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

PRODUCT SPECIFICATION

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			APPROVED	CHECKED	WRITTEN
A3	REVISE	2022.04.23	BY	BY	BY
A2	REVISE	2021.08.27	***Jack Yin***	***Diankui Wan***	***Dengchun Yi***
A1	REVISE	2021.04.25			
A0	NEW RELEASE	2010.06.15			
REV.	DESCRIPTION	DATE	DOCUMENT NO: PS-A1257-002		

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1.SCOPE:

This specification covers the requirements for product performance of 1.25 mm pitch wire to board connector series.

2.PART NAME & PART NUMBERS

Part name	Part number
Housing	A1257H A1257HD A1257HP A1257H-2
Terminal	A1257-T A1257-T-A
Wafer	A1257WV-S A1257WVD-S A1257WVP-S A1257WV-S-2
	A1257WR-S A1257WRD-S A1257WRP-S A1257WR-S-2

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/Phosphor bronze	Tin over Nickel/Gold over Nickel
	Body	Nylon 6T/Nylon 9T/LCP	UL94V-0

4. RATINGS & APPLICABLE WIRES

Item	Standard		
Rated Voltage (Max.)	50V AC DC		Insulation O.D. 0.76~1.00mm
Rated Current (Max.) and Applicable Wires	AWG #26	1.0A AC DC	
	AWG #28	1.0A AC DC	
	AWG #30	1.0A AC DC	
	AWG #32	0.8A AC DC	
Ambient Temperature Range	-40℃~105℃*		

*: Including terMinal temperature rise

5. CONDITIONS：

The conditions shall be in accordance with the referenced data of next table.

Number	Item	Requirement
(1)	Bend up	2°Max.
	Bend down	3°Max.
	Twisting	2°Max.
	Rolling	5°Max.
(2)	Bell mouth (flare)	0.05-0.25 mm
(3)	Cut-off tab length	0.3 mm Max.
(4)	Extruded wire length	0.2-0.6 mm
(5)	Seam	Seam shall not be opened and no wire allowed out of crimping area
(6)	Wire strip length	1.2-1.5 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 (kgf)
		Crimp Width	Crimp Height	Crimp Width	Crimp Height	
#26	A1257-T A1257-T-A	0.70±0.15	0.52~0.56	1.00(Max)	1.20(Max.)	2.00(Min.)
#28			0.48~0.52		1.18(Max.)	1.00(Min.)
#30			0.44~0.48		1.15(Max.)	0.50(Min.)
#32			0.40~0.44		1.12(Max.)	0.30(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 250V DC between adjacent terminal or ground. (Based upon JIS C5402 5.2/MIL-STD-202 Method 302 Cond. B)	100MΩ Min.
6-1-3	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
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.

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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 #26	2.0kgf Min.
			AWG #28	1.0kgf Min.
			AWG #30	0.5kgf Min.
			AWG #32	0.3kgf Min.
6-2-3	Crimp Terminal Insertion Force	Insert the crimped terminal into the housing. Testing speed: 25 ± 3mm/minute.		N/A
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 housing.		Single Row: 0.7kgf Min. Dual Row: 0.5kgf Min.
6-2-5	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~3P: 1.0kgf Min. 4P~6P: 1.2kgf Min. 7P~9P: 1.5kgf Min. 10P~15P: 2.0kgf Min. Dual Row: 2.0kgf
6-2-6	Header Terminal Retention Force	Apply axial push force at the speed rate of 25 ± 3mm/minute.		0.3kgf Min.
6-2-7	Durability	When mated up to 30 cycles repeatedly by the rate of 10 cycles per minute.	Contact Resistance	50mΩ 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 MIL-STD-202	Appearance	No Damage
			Contact Resistance	50mΩ 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	50mΩ 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	50mΩ Max.
			Insulation Resistance	100MΩ 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 JIS C0025)	Appearance	No Damage
			Contact Resistance	50mΩ 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	50mΩ 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	50mΩ Max.
6-3-7	NH_3 Gas	40 minutes exposure to NH3 gas evaporating from 28% Ammonia solution.	Appearance	No Damage
			Contact Resistance	10mΩ 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

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7. INSERTION AND WITHDRAWAL FORCE

unit:N

Number of Circuits (W-B， Single	Insertion (Max.)	Withdrawal (Min.)	
	1 th	1 th	30 th
2P	17	0.5	0.5
3P	18	1.0	1.0
4P	19	1.5	1.5
5P	20	2.0	2.0
6P	21	2.5	2.5
7P	22	3.0	3.0
8P	23	3.5	3.5
9P	24	4.0	4.0
10P	25	4.5	4.5
11P	26	5.0	5.0
12P	27	5.5	5.5
13P	28	6.0	6.0
14P	29	6.5	6.5
15P	30	7.0	7.0
Number of Circuits (W-B， Dual Row)	Insertion (Max.)	Withdrawal (Min.)	
	1 th	1 th	30 th
2x5P	40	4.0	4.0
2x6P	40	4.0	4.0
2x7P	40	4.0	4.0
2x8P	40	4.0	4.0
2x9P	40	4.0	4.0
2x10P	50	5.0	5.0
2x11P	50	5.0	5.0
2x12P	50	5.0	5.0
2x13P	50	5.0	5.0
2x14P	50	5.0	5.0
2x15P	60	6.0	6.0
2x16P	60	6.0	6.0
2x17P	60	6.0	6.0
2x18P	60	6.0	6.0
2x19P	60	6.0	6.0
2x20P	70	7.0	7.0