

108-5108

NUMBER:

Customer Release

SECURITY CLASSIFICATION:

Product Specification

108-5108

Shur-Plug Short Contact & Shur Plug Receptacle

1. Scope :

1.1 Contents :

This specification covers the requirements for product performance, test methods and quality assurance provisions of Shur-Plug Short Contact & Shur Plug Receptacle.

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. 114-5025 Application Specification, Shur-Plug Short Contact Crimping Specification

C. 501-5047 Test Report


2.2 Commercial Standards and Specifications :

A. JIS C 3406 Low Voltage Cables for Automobiles

3. Requirements :

3.1 Design and Construction :

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

					DR.	SHEET 1 OF 5	 AMP (Japan), Ltd. Kawasaki, Japan			
					CHK. <i>K. Yuasa</i> 8/17/92					LOC J
					APP.		NAME			
PRINT	B	Revised RFA-2050	<i>RFA</i>	8/17/92	<i>D. Tomita</i>		Shur-Plug Short Contact & Shur Plug Receptacle			
	LTR	REVISION RECORD	DR	CHK	DATE					

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108-5108

NUMBER:

Customer
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3.2 Materials:

A. Contact : ASTM B36 Copper Alloy No. 260 Pre-tinned brass or Plain brass

3.3 Ratings:

A. Temperature Rating : - 30 °C to 105 °C

3.4 Performance and Test Descriptions :

The product shall be designed to meet the electrical, mechanical and environmental performance requirements specified in Fig. 2. All tests shall be performed in the room temperature, unless otherwise specified.

3.5 Test Requirements and Procedures Summary :

Para.	Test Items	Requirements	Procedures	
Electrical Requirements				
3.5.1	Termination Resistance (Specified Current)	Test (A) Current 4	Resistance mV / A (Max.) Initial : 10 Final : 20	Measure initial millivolt drop of contact test circuit in mated connectors. Fig. 1 AMP Spec. 109-5311-2
3.5.2	Temperature Rising	20 °C Max. under loaded specified current.		Measure temperature rising by energized current. AMP Spec. 109-5310 Method
3.5.3	Contact Mating Force	58.8 N (6 kgf) Max.		Operation Speed : 100 mm / min. Measure the force required to mate connectors. AMP Spec. 109-5206 Condition
3.5.4	Contact Unmating Force	14.7~68.6 N (1.5~7 kgf)		Operation Speed : 100 mm / min. Measure the force required to unmate connectors. AMP Spec. 109-5206 Condition

Fig. 1 (to be continued)

SHEET 2 OF 5	AMP		AMP (Japan), Ltd. Kawasaki, Japan	
	LOC J	LOC A	NO. 108-5108	REV. B
NAME Shur-Plug Short Contact & Shur Plug Receptacle				

108-5108

NUMBER:

Customer Release

SECURITY CLASSIFICATION:

Para.	Test Items	Requirements	Procedures										
3.5.5	Crimp Tensile Strength	<table border="1"> <thead> <tr> <th>Wire Size</th> <th>Crimp Tensile (min.)</th> </tr> </thead> <tbody> <tr> <td>mm² (AWG)</td> <td>N (kgf)</td> </tr> <tr> <td>0.5 (#20)</td> <td>88 (9)</td> </tr> <tr> <td>0.85 (#18)</td> <td>127 (13)</td> </tr> <tr> <td>1.25 (#16)</td> <td>147 (15)</td> </tr> </tbody> </table>	Wire Size	Crimp Tensile (min.)	mm ² (AWG)	N (kgf)	0.5 (#20)	88 (9)	0.85 (#18)	127 (13)	1.25 (#16)	147 (15)	Apply an axial pull-off load to crimped wire of contact secured on the tester. Operation Speed : 100 mm / min. AMP Spec. 109-5205 Condition
Wire Size	Crimp Tensile (min.)												
mm ² (AWG)	N (kgf)												
0.5 (#20)	88 (9)												
0.85 (#18)	127 (13)												
1.25 (#16)	147 (15)												
3.5.6	Thermal Shock	20 mΩ Max. (Final)	- 55 °C / 30 min., 85 °C / 30 min. Making this a cycle, repeat 1 cycles. AMP Spec. 109-5103 Condition										
3.5.7	Salt Spray	20 mΩ Max. (Final)	Subject mated / unmated connectors to 5 % salt concentration for 24 hours ; MIL-STD-202, Method 101 AMP Spec. 109-5101 Condition										

Fig. 1 (end)

2 Product Qualification and Requalification Tests.

Test or Examination	Test Group (a)				
	1	2	3	4	5
	Test Sequence (c)				
Confirmation of Product	1	1	1	1	1
Termination Resistance (Specified Current)				2, 4	2, 4
Temperature Rising			2		
Connector Mating Force	2				
Connector Unmating Force	3				
Crimp Tensile Strength		2			
Thermal Shock				3	
Salt Spray					3

(a) See Para 4.1.A.

(b) Number indicate sequence in which tests are performed.

(c) Discontinuities shall not take place in this test group, during tests.

SHEET	AMP AMP (Japan), Ltd. Kawasaki, Japan			
3 OF 5	LOC J	LOC A	NO. 108-5108	REV. B
NAME Shur-Plug Short Contact Shue Plug Receptacle				

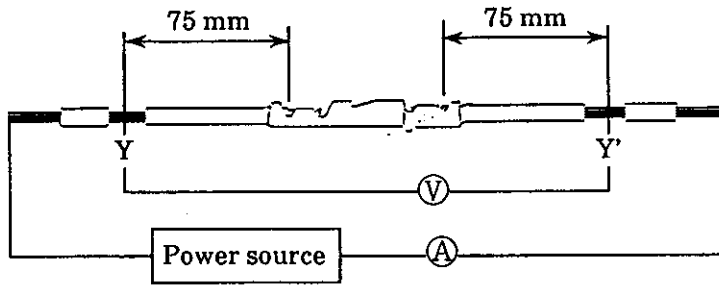


Fig. 2

Quality Assurance Provisions :

1. Sample Preparation

The test samples to be used for the tests shall be prepared by randomly selected from the current production, and terminated in accordance with 114-5025, Application Specification, Termination of Shur-Plug Short Contact.

No sample shall be reused, unless otherwise specified.

2. Test Conditions :

All the tests shall be performed under any combination of the following test conditions, unless otherwise specified.

Temperature : 15~35 °C

Relative Humidity : 45~75 %

Atmospheric Pressure : 86.7~107 kPa (650~800 mmHg)

SHEET 4 OF 5	AMP AMP (Japan), Ltd. Kawasaki, Japan		
	LOC J	LOC A	NO. 108-5108
REV. B			
NAME Shur-Plug Short Contact Shur Plug Receptacle			

NUMBER: 108-5108

SECURITY CLASSIFICATION:

Customer Release

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

Appendix 1

Prod. P / N	Description
170229	Shur-Plug Short Contact
170012	Shur-Plug Receptacle

SHEET 5 OF 5	AMP		AMP (Japan), Ltd. Kawasaki, Japan	
	LOC J	LOC A	NO. 108-5108	REV. B
NAME Shur-Plug Short Contact Shur Plug Receptacle				