1. Scope:

1.1 Contents

This specification covers the requirements for product performance, test methods and quality assurance provisions of 1.5/4.8 Sealed 26pos.Connector.
Applicable product description and part numbers are as shown in Appendix 1.

2. Applicable Documents:

The following documents form 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. 109-5000 : Test Specification, General Requirements for Test Methods

B. 114-5216, 114-5126 : Application Specification
Crimping of Sealed type .060 Receptacle Contact
Crimping .187 Series, Waterproof Contact

C. 501-5799 : Qualification Test Report

2.2 Commercial Standards and Specifications.

A. JASO D605 : Multi-pole Connector for Automobiles

B. JASO D7101 : Test Methods for Plastic Molded Parts

C. JIS C3406 : Low Voltage Wires and Cables for Automobiles

D. JIS D0203 : Method of Moisture, Rain and Spray Test for Automobile Parts

E. JIS D0204 : Method of High and Low Temperature Test for Automobile Parts

F. JIS D1601 : Vibration Testing Method for Automobile Parts

G. JIS R5210 : Portland Cement

3. Requirements:

3.1 Design and Construction:

Product shall be of the design, construction and physical dimensions specified on the applicable product drawing.

3.2 Material:

A. Contact:

Tab Contact	Brass	Pre-Tin
1.5 Receptacle Contact	Cu Alloy	Pre-Tin
4.8 Receptacle Contact	Cu Alloy	Pre-Tin

Fig.1

B. Housing: PBT resin

C. Other:

Seal Ring	Silicon Rubber
1.5 Rubber Plug	Silicon Rubber
4.8 Rubber Plug	Silicon Rubber

Fig.2

3.3 Ratings:

A. Temperature Rating : -30℃ to 105℃

3.4 Performance Requirements and Test Descriptions:

The product shall be designed to meet the electrical, mechanical and environmental performance requirements specified in Fig.3. All tests shall be performed in the room temperature, unless otherwise specified.

3.5 Test Requirements and Procedures Summary:

Para.	Test Items	Requirements	Procedures
3.5.1	Confirmation of Product	Product shall be conforming to the requirements of applicable product drawing and Application Specification. No. 114-5126, 114-5216	Visually, dimensionally and functionally inspected per applicable quality inspection plan.
3.5.2	Handling Ergonomics	No abnormalities allowed in manual mating/unmating handling.	Manually operated
		Electrical Requirements	
3.5.3	Termination Resistance (Low Level)	5mΩ Max. (Initial) 10mΩ Max. (Final)	Subject mated contacts assembled in housing to closed circuit current of 10mA Max. at open circuit voltage of 20mV Max. Fig.5 AMP Spec.109-5311-1
3.5.4	Termination Resistance (Specified Current)	5mV/A Max. (Initial) 10mV/A Max. (Final)	Measure initial termination resistance of contact test circuit in mated connectors. Fig.5 AMP Spec.109-5311-2
3.5.5	Insulation Resistance	100MΩ Min.	Impressed voltage 500V DC. Test between adjacent circuits of mated connectors. Fig.6 AMP Spec. 109-5302
3.5.6	Dielectric Strength	No creeping discharge nor flashover shall occur.	1kV AC for 1 minute. Test between adjacent circuits of mated connectors. Fig.6 AMP Spec. 109-5301
3.5.7	Temperature Rising	60℃ Max. under loaded specified current.	Measure temperature rising of mated connectors with all contacts series-wired, by energized current. Test Current: 4.5A (1.5: 0.85mm^2 wire) Test Current: 15A (4.8: 3mm^2 wire) AMP Spec. 109-5310

Fig.3 (To be continued)

Para.	Test Items	Requirements	Procedures
		Physical Requirements	
3.5.8	Contact Retention Force	1.5 Receptacle Contact Lance Only: 39.2N Min. With Secondary Lock : 98N Min. 4.8 Receptacle Contact Lance Only: 78N Min. With Secondary Lock : 98N Min	Apply axial load to contact. Operation Speed: 100mm/min. AMP Spec. 109-5212
3.5.9	Housing Locking Strength	98N Min.	Measure housing locking strength. Operation Speed:100mm/min. AMP Spec. 109-5210
3.5.10	Contact Insertion Force	1.5 Receptacle Contact 14.7 N Max. per contact 4.8 Receptacle Contact 29.4 N Max. per contact	Measure the force required to insert contacts into housing. AMP Spec. 109-5211
3.5.11	Connector Mating Force	70N Max.	Operation Speed: 100mm/min. Measure the force required to mate connectors. AMP Spec.109-5206
3.5.12	Connector Unmating Force	70N Max.	Operation Speed: 100mm/min. Measure the force required to unmate connectors without locking latch set in effect. AMP Spec.109-5206
3.5.13	Watertight Sealing	49kPa Min. (Initial) 29.4kPa Min. (Final)	Blow compressed air into mated pair of connectors through a small hole. Put the connectors into water and must withstand the air pressure of 9.8kPa. Increase the air pressure at a rate of 9.8kPa each time until air leakage takes place. AMP Spec.109-5111

Fig.3 (To be continued)

Para.	Test Items	Requirements	Procedures
		Environmental Requirements	
3.5.14	Temperature Life (Heat Aging)	Termination Resistance (Low Level) 10mΩ Max. (Final) Watertight Sealing 29.4kPa Min. (Final)	120℃,120hours AMP Spec. 109-5104
3.5.15	Resistance to Cold	Termination Resistance (Low Level) 10mΩ Max. (Final)	-40℃,120hours AMP Spec. 109-5108
3.5.16	Thermal Shock	Termination Resistance (Low Level) 10mΩ Max. (Final)	Mated connector -40℃/30min.100℃/30min. Making this a cycle, Repeat 1000cycles. AMP Spec. 109-5103
3.5.17	Humidity, Steady State	Termination Resistance (Low Level) 10mΩ Max. (Final) Current Leakage : 1mA Max.	Mated connector, 90～95%R.H.60℃ 96hours AMP Spec. 109-5105
3.5.18	Salt Spray	Termination Resistance (Specified Current) 10mV/A Max. (Final)	Subject mated/unmated connectors to 5% salt concentration for 96 hours AMP Spec. 109-5101
3.5.19	Dust Bombardment	Termination Resistance (Specified Current) 10mV/A Max. (Final)	Subject JIS R 5210 cement blow 1.5kg per 10 seconds in 15 minutes intervals for 60 minutes. AMP Spec. 109-5110

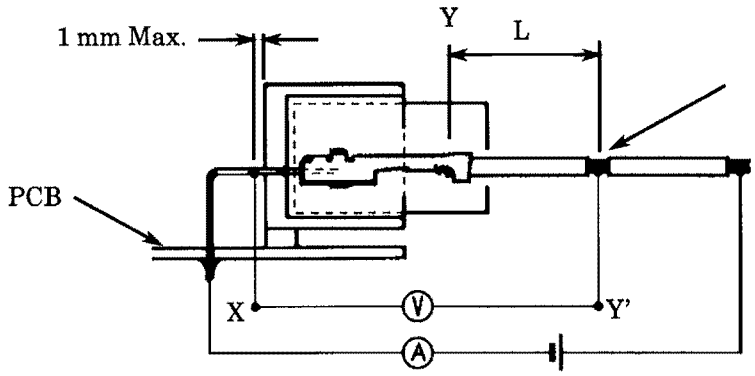
Fig.3 (End)

3.6 Product Qualification Test Sequence

Para.	Test Items	Test Group									
		1	2	3	4	5	6	7	8	9	10
		Test Sequence									
3.5.1	Confirmation of Product	1	1	1	1	1	1	1	1	1	1
3.5.2	Handling Ergonomics	2									
3.5.3	Termination Resistance (Low Level)				2	2, 5	2, 5	2, 5	2, 4		
3.5.4	Termination Resistance (Specified Current)	3								2, 4	2, 4
3.5.5	Insulation Resistance				3						
3.5.6	Dielectric Strength				4						
3.5.7	Temperature Rising				5						
3.5.8	Contact Retention Force (Lance Only)			3							
	Contact Retention Force (Secondary Lock)			4							
3.5.9	Housing Locking Strength			5							
3.5.10	Contact Insertion Force			2							
3.5.11	Connector Mating Force		2								
3.5.12	Connector Unmating Force		3								
3.5.13	Watertight Sealing					3	3	3, 6			
3.5.14	Temperature Life (Heat Aging)							4			
3.5.15	Resistance to Cold								3		
3.5.16	Thermal Shock					4					
3.5.17	Humidity (Steady State)						4				
3.5.18	Salt Spray									3	
3.5.19	Dust Bombardment										3

Numbers indicate sequence in which tests are performed.

Fig.4



For obtaining uniformity of the current density on probing points Y-Y', apply soldering on the probing points prior testing.

Fig.5

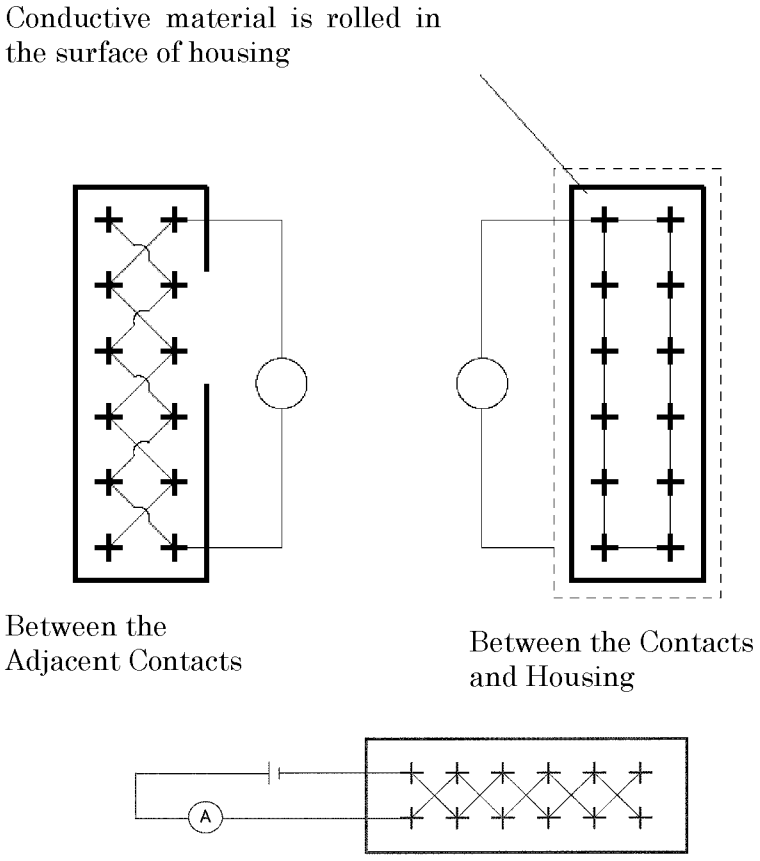


Fig. 6

The applicable product descriptions and part numbers are as shown in Appendix. 1

Appendix 1

Part Numbers	Description
1871592	PLUG HOUSING ASSEMBLY 26Pos V-TYPE
1903232	PLUG HOUSING ASSEMBLY 26Pos H-TYPE
900293	1.5 Receptacle
316867	Rubber Plug for 1.5 Receptacle (0.3-0.5sq)
967067	Rubber Plug for 1.5 Receptacle (0.85sq)
	4.8 Receptacle （YAZAKI）
	ABS UNIT CONNECTOR 26Pos （TEVES）