance	40mΩ max.
4-3-6	Salt Spray	24 ± 4 hours exposure to a salt spray from the 5 ± 1% solution at 35 ± 2°C. (Based upon JIS C0023/MIL-STD-202 Method 101D Cond. B)	Appearance	No Damage
			Contact Resistance	40mΩ max.
4-3-7	SO_2 Gas	24 hours exposure to 50 ± 5ppm. SO_2 gas at 40 ± 2°C.	Appearance	No Damage
			Contact Resistance	40mΩ max.
4-3-8	NH_3 Gas	40 minutes exposure to NH_3 gas evaporating from 28% Ammonia solution.	Appearance	No Damage
			Contact Resistance	40mΩ max.
4-3-9	Solderability	Soldering Time: 5 ± 0.5 sec. Solder Temperature: 245 ± 5°C	Solder Wetting	95% of immersed area must show no voids, pin holes
4-3-10	Resistance to Soldering Heat	<u>When reflowing</u> Refer to paragraph 6 <u>Solder iron method</u> Soldering Time: 5 ± 0.5 sec. Solder Temperature: 370°C ~ 400°C	Appearance	No Damage

PRODUCT SPECIFICATION

5.INSERTION/WITHDRAWAL FORCE:

No. of circuits	Insertion (kgf max.)	Withdrawal (kgf min.)	No. of circuits	Insertion (kgf max.)	Withdrawal (kgf min.)
Single	0.2	0.03	15	4.9	1.40
2	1.0	0.10	16	5.2	1.50
3	1.3	0.20	17	5.5	1.60
4	1.6	0.30	18	5.8	1.70
5	1.9	0.40	19	6.1	1.80
6	2.2	0.50	20	6.4	1.90
7	2.5	0.60			
8	2.8	0.70			
9	3.1	0.80			
10	3.4	0.90			
11	3.7	1.00			
12	4.0	1.10			
13	4.3	1.20			
14	4.6	1.30			

6.INFRARED REFLOW CONDITION:



TEMPERATURE CONDITION GRAPH
(TEMPERATURE ON BOARD PATTERN SIDE)

NOTE: Please check the mount condition(reflow soldering condition) by your own devices beforehand, because the condition changes by the soldering devices, p.c.boards, and so on. No moisture treatment before reflow process.

PRODUCT SPECIFICATION

PRODUCT SERIES NAME: A1001 SERIES-DUAL ROW SMT TYPE | PAGE: 1/4

1.SCOPE:

This specification covers the requirements for product performance of 1.00mm pitch wire to board connector series.

2.CONSTRUCTION、DIMENSIONS 、 MATERIAL & PLATING:

See the attached drawings

3.RATINGS & APPLICABLE WIRES:

Item	Standard		
Rated Voltage (max.)	50V AC, DC		Insulation O.D. 0.80mm (max.)
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	AWG #30	1A AC, DC	
	AWG #32	0.5A AC, DC	
Ambient Temperature Range	-25°C ~ +85°C*		

*: Including terminal temperature rise

4.PERFORMANCE:

4-1.ELECTRICAL PERFORMANCE

Test Description		Procedure	Requirement
4-1-1	Contact Resistance	Mate connectors, measure by dry circuit, 20mV max., 10mA. (Based upon JIS C5402 5.4)	20mΩ max.
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			APPROVED	CHECKED	WRITTEN
			BY	BY	BY
A2	REVISE	2008.09.12	董正一	伍建永	歐陽小強
A1	REVISE	2007.06.26			
A0	NEW RELEASE	2006.08.15			
REV.	DESCRIPTION	DATE	DOCUMENT NO: PS-1001-002		

PRODUCT SPECIFICATION

4-2.MECHANICAL PERFORMANCE

Test Description		Procedure		Requirement
4-2-1	Insertion & Withdrawal Force	Insert and withdraw connectors at the speed rate of 25 ± 3mm/minute.		Refer to paragraph 5
4-2-2	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 #28	1.0kgf min.
			AWG #30	0.8kgf min.
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4-2-3	Terminal Insertion Force	Insert the crimped terminal into the housing.		0.5kgf max.
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4-2-5	Pin Retention Force	Apply axial push force at the speed rate of 25 ± 3mm/minute.		0.5kgf min.
4-2-6	Durability	When mated up to 50 cycles repeatedly by the rate of 10 cycles per minute.	Contact Resistance	40mΩ max.
4-2-7	Vibration	Amplitude: 1.5mm 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
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Test Description		Procedure		Requirement
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4-3-3	Cold Resistance	-25 ± 3°C, 96 hours (Based upon JIS C0020)	Appearance	No Damage
			Contact Resistance	40mΩ max.
4-3-4	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
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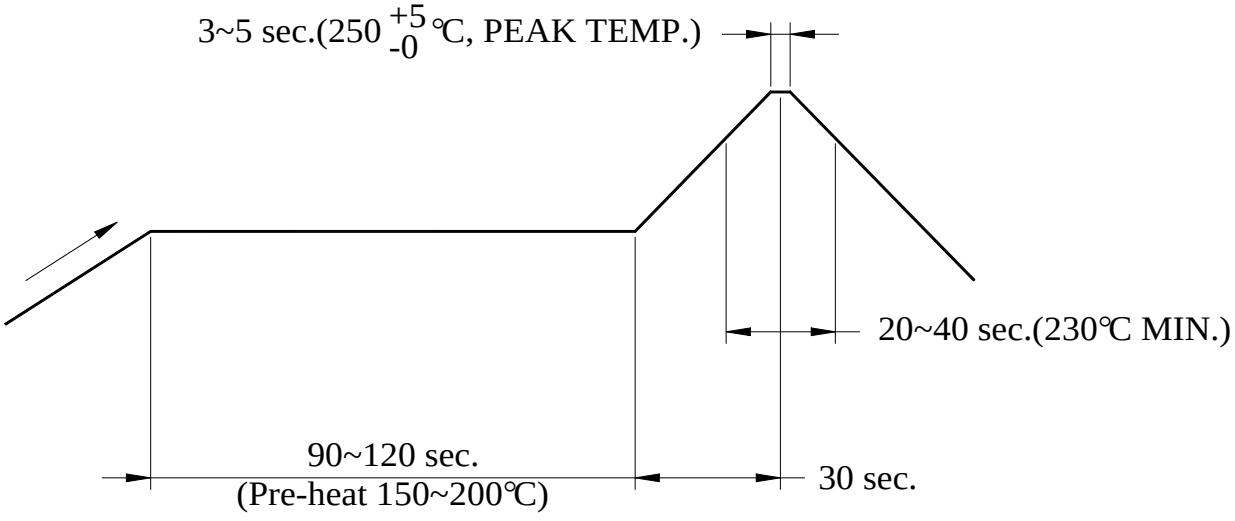
			Contact Resistance	40mΩ max.
4-3-8	NH_3 Gas	40 minutes exposure to NH_3 gas evaporating from 28% Ammonia solution.	Appearance	No Damage
			Contact Resistance	40mΩ max.
4-3-9	Solderability	Soldering Time: 5 ± 0.5 sec. Solder Temperature: 245 ± 5°C	Solder Wetting	95% of immersed area must show no voids, pin holes
4-3-10	Resistance to Soldering Heat	When reflowing Refer to paragraph 6 Solder iron method Soldering Time: 5 ± 0.5 sec. Solder Temperature: 370°C ~ 400°C	Appearance	No Damage

PRODUCT SPECIFICATION

5.INSERTION/WITHDRAWAL FORCE:

No. of circuits	Insertion (kgf max.)	Withdrawal (kgf min.)
Single	0.2	0.03
2X06	4.0	1.10
2X08	5.2	1.50
2X09	5.8	1.70
2X10	6.4	1.90
2X15	9.4	2.90
2X20	12.4	3.90
2X25	15.4	4.90

6.INFRARED REFLOW CONDITION:



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