WIRE-TO-BOARD SERIES

1. INTRODUCTION

1.1. Purpose

Testing was performed on the **Wire-To–Board Series** to determine its conformance to the requirements of Product Specification 108-57225 Rev A.

1.2. Scope

This report covers the electrical, mechanical, and environmental performance of **Wire-To–Board Series** manufactured by the Personal computer Division.

1.3. Conclusion

Wire-To–Board Series meets the electrical, mechanical, and environmental performance requirements of Product Specification 108-57225 Rev A.

1.4. Product Description

Wire-To–Board Series is designed for printed circuit board applications. The contacts are copper alloy, gold plated on the contact interface and tin-lead plating on the soldertail, all over nickel under-plated. The housing material is glass filled insulating polymer, UL94V-0.

1.5. Test Samples

The test samples were randomly selected from normal current production lots, and the following part numbers were used for test:

Test Group	Quantity	Description
A, B, C, D, E, F	2 ea.	Wire-To–Board Series

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1.6. Qualification Test Sequence

Para Ref	Test of Examination	Test Group					
		A	B	C	D	E	F
		Test Sequence (a)					
3.5.1	Examination of Product	1,10	1,6	1,5	1,5	1,4	1,5
3.5.2.1	Termination Resistance	2,8		2,4	2,4		
3.5.2.2	Insulation Resistance		2,5				
3.5.2.3	Dielectric Withstanding Voltage		3				
3.5.3.1	Mating/ Unmating Force	3,4,6,7					
3.5.3.2	Durability	5					
3.5.3.3	Terminal/Housing Retention Force	9					
3.5.3.4	Tensile Strength of Wire Termination						2
3.5.3.5	Single PIN Insertion and withdrawal force						3
3.5.3.6	PIN Retention Force						4
3.5.4.1	Temperature Life				3		
3.5.4.2	Humidity, Steady State		4				
3.5.4.3	Salt Spray			3			
3.5.4.4	Solderability					2	
3.5.4.5	Resistance to Soldering Heat					3	

Figure 1.

NOTE: (a) The numbers indicate sequence in which tests were performed.

2. TEST RESULT

GP	TEST	SPEC	DATA			
			Mean	σ	Max.	Min.
A	Appearance	No Damage	OK	--	OK	OK
	Termination Resistance	20 mΩ max.	15.2	--	17.9	13.0
	Mating Force	2.5Kgf/2pos Max.	9.4	--	9.67	9.06
	Unmating Force	0.18Kgf/2pos Min.	1.9	--	2.42	1.52
	Durability	No Physical damage	OK	--	OK	OK
	Mating Force	2.5Kgf/2pos Max.	3.3	--	3.5	3.04
	Unmating Force	0.18Kgf/2pos Min.	2.1	--	2.23	1.82
	Termination Resistance	ΔR=10mΩ	ΔR=1mΩ	--	ΔR=0.5mΩ	ΔR=2.1mΩ
	Terminal/Housing Retention Force	0.8Kgf/pin Min.	1.48	0.246	1.87	1.0
	Appearance	No Damage	OK	--	OK	OK
B	Insulation Resistance	100MΩ min	5.687MΩ	--	6.854MΩ	4.512MΩ
	Dielectric Withstanding Voltage	650VAC for 1Minute	OK	--	OK	OK
	Humidity	No Damage	OK	--	OK	OK
	Insulation Resistance	10MΩ min	4.852MΩ	--	3.287MΩ	4.136MΩ
	Appearance	No Damage	OK	--	OK	OK
C	Termination Resistance	20 mΩ max.	4.15	--	6.62	3.56
	Salt Spray	No Damage	OK	--	OK	OK
	Termination Resistance	40 mΩ max.	6.62	--	8.28	5.69
	Appearance	No Damage	OK	--	OK	OK
D	Termination Resistance	20 mΩ max.	5.63	--	7.86	5.20
	Temperature Life	No Damage	OK	--	OK	OK
	Termination Resistance	40 mΩ max.	7.20	--	8.98	6.45
	Appearance	No Damage	OK	--	OK	OK
E	Solderability	95% Min	OK	--	OK	OK
	Resistance to soldering heat	No Damage	OK	--	OK	OK
	Appearance	No Damage	OK	--	OK	OK

F	Tensile Strength of Wire Termination	AWG#28: 1.5Kgf min.	1.968	--	2.08	1.86
		AWG#30: 1.0Kgf min.	1.588	--	1.81	1.31
		AWG#32: 0.5Kgf min.	1.0	--	1.23	0.84
	Single PIN Insertion and withdrawal force	Insertion force: 0.5kgf Min.	0.27	--	0.66	0.15
		Withdrawal force: 0.05kgf Min.	0.11	--	0.14	0.09
	PIN Retention Force	0.5kgf Min.	1.12	--	1.56	0.84
	Appearance	No Damage	OK	--	OK	OK

FIGURE 2.