

**AMP 2.0mm Pitch EMIX
Economic Metric Interconnect Series
Wire-To-Board System.****1. INTRODUCTION****1.1. Purpose**

Testing was performed on the AMP 2.0mm Pitch EMIX, Economic Metric Interconnect Series, Wire-To-Board System connector to determine its conformance to the requirements of Product Specification 108-57217 Rev O.

1.2. Scope

This report covers the electrical, mechanical, and environmental performance of AMP 2.0mm Pitch EMIX, Economic Metric Interconnect Series, Wire-To-Board System manufactured by the Personal Computer Division.

1.3. Conclusion

AMP 2.0mm Pitch EMIX, Economic Metric interconnect Series, Wire-To-Board system connector meets the electrical, mechanical, and environmental performance requirements of Product Specification 108-57217 Rev A.

1.4. Product Description

AMP 2.0mm Pitch EMIX, Economic Metric Interconnect Series, Wire-To-Board System connector is designed for printed circuit board applications. The contacts are copper alloy, Tin-plating on the soldertail. The housing material is thermoplastic, 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:

Product Part No.	Descriptions
X- 1470106 -X	Receptacle CRIMP Contact, Applicable wire: AWG#22-28
X- 1470107 -X	Receptacle CRIMP Housing, 2-18 Circuit Position
X- 1470108 -X	Post Header Right-angle Type, 2-18 Circuit Position
X- 1470109 -X	Post Header Vertical Type, 2-18 Circuit Position

DR	DATE	APVD	DATE
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1.6. Qualification Test Sequence

Test or Examination	Test Group				
	A	B	C	D	E
	Test Sequence (a)				
Examination of Product	1,10	1	1,9	1,5	1,5
Contact Resistance	6,11	2,4	4,6,8	2,4	2,4
Insulation Resistance			2		
Dielectric Withstanding Voltage			3		
Mating Force	7				
Unmating Force	8				
Individual Insert-Extraction Force	5				
Tensile Strength of Wire Termination	2				
Contact Retention Force	12				
Post Retention Force	13				
Vibration		3			
Temperature Life				3	
Resistance to Cold			5		
Humidity					3
Thermal Shock			7		
Solderability	3				
Resistance to Soldering Heat	4				
Durability	9				

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	Tensile Strength of Wire Termination	AWG #24 for 3.0kgf min.	4.47	--	4.98	4.21
	Mating force and unmating force (single pin)	0.5kgf max	0.314	--	0.38	0.31
		0.08kgf min	0.239	--	0.31	0.15
	Solderability	Solder coating for 95% Min	OK	--	OK	OK
	Resistance to Soldering Heat	5 sec, 260°C	OK	--	OK	OK
	Contact Resistance	20m ohms max.	6.21	--	7.6	5.2
	Mating Force	5.1 kgf max	3.22	--	3.87	2.78
	Unmating Force	1.1 kgf min	2.03	--	2.41	1.81
	Durability	30 cycle	OK	--	OK	OK
	Contact Resistance	20m ohms max.	7.02	--	8.23	6.87
	Contact retention force	1.5kgf min	1.72	--	1.8	1.66
	Pin retention force	1.0kgf min	1.538	--	1.78	1.26
Appearance	No Damage	OK	--	OK	OK	
B	Contact Resistance	10mΩ max	4.453	--	5.3	3.3
	Vibration	No electrical discontinuities	OK	--	OK	OK
	Contact Resistance	20 ohms max	4.80	--	5.8	3.5
	Appearance	No Damage	OK	--	OK	OK
C	Insulation Resistance	1000M ohms min.	OK	--	OK	OK
	Contact Resistance	10 ohms max	4.40	--	5.1	3.8
	Resistance to Cold	-25°C± 3°C, 48 hours.	OK	--	OK	OK
	Contact Resistance	20 ohms max	4.71	--	5.6	4.0
	Thermal Shock	-55°C +88°C, 5cycles	OK	--	OK	OK
	Contact Resistance	20 ohms max	6.05	--	7.55	5.75
	Appearance	No Damage	OK	--	OK	OK
D	Contact Resistance	10 ohms max	4.32	--	3.45	5.21
	Temperature Life	20 ohms max	5.36	--	6.87	4.75
	Contact Resistance	20 ohms max	6.54	--	7.88	6.21
	Appearance	No Damage	OK	--	OK	OK
E	Contact Resistance	10 ohms max	4.32	--	3.45	5.21
	Humidity	40°C for 240 hrs	OK	--	OK	OK
	Contact Resistance	20 ohms max	6.54	--	7.88	6.21
	Appearance	No Damage	OK	--	OK	OK

Figure 2