QUALIFICATION TEST REPORT

認 定 試 験 報 告 書

250 INTER-LOCK CONNECTOR

501-*5017* Rev. *0*

Product specification : 108-*5169* Rev. *A*
Reference Test Report No. : *CP-784*
Date : *24 JAN. 1992*
Classification : Unrestricted

Prepared by	Reviewed by	Reviewed by	Approved by
K. Yuasa	A. Tomita		For S. Nagai
Prod. Eng'r	Prod. Dept. Mgr		QA Dept. Mgr.

AMP (Japan), Ltd. Kawasaki, Japan

01-24-92

250 INTER-LOCK CONNECTOR

1. Introduction

1.1 Testing was performed on the 250 INTER-LOCK CONNECTOR to determine if it meets the requirements of AMP Specification, 108-5169, Rev. A.

1.2 Scope

This report covers the electrical. mechanical and environmental performance requirements of the 250 INTER-LOCK CONNECTOR.

The qualification testing was performed between 1 May, 1984 and 27-Jun, 1984.

1.3 Conclusion

The 250 INTER-LOCK CONNECTOR meets the electrical, mechanical and environmental performance requirements of Product Specification, 108-5169, Rev. A.

1.4 Product Description

This connector, having locking device inside the housing, has been designed for use of medium Volume current, automotive wire-to-wire terminating applications.

1.5 Test Samples

Samples were taken randomly from current production. The following samples were used :

Part Number	Description
172215	Cap Housing 1 Pos.
172217	Cap Housing 2 Pos.
172219	Cap Housing 3 Pos.
172221	Cap Housing 4 Pos.
172223	Cap Housing 5 Pos.
172225	Cap Housing 7 Pos.
172227	Cap Housing 9 Pos.
172216	Plug Housing 1 Pos.
172218	Plug Housing 2 Pos.
172220	Plug Housing 3 Pos.
172222	Plug Housing 4 Pos.
172224	Plug Housing 5 Pos.
172226	Plug Housing 7 Pos.
172228	Plug Housing 9 Pos.
170258	Rec. Contact (2.0~3.0 mm^2)
170032	Rec. Contact (0.5~2.0 mm^2)
170384	Rec. Contact (0.3~0.5 mm^2)
170341	Tab. Contact (2.0~3.0 mm^2)
170340	Tab. Contact (0.5~2.0 mm^2)
170349	Tab. Contact (0.3~0.5 mm^2)

2. Product Qualification Test Sequence

501-5017

Test Items	Sample Groups										
	1	2	3	4	5 (b)	6	7	8	9	10	11
	Test Sequence (a)										
Confirmation of Product	1, 3	1	1	1	1	1	1	1, 4	1, 5	1, 4	1, 4
Termination Resistance (Rates Current)	2							3			
Termination Resistance (Low Level)										3	3
Dielectric Strength			2						4		
Insulation Resistance		2							3		
Vibration								2			
Connector Mating Force							2				
Connector Unmating Force							3				
Contact Insertion Force					2						
Contact Retention Force						2					
Contact Separating Force					3						
Crimp Tensile Strength				2							
Humidity (Stready State)									2		
Temperature Life										2	
Resistance to Cold											2

(a) Number indicate the sequence in which the tests are performed.

3. Test Results

Para. No.	Test Items	Requirements per Product Specification 108-5169	Judgement
1	Confirmation of Product	Inspect visually per applicable Quality Inspection Plan (QIP)	Acceptable
2	Termination Resistance (Rated Current)	Initial : 3 mV/A Max.	Acceptable
3	Termination Resistance (Low Level)	Initial : 3 mΩ Max.	Acceptable
4	Insulation Resistance	100 MΩ min. MIL-STD-202-302B (500V, 1 Min.)	Acceptable

Para. No.	Test Items	Requirements per Product Specification 108-5169	Judgement
5	Dielectric Strength	1000 V AC (50 Hz) 1 minute No abnormalities are evident	Acceptable
6	Temperature Rising	0.3~0.85 mm^2 : 20° deg Max. 1.25~3.0 mm^2 : 30° deg Max. Current : See product Spec.	Acceptable
7	Connector Mating Force	1 Pos. : 34.3 N (3.5 kgf) Max. 2 Pos. : 39.2 N (4.0 kgf) Max. 3 Pos. : 58.8 N (6.0 kgf) Max. 4 Pos. : 78.5 N (8.0 kgf) Max. 5 Pos. : 108 N (11.0 kgf) Max. 7 Pos. : 147 N (15.0 kgf) Max. 9 Pos. : 177 N (18.0 kgf) Max. Speed : 100 mm/min.	Acceptable
8	Connector Unmating Force	1 Pos. : 4.9 N (0.5 kgf) Min. 2 Pos. : 9.8 N (1.0 kgf) Min. 3 Pos. : 19.6 N (2.0 kgf) Min. 4 Pos. : 29.4 N (3.0 kgf) Min. 5 Pos. : 39.2 N (4.0 kgf) Min. 7 Pos. : 49.0 N (5.0 kgf) Min. 9 Pos. : 68.6 N (7.0 kgf) Min. Speed : 100 mm/min.	Acceptable
9	Contact Insertion Force	7.8~29.4 N (0.8~3.0 kgf) Speed : 100 mm/min.	Acceptable
10	Contact Saparating Force	7.8~29.4 N (0.8~3.0 kgf) Speed : 100 mm/min.	Acceptable
11	Contact Retantion Force	58.9 N (6 kgf) Min. Speed : 100 mm/min.	Acceptable
12	Vibration	33 Hz, 500 Hrs, 4.5 G, 10mV/A Max.	Acceptable
13	Crimp Strength	0.3 mm^2 : 59 N (6 kgf) Min. 0.5 mm^2 : 88.3 N (9 kgf) Min. 0.85 mm^2 : 127.5 N (13 kgf) Min. 1.25 mm^2 : 176.6 N (18 kgf) Min. 2.0 mm^2 : 264.9 N (27 kgf) Min. 3.0 mm^2 : 294.3 N (30 kgf) Min.	Acceptable
14	Resistance to Heat	120 °C, 120 Hrs 10 mΩ Max.	Acceptable

Para. No.	Test Items	Requirements per Product Specification 108-5169	Judge-ment
15	Humidity (Steady State)	60 °C, 90~95 % RH, 96 Hrs 10 mΩ Max. 100 MΩ Min. (Dielectric Strength) No abnormalities are evident	Accept-able
16	Resistance to cold	−50 °C, 120 Hrs 10 mΩ Max.	Accept-able