1. Scope :

1.1 Contents

This specification covers the requirements for product performance, test methods and quality assurance provisions of Air Bag Connector.

1.2 Inspection

Inspection for the product described in this document use the procedure described in AMP Test Spec' 109 Series with drawing and inspection project.

2. Applicable Documents :

The following documents from a part of this specification to the extent specified herein. In the event of conflict between the requirements of this specification and the product drawing, the product drawing shall take precedence. In the event of conflict between the requirements of this specification and the referenced documents, this specification shall take precedence.

2.1. AMP Specifications:

A. 109-1 : Test Specification, General Requirements for Test Methods.

B. 109 SERIES : Test Specification, Requirements for Test Methods.

C. 114- : Application Specification.

D, 501- : Test Report

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3.Requirements:

3.1 Design and Construction:

Product shall be of the design, construction and physical dimenstions specified in the applicable product drawing.

3.2 Materials:

A. Contact : □ 0.63

- Material : CuSn6
- Finish

Mating Area : > 0.8 μ m Au over 3 $\pm$ 1 μ m Ni

Soldering Area :> 3 $\pm$ 1 μ m SnPb10 over 2 $\pm$ 1 μ m Ni

- Pin retention force 40N at operation speed V = 100mm/min
- Pin connector free of cadmium (< 50ppm)

B. Housing : PBT G.F 30%

- Allowed Recycled Material < 25%

3.3 Performance Test Descriptions:

The product is designed to meet the electrical, mechanical and environmental performance requirements specified in Fig.1. All tests are performed at ambient temperaturre of AMP Test Spec' unless otherwise specified.

3.4 Test Requirements and Procedures Summary:

Test Items	Requirements	Procedures
Confirmation of Product	Product shall be conforming to the requirements of applicable product drawing and Application Specification.	Visully, dimensionally and functionally inspected per applicable quality inspection plan.
Electricai		
Termination Resistance (Specified Current)	10mV/A Max. (Initial) 20mV/A (Final)	Measure by applying 1 A at 12 VDC to contacts in mated connectors by probing at 75 mm apart from wire crimp after temperature becomes stabilized AMP Spec. 109-5311-2
Dielectric Strength	No creeping discharge nor flashover shall occur.	1.0 KVAC for 1 minute. Test between adjacent circuits of mated connectors. AMP Spec. 109-5301
Insulation Resistance	100 MegaOhm MIN (Final)	Impressed voltage 500 V DC. Test between adjacent circuits of mated connectors. AMP Spec. 109-5302
Current Cycling	20mV/A Max. (Final) No ingnition is allowed during the test.	45 minutes "ON", 15 minutes "OFF" 300 cycles. AMP Spec. 109-5308
Temperature Rising	50 ℃ May under loaded Specified Current	Measure temperature rising by energized current AMP Spec. 109-5310

Fig 1.(to be continued)

Test Items	Requirements	Procedures
Mechanical		
Vibration (High Frequency)	No electrical discontinuity greater than 1 msec. shall occur. 20 mV/A Max. (Final)	Vibration Frequency : 20 - 200 HZ / 3 min. Accelerated Velocity : 4.5 G Vibrtration Direction : XYZ Duration : 4 hours (Y) 2 hours each (X, Z) AMP Spec. 109-5202 Condition
Connector Mating Force	100N Max.	Operation Speed : 25 mm/min Measure the force required to mate connectors. AMP Spec. 109-5206 Condition
Pin Retention Force	40 N Min.	Apply an axial pull-off load to crimped wire. Operation Speed : 25 mm/min. AMP Spec. 109-5212

Fig. 1

ENVIRONMENTAL

Test Items	Requirements	Procedures
Temperature Life (Heat Aging)	20 mV/A Max. (Final)	Duration : 5 days AMP Spec. 109-5104 Condition
Resistance to Cold	20 mV/A Max. (Final)	-40 ℃ ± 3 ℃,120 hours AMP Spec. 109-5108 Condition
Humidity Steady State	Current Leakage 3mA Max. Terminatio resistance 20 mV/A Max. (Final)	Mated Connector, 90~95% R.H 80 ± 3 ℃ 96 hours AMP Spec. 109-5105 Fig.9
Water Splash	20 mV/A Max. (Final) Current Leakage : 3mA Max.	Dip in the water for 5minutes and dry in the room temperature for 10minutes 32 cycles AMP Spec. 109-5109 Condition
Salt Spray	20 mV/A Max. (Final)	Subject mated connectors to 15% salt concentration for 24 hours : hours : 4 cycle MIL-STD-202, Method 101 AMP Spec. 109-5101 Condition
Porosity	No Corrosion and strip shall occur	Gold plating port. AMP Spec. 109-146 Condition

3.5 Product Qualification Test Sequence

Test or Examination	Test Group											
	1	2	3	4	5	6	7	8	9	10	11	12
	Test Sequence(a)											
Confirmation of Product	1.3	1.3	1.5	1.3	1.3	1.3	1.3	1.5	1.5	1.5	1.5	1.5
Termination Resistance (Specified Current)			2.4					2.4	2.4	2.4	2.4	2.4
Dielectric Strength	2											
Insulation Resistance		2										
Current Cycing			3									
Temperature Rising				2								
Vibration (High Frequency)						2						
Connector Mating Force							2					
Pin Retention Force							2					
Temperature Life (Heat Aging)								3				
Resistance to Cold									3			
Humidity, Steady State										3		
Water Splash											3	
Salt Spray												3
Porosity Test					2							