

**1. Introduction**

1.1 Testing was performed on the B to B Pitch 0.4mm Height 0.8mm Receptacle and Board to Board Pitch 0.4mm Height 0.8mm Receptacle to determine if it meets the requirements of Product Specification.

1.2 Scope

This specification covers the requirements for product performance and test methods of Board to Board Pitch 0.4mm Connectors of the part numbers specified as bellow. Product shall be of the design, construction and physical dimensions specified in the applicable product drawing.

1.3 Rating

1.3.1 Voltage Rating: 60V AC/DC

1.3.2 Rated current: 0.5 AMPS (MAX)

1.3.3 Temperature Range: -40°C to +85°C storage; -40°C to +85°C operating

1.4 Test Condition

All tests shall be performed as bellow conditions unless otherwise specified.

1.4.1 Temperature range: +15°C to +35°C

1.4.2 Humidity range: 25% to 80%

1.4.3 Atmospheric pressure: 86kPa to 106 kPa (860 to 1060 m bar)

Part Number	Description
*-2363961-*	Board to Board Pitch 0.4mm Height 0.8mm Receptacle
*-2363962-*	Board to Board Pitch 0.4mm Height 0.8mm Plug

Fig.1

**2. Test Contents**

Item	Test Items	Requirements	Judgment
2.1.1	Examination of product	1). Outward appearance shall be good without such injurious problem 2). Structure shall be meet the design and dimensional requirements of drawing.	Acceptable
Electrical Requirements			
2.2.1	Low Level Contact Resistance	1).Initial 50 mΩ Maximum. 2).Final 90 mΩ Maximum.	Acceptable
2.2.2	Insulation Resistance	1).Initial: 1000 MΩ Minimum. 2).After test: 100 MΩ Minimum.	Acceptable
2.2.3	Dielectric Withstanding Voltage	250V AC for one minute at sea level 1). No flashover or insulation breakdown 2). Leakage current: 0.5mA Maximum	Acceptable
2.2.4	Temperature rise	ΔT30°C Maximum. (Per pin)	Acceptable
Mechanical Requirements			
2.3.1	Vibration	1).Shall meet visual requirement, show no physical damage. 2).Resistance value after test After test: 90mΩ Maximum. 3).No discontinuities of 1μsec or longer duration.	Acceptable

2.3.2	Physical Shock	<p>1). Shall meet visual requirement, show no physical damage.</p> <p>2). Resistance value after test After test: 90mΩ Maximum.</p> <p>3). No discontinuities of 1μsec or 0.1 longer duration.</p>	Acceptable
2.3.3	Durability	<p>Mate and unmate Connector assemblies for 50 cycles at maximum rated of 10cycles per minute.</p> <p>1). Shall meet visual requirement, show no physical damage.</p> <p>2). Resistance value after test After test: 90mΩ Maximum.</p>	Acceptable
2.3.4	Connector Mating & Unmating Force	<p>1). Initial: Mating force: 40 N max. Unmating force: 9 N min.</p> <p>2). Final: Mating force: 40 N max. Unmating force: 5 N min.</p>	Acceptable
2.3.5	Contact Retention Force	80grams 【0.785N】 Minimum	Acceptable
Environmental			
2.4.1	Thermal Shock	<p>Subject mated connectors to 5 cycles between -55°C to +85°C.</p> <p>1). Appearance shall not be distinct damage.</p> <p>2). Resistance value after test After test: 90mΩ Maximum.</p>	Acceptable
2.4.2	Humidity	<p>Subject mated connectors to 120 Hours. Temperature: 40±2°C Relative Humidity: 90~95%</p> <p>1). Appearance shall not be distinct damage.</p> <p>2). Resistance value after test After test: 90mΩ Maximum.</p>	Acceptable
2.4.3	Solder ability	<p>230°C±5°C for 5±0.5 seconds.</p> <p>The surface of the portion to be soldered shall at least 95% covered area must show no voids, pin holes</p>	Acceptable
2.4.4	Heat resistance	<p>85±2°C for 96 hours</p> <p>1). Appearance shall not be distinct damage.</p> <p>2). Resistance value after test After test: 90mΩ Maximum.</p>	Acceptable
2.4.5	Cold resistance	<p>-25±3°C for 96 hours</p> <p>1). Appearance shall not be distinct damage.</p> <p>2). Resistance value after test After test: 90mΩ Maximum.</p>	Acceptable
2.4.6	Salt water spray	<p>Temperature: 35°C±2°C Density of salt water : 5±1% Duration: 48 hours.</p> <p>1). Appearance shall not be distinct damage.</p> <p>2). Resistance value after test After test: 90mΩ Maximum.</p>	Acceptable

### 3. Product Qualification Test Sequence

Test Item	Test Examination	Test Group (a)											
		A	B	C	D	E	F	G	H	I	J		
		Test Sequence (b)											
2.1.1	Examination of product	1,7	1,9	1,6	1,3	1,4	1,4	1,4	1,4				
2.2.1	Low Level Contact Resistance	2,6	2,10	2,5		3	3	3	3				
2.2.2	Insulation Resistance		3,7										
2.2.3	Dielectric Withstanding Voltage		4,8										
2.2.4	Temperature rise									1			
2.3.1	Vibration)			3									
2.3.2	Physical shock			4									
2.3.3	Durability	4											
2.3.4	Mating & Unmating Force	3,5											
2.3.5	Contact Retention Force									1			
2.4.1	Thermal Shock		5										
2.4.2	Humidity		6										
2.4.3	Solderability				2								
2.4.4	Heat resistance					2							
2.4.5	Cold resistance						2						
2.4.6	Salt water spray							2					

- (a) Samples shall be prepared in accordance with applicable instructions and shall be selected at random from current production. Unless otherwise stated all groups shall consist of a minimum of 5 connectors of which all contacts shall be tested.
- (b) Numbers indicate sequence in which the tests are performed.
- (c) Discontinuities shall not take place in this test group, during tests.

Fig.3

## 4. Test Results

Conditions	Measure Item	Unit	Results			Requirements	Judgment
			AVE.	MAX.	MIN.		

Test Group A							
Initial	Appearance	-	No abnormalities			No Abnormalities	Acceptable
	Mating force	N	16.7	17.9	14.7	40 N Max	Acceptable
	Un mating force	N	12.8	13.9	12.2	9 N Min	Acceptable
	Contact Resistance	mΩ	13.92	15.32	12.76	50 mΩ Min	Acceptable
After Test	Appearance	-	No abnormalities			No Abnormalities	Acceptable
	Mating force	N	15.9	16.7	15.2	40 N Max	Acceptable
	Un mating force	N	12.2	12.8	11.3	5 N Min	Acceptable
	Contact Resistance	mΩ	14.02	15.34	12.52	90 mΩ Min	Acceptable

Test Group B							
Initial	Appearance	-	No abnormalities			No Abnormalities	Acceptable
	Insulation Resistance	MΩ	>1000	>1000	>1000	1000 MΩ Min	Acceptable
	Dielectric Withstanding Voltage	-	No abnormalities			No Abnormalities	Acceptable
	Contact Resistance	mΩ	13.89	15.34	12.51	50 mΩ Min	Acceptable
After Test	Appearance	-	No abnormalities			No Abnormalities	Acceptable
	Insulation Resistance	MΩ	>100	>100	>100	100 MΩ Min	Acceptable
	Dielectric Withstanding Voltage	-	No abnormalities			No Abnormalities	Acceptable
	Contact Resistance	mΩ	13.98	15.35	12.51	90 mΩ Min	Acceptable

Test Group C							
Initial	Appearance	-	No abnormalities			No Abnormalities	Acceptable



Qualification Test Report

	Contact Resistance	mΩ	13.39	15.14	12.5	50 mΩ Min	Acceptable
After Test	Appearance	-	No abnormalities			No Abnormalities	Acceptable
	Vibration	-	No abnormalities			No Abnormalities	Acceptable
	Physical shock	-	No abnormalities			No Abnormalities	Acceptable
After Test	Contact Resistance	mΩ	13.84	15.35	12.51	90 mΩ Min	Acceptable

Test Group D							
Initial	Appearance	-	No abnormalities			No Abnormalities	Acceptable
After Test	Appearance	-	No abnormalities			No Abnormalities	Acceptable
	Solderability	-	No abnormalities			No Abnormalities	Acceptable

Test Group E							
Initial	Appearance	-	No abnormalities			No Abnormalities	Acceptable
After Test	Appearance	-	No abnormalities			No Abnormalities	Acceptable
	Heat resistance	-	No abnormalities			No Abnormalities	Acceptable
	Contact Resistance	mΩ	13.38	15.1	12.17	90 mΩ Min	Acceptable

Test Group F							
Initial	Appearance	-	No abnormalities			No Abnormalities	Acceptable
After Test	Appearance	-	No abnormalities			No Abnormalities	Acceptable
	Cold resistance	-	No abnormalities			No Abnormalities	Acceptable
	Contact Resistance	mΩ	13.43	15.31	12.33	90 mΩ Min	Acceptable

Test Group G							
Initial	Appearance	-	No abnormalities			No Abnormalities	Acceptable
After Test	Appearance	-	No abnormalities			No Abnormalities	Acceptable
	Salt water spray	-	No abnormalities			No Abnormalities	Acceptable



Qualification Test Report

	Contact Resistance	mΩ	13.5	15.28	12.74	90 mΩ Min	Acceptable
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Test Group H							
Initial	Appearance	-	No abnormalities			No Abnormalities	Acceptable
After Test	Appearance	-	No abnormalities			No Abnormalities	Acceptable
	Drop test	-	No abnormalities			No Abnormalities	Acceptable
	Contact Resistance	mΩ	13.55	15.16	12.59	90 mΩ Min	Acceptable

Test Group I							
/	Temperature rise	-°C	7.3	8.5	6.9	ΔT30°C Maximum.	Acceptable

Test Group J							
/	Contact Retention Force	g	108.4	122.2	113.6	80 grams Min	Acceptable