PRODUCT SPECIFICATION

【1. SCOPE】
This specification covers the 2.5mm CENTER SPACING P.C. BOARD CONNECTOR series.

【2. PRODUCT NAME AND PART NUMBER】

Product Name	Part Number
Housing	5051-N
Wafer Assembly (St.)	5045-NA
Wafer Assembly (R/A)	5046-NA

N: Refer to the drawing.

【3. RATINGS AND APPLICABLE WIRES】

Item	Standard	
Rated Voltage (MAX.)	250V	〔 AC (rms) / DC 〕
Rated Current (MAX.) and Applicable wires	AWG #22 3 A	Insulation O.D.: φ 1.2 ～ 1.7 mm
	AWG #24 2.5A	
	AWG #26 2 A	
	AWG #28 1.5A	
Ambient Temperature Range	-40°C ～ +105°C*	

* : Including terminal temperature rise.

【4. PERFORMANCE】
4-1. Electrical Performance:

Item		Test Condition	Requirement
4-1-1	Contact Resistance	Mate connectors measure by dry circuit, 20mV max.,10mA.(Based upon JIS C5402 5.4)	20m Ω 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)	1000M Ω MIN.
4-1-3	Dielectric Strength	Mate connectors, apply 1000V AC 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.

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4-2. Mechanical Performance:

Item		Test Condition	Requirement	
4-2-1	Insertion and Withdrawal Force	Insert and withdraw connectors at the speed rate of 25±3mm/minute.	Refer to paragraph 6	
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 #22	4.0 Kgf MIN.
			AWG #24	3.0 Kgf MIN.
			AWG #26	2.0 Kgf MIN.
			AWG #28	1.0 Kgf MIN.
4-2-3	Terminal Insertion Force	Insert the crimped terminal into the housing.	1.5 Kgf 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.	1.5 Kgf MIN.	
4-2-5	Pin Retention Force	Apply axial push force at the speed rate of 25±3mm/ minute.	1.0 Kgf MIN.	

4-3. ENVIRONMENTAL PERFORMANCE AND OTHERS

Item		Test Condition	Requirement	
4-3-1	Repeated Insertion/ Withdrawal	When mated up to 30 cycles repeatedly by the rate of 10 cycles per minute.	Contact Resistance	40mΩ MAX.
4-3-2	Temperature Rise	Carrying rated current load. (Based upon UL 498)		30°C MAX.
4-3-3	Vibration	Amplitude : 1.5mm P-P Sweep time: 10-55-10Hz 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.
			Dis-continuity	1μsec. MAX.
4-3-4	Shock	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.
			Dis-continuity	1μsec. MAX.

Item		Test Condition	Requirement	
4-3-5	Heat Resistance	105±2°C, 96 hours (Based upon JIS C0021/MIL-STD-202 Method 108A Cond.A)	Appearance	No Damage
			Contact Resistance	40mΩ MAX.
4-3-6	Cold Resistance	-40±3°C, 96 hours (Based upon JIS C0020)	Appearance	No Damage
			Contact Resistance	40mΩ MAX.
4-3-7	Humidity	Temperature : 60±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.
			Dielectric Strength	Must meet 4-1-3
			Insulation Resistance	100MΩ MIN.
4-3-8	Temperature Cycling	5 cycles: a) - 55°C 30 MIN. b) +105°C 30 MIN. (Based upon JIS C0025)	Appearance	No Damage
			Contact Resistance	40mΩ MAX.
4-3-9	Salt Spray	48 hours exposure to a salt spray from the 5% solution at 35°C.(Based upon JIS C5028/MIL-STD-202 Method 101D Cond. B)	Appearance	No Damage
			Contact Resistance	40mΩ MAX.
4-3-10	SO_2 Gas	24 hours exposure to 50 ppm. SO_2 gas at 40°C	Appearance	No Damage
			Contact Resistance	40mΩ MAX.
4-3-11	Solder-ability	Soldering Time: 3±0.5 sec Solder Temperature: 230±5°C	75% of immersed area must show no voids, pin holes	
4-3-12	Resistance to Soldering Heat	Soldering Time: 5±0.5 sec Solder Temperature: 260±5°C	No Damage	

【5. PRODUCT SHAPE, DIMENSIONS AND MATERIALS】
Refer to the drawing.

【6. INSERTION/WITHDRAWAL FORCE】

(Unit : kgf)

CKT SIZE	Insertion (MAX.)			Withdrawal (MIN.)		
	Initial	6th	30th	Initial	6th	30th
2	3.6	3.4	3.4	0.65	0.55	0.55
3	4.4	4.1	4.1	0.70	0.60	0.60
4	5.2	4.8	4.8	0.75	0.65	0.65
5	6.0	5.5	5.5	0.80	0.70	0.70
6	6.6	6.0	6.0	0.90	0.80	0.80
7	7.2	6.5	6.5	1.00	0.90	0.90
8	7.8	7.0	7.0	1.15	1.00	1.00
9	8.4	7.5	7.5	1.30	1.15	1.15
10	9.0	8.0	8.0	1.45	1.30	1.30
11	9.6	8.5	8.5	1.60	1.45	1.45
12	10.2	9.0	9.0	1.85	1.60	1.60
13	10.8	9.5	9.5	2.00	1.75	1.75
14	11.4	10.0	10.0	2.15	1.90	1.90
15	12.0	10.5	10.5	2.30	2.05	2.05
16	12.6	11.0	11.0	2.45	2.20	2.20
17	13.2	11.5	11.5	2.60	2.35	2.35
18	13.8	12.0	12.0	2.75	2.50	2.50
19	14.4	12.5	12.5	2.90	2.65	2.65
20	15.0	13.0	13.0	3.05	2.80	2.80