



PRODUCT SERIES NAME: A1006 SERIES-SINGLE ROW

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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			
Rated Voltage (max.)	50V AC, DC		
Rated Current (max.)	AWG #28 1A AC, DC		Insulation O.D.
and Applicable Wires	AWG #30 1A AC, DC		0.80mm (max.)
	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	Mate connectors, measure by dry circuit, 20mV max.,	$20 \mathrm{m}\Omega$ max.
	Resistance	10mA. (Based upon JIS C5402 5.4)	ZUIIISZ IIIAX.
4-1-2	Insulation	Mate connectors, apply 500V DC between adjacent	
	Resistance	terminal or ground. (Based upon JIS C5402 5.2/	$100 \mathrm{M}\Omega$ min.
		MIL-STD-202 Method 302 Cond. B)	
4-1-3	Dielectric	Mate connectors, apply 500V AC (rms) for 1 minute	
	Withstanding	between adjacent terminal or ground. (Based upon	No Breakdown
	Voltage	JIS C5402 5.1/MIL-STD-202 Method 301)	
4-1-4	Contact	Crimp the applicable wire on to the terminal, measure	
	Resistance	by dry circuit, 20mV max., 10mA.	$5 \mathrm{m}\Omega$ max.
	on Crimped		JIIISZ IIIAX.
	Portion		

			APPROVED	CHECKED	WRITTEN
			BY	BY	BY
			Wu Yu Chun	Lui Can Zhu	Bo Bo Chu
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4-2.MECHANICAL PERFORMANCE

Test	Description	Procedure		Requirement
4-2-1	Insertion & Withdrawal Force	Insert and withdraw connectors at the sp 25 ± 3 mm/minute.		Refer to paragraph 5
4-2-2	Crimping	Fix the crimped terminal, apply axial pull out force on the wire at the speed	AWG #28	1.0kgf min.
	Pull Out Force	rate of 25 ± 3mm/minute. (Based upon JIS C5402 6.8)	AWG #30	0.8kgf min.
			AWG #32	0.5kgf min.
4-2-3	Terminal Insertion Force	Insert the crimped terminal into the house	sing.	0.5kgf max.
4-2-4	Terminal/ Housing Retention Force		Apply axial pull out force at the speed rate of 25 ± 3 mm/minute on the terminal assembled in the housing.	
4-2-5	Pin Retention Force	Apply axial push force at the speed rate of 25 ± 3 mm/minute.		0.5kgf min.
4-2-6	Latch Yield Strength	1 1	Mate connectors and pull apart until both latches reak at the speed rate of 25 ± 3 mm/minute.	
4-2-7	Durability	When mated up to 50 cycles repeatedly by the rate of 10 cycles per minute.		
		Amplitude: 1.5mm P-P Sweep time: 10-55-10 Hz in 1 minute	Appearance	No Damage
4-2-8	Vibration	Duration: 2 hours in each X.Y.Z. axes	Contact Resistance	40m $Ω$ max.
		Method 201A)	Discontinuity	1μsec. max.
		490m/s² {50G}, 3 strokes in each X.Y.Z. axes.	Appearance	No Damage
4-2-9	Physical Shock	(Based upon JIS C0041/MIL-STD-202 Method 213B Cond. A)	Contact Resistance	40m $Ω$ max.
			Discontinuity	1μsec. max.





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4-3.ENVIRONMENTAL PERFORMANCE AND OTHERS

Test	Description	Procedure		Requirement
4-3-1	Temperature	Carrying rated current load.	Temperature	30°C max.
	Rise	(Based upon UL 498)	Rise	50 C max.
4-3-2	Heat	$85 \pm 2^{\circ}$ C, 96 hours	Appearance	No Damage
	Resistance	(Based upon JIS C0021/MIL-STD-202	Contact	$40 \mathrm{m}\Omega$ max.
		Method 108A Cond. A)	Resistance	40ms2 max.
4-3-3	Cold	-25 ± 3 °C, 96 hours	Appearance	No Damage
	Resistance	(Based upon JIS C0020)	Contact	$40 \mathrm{m}\Omega$ max.
			Resistance	40ms2 max.
		Temperature: $40 \pm 2^{\circ}\text{C}$	Appearance	No Damage
		Relative Humidity: 90 ~ 95%	Contact	$40 \mathrm{m}\Omega$ max.
		Duration: 96 hours	Resistance	40ms2 max.
4-3-4	Humidity	(Based upon JIS C0022/MIL-STD-202	Insulation	$10 \mathrm{M}\Omega$ min.
		Method 103B Cond. B)	Resistance	1010122 111111.
			Dielectric	
			Withstanding	Must meet 4-1-3
			Voltage	
		5 cycles of:	Annagranga	No Damage
4-3-5	Temperature	a) - 55°C 30 minutes	Appearance	No Damage
	Cycling	b) +85°C 30 minutes	Contact	$40 \mathrm{m}\Omega$ max.
		(Based upon JIS C0025)	Resistance	40ms2 max.
		24 ± 4 hours exposure to a salt spray	Appearance	No Damage
4-3-6	Salt Spray	from the $5 \pm 1\%$ solution at 35 ± 2 °C.	Appearance	No Damage
		(Based upon JIS C0023/MIL-STD-202	Contact	$40 \mathrm{m}\Omega$ max.
		Method 101D Cond. B)	Resistance	40ms2 max.
		24 hours exposure to 50 ± 5 ppm.	Appearance	No Damage
4-3-7	SO ₂ Gas	SO_2 gas at 40 ± 2 °C.	Contact	$40 \mathrm{m}\Omega$ max.
			Resistance	Tomse max.
		40 minutes exposure to NH3 gas	Appearance	No Damage
4-3-8	NH3 Gas	evaporating from 28% Ammonia	Contact	$40 \mathrm{m}\Omega$ max.
		solution.	Resistance	Tomsz max.
		Soldering Time: 5 ± 0.5 sec.	Solder	95% of immersed
4-3-9	Solderability	Solder Temperature: 245 ± 5 °C	Wetting	area must show no
				voids, pin holes
		When reflowing		
4-3-10	Resistance	Refer to paragraph 6		
	to Soldering		Appearance	No Damage
	Heat	Solder iron method	Appearance	No Damage
		Soldering Time: 5 ± 0.5 sec.		
		Solder Temperature: 370°C ~ 400°C		
			•	





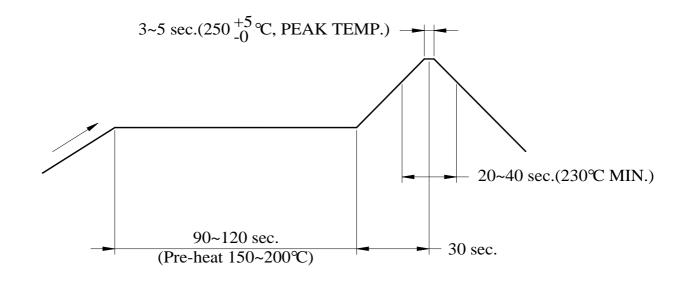
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5.INSERTION/WITHDRAWAL FORCE:

No. of	Insertion	Withdrawal	No. of	Insertion	Withdrawal
circuits	(kgf max.)	(kgf min.)	circuits	(kgf max.)	(kgf min.)
Single	0.2	0.03	15	3.6	0.80
2	0.8	0.10	16	3.8	0.85
3	1.0	0.15	17	4.0	0.90
4	1.2	0.20	18	4.2	0.95
5	1.4	0.25	19	4.4	1.00
6	1.6	0.30	20	4.6	1.05
7	1.8	0.35	21	4.8	1.10
8	2.0	0.40	22	5.0	1.15
9	2.2	0.45	23	5.2	1.20
10	2.4	0.50	24	5.4	1.25
11	2.6	0.55	25	5.6	1.30
12	2.8	0.60	26	5.8	1.35
13	3.0	0.65	27	6.0	1.40
14	3.2	0.70	28	6.2	1.45
15	3.4	0.75	29	6.4	1.50
			30	6.6	1.55

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.

Bo Bo Chu





PRODUCT SERIES NAME: A1006 SERIES-DUAL ROW LOCK 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		
Rated Current (max.)	AWG #28 1A AC, DC		Insulation O.D.
and Applicable Wires	AWG #30 1A AC, DC		0.80mm (max.)
	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	Mate connectors, measure by dry circuit, 20mV max.	$20 \mathrm{m}\Omega$ max.
	Resistance	10mA. (Based upon JIS C5402 5.4)	ZUIIISZ IIIAX.
4-1-2	Insulation	Mate connectors, apply 500V DC between adjacent	
	Resistance	terminal or ground. (Based upon JIS C5402 5.2/	$100 \mathrm{M}\Omega$ min.
		MIL-STD-202 Method 302 Cond. B)	
4-1-3	Dielectric	Mate connectors, apply 500V AC (rms) for 1 minute	
	Withstanding	between adjacent terminal or ground. (Based upon	No Breakdown
	Voltage	JIS C5402 5.1/MIL-STD-202 Method 301)	
4-1-4	Contact	Crimp the applicable wire on to the terminal, measure	
	Resistance	by dry circuit, 20mV max., 10mA.	5mΩ max.
	on Crimped		JIIISZ IIIAX.
	Portion		

			APPROVED	CHECKED	WRITTEN
			BY	BY	BY
			Wu Yu Chun	Lui Can Zhu	Bo Bo Chu
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4-2.MECHANICAL PERFORMANCE

Test	Description	Procedure		Requirement
4-2-1		Insert and withdraw connectors at the sp 25 ± 3 mm/minute.	peed rate of	Refer to paragraph 5
4-2-2	Crimping	Fix the crimped terminal, apply axial pull out force on the wire at the speed	AWG #28	1.0kgf min.
	Pull Out Force	rate of 25 ± 3mm/minute. (Based upon JIS C5402 6.8)	AWG #30	0.8kgf min.
			AWG #32	0.5kgf min.
4-2-3	Terminal Insertion Force	Insert the crimped terminal into the house	sing.	0.5kgf max.
4-2-4	Terminal/ Housing Retention Force		apply axial pull out force at the speed rate of 5 ± 3 mm/minute on the terminal assembled in the ousing.	
4-2-5	Pin Retention Force	Apply axial push force at the speed rate of 25 ± 3 mm/minute.		0.5kgf min.
4-2-6	Latch Yield Strength	Mate connectors and pull apart until bot break at the speed rate of 25 ± 3 mm/mir		2.0kgf min.
4-2-7	Durability	When mated up to 50 cycles repeatedly by the rate of 10 cycles per minute.	Contact Resistance	40mΩ max.
		Amplitude: 1.5mm P-P Sweep time: 10-55-10 Hz in 1 minute	Appearance	No Damage
4-2-8	Vibration	Duration: 2 hours in each X.Y.Z. axes	Contact Resistance	40m $Ω$ max.
		Method 201A)	Discontinuity	1μsec. max.
		490m/s² {50G}, 3 strokes in each X.Y.Z. axes.	Appearance	No Damage
4-2-9	Physical Shock	(Based upon JIS C0041/MIL-STD-202 Method 213B Cond. A)	Contact Resistance	40m $Ω$ max.
			Discontinuity	1μsec. max.





PRODUCT SERIES NAME: A1006 SERIES-DUAL ROW LOCK TYPE

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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	85 ± 2°C, 96 hours	Appearance	No Damage
. 5 2	Resistance	(Based upon JIS C0021/MIL-STD-202		
		Method 108A Cond. A)	Resistance	40m $Ω$ max.
4-3-3	Cold	-25 ± 3 °C, 96 hours	Appearance	No Damage
	Resistance	(Based upon JIS C0020)	Contact	$40\mathrm{m}\Omega$ max.
			Resistance	40111 <u>2</u> 2 111ax.
		Temperature: 40 ± 2 °C	Appearance	No Damage
		Relative Humidity: 90 ~ 95%	Contact	$40 \mathrm{m}\Omega$ max.
		Duration: 96 hours	Resistance	40111 <u>22 111</u> 87.
4-3-4	Humidity	(Based upon JIS C0022/MIL-STD-202	Insulation	$10 \mathrm{M}\Omega$ min.
		Method 103B Cond. B)	Resistance	1014122 111111.
			Dielectric	
			Withstanding	Must meet 4-1-3
			Voltage	
		5 cycles of:	Appearance	No Damage
4-3-5	Temperature			Tto Damage
	Cycling	b) +85°C 30 minutes	Contact	40m $Ω$ max.
		(Based upon JIS C0025)	Resistance	
		24 ± 4 hours exposure to a salt spray	Appearance	No Damage
4-3-6	Salt Spray	from the $5 \pm 1\%$ solution at 35 ± 2 °C.		
		(Based upon JIS C0023/MIL-STD-202	Contact	$40 \mathrm{m}\Omega$ max.
		Method 101D Cond. B)	Resistance	N. D.
4 2 7	GO G	24 hours exposure to 50 ± 5 ppm.	Appearance	No Damage
4-3-7	SO ₂ Gas	SO_2 gas at 40 ± 2 °C.	Contact	$40 \mathrm{m}\Omega$ max.
		40 ' 4 NH	Resistance	N. D.
4.2.0	NII C	40 minutes exposure to NH ₃ gas	Appearance	No Damage
4-3-8	NH3 Gas	evaporating from 28% Ammonia	Contact	$40 \mathrm{m}\Omega$ max.
		solution.	Resistance	050/ of immorand
4 2 0	C - 1.1 1. 114	Solder Temperature 245 + 5°C	Solder	95% of immersed area must show no
4-3-9	Solderability	Solder Temperature: 245 ± 5 °C	Wetting	
		When reflowing		voids, pin holes
1 2 10	Dagistanas	When reflowing Refer to paragraph 6		
4-3-10	Resistance	1 6 1		
	to Soldering		Appearance	No Damage
	Heat	Solder iron method		
		Soldering Time: 5 ± 0.5 sec.		
		Solder Temperature: 370°C ~ 400°C		





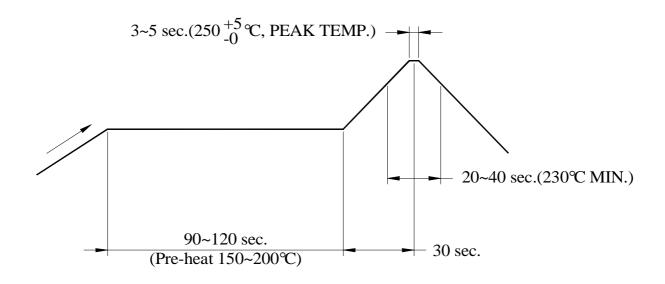
PRODUCT SERIES NAME: A1006 SERIES-DUAL ROW LOCK TYPE

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5.INSERTION/WITHDRAWAL FORCE:

No. of	Insertion	Withdrawal
circuits	(kgf max.)	(kgf min.)
Single	0.2	0.03
2X10	4.6	1.05
2X15	6.6	1.55
2X20	8.6	2.05

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.