

Ass'y Jr. Power Timer**DESIGN OBJECT**

This product described in this document has not been tested to insure conformance to the requirements outlined below. Therefore, AMP do Brasil makes no representation or warranty, express or implied, that the product will comply with these requirements. Further, AMP do Brasil may change these requirements based on the results of additional testing and evaluation. Contact AMP Engineering for further details.

1. SCOPE**1.1 Content**

This specification covers the performance, tests and quality requirements for the Splash Proof Connectors P/N's 881735, 881739, 881742, 881745, 881749, 444071, 444072, 444074, 444079, 444199 and 444469. These connectors have a frontal spacer as a secondary lock, a spring wire and rubber seal to lock and seal the counter parts. These connectors are designed to use "Junior Power Timer Contacts" crimped with single wire seals (927770 / 927766 + 828904 / 828905) and cavity plugs 828922 or 828906 used on circuits without terminals. The counter parts should have recommended dimensions as specified on drawings 281800 (sheet 2) and 281808 (sheet 2). Counter part for P/N 881745 (5 ways) could be "Header" 444208 and for P/N 881749, 444074, 444199 could be 444211.

1.2 Qualification

When tests are performed on the subject product line, the procedures specified in AMP 109 series specifications shall be used. All inspections shall be performed using the applicable inspection plan and product drawing.

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 Documents

- | | | |
|----|------------|---|
| a) | 109-1 | General Requirements for Test Specifications. |
| b) | 109 Series | Test Specifications as indicated in "Test Requirements and Procedures Summary". |
| c) | 114-18018 | Application specification for Junior Power Timer Contact for Single Wire Seal. |
| d) | 108-18013 | Production Specification for Applicable Contacts. |

2.2 Other Standards

- | | |
|----|---------|
| a) | IEC 529 |
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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 Materials

a)	Housing	Glass Filled Polyester (PBT) Glass Filled Polyamide 6.6 (P.A. 6.6)
b)	Spacer	Polyester (PBT)
c)	Seal	Silicon Rubber
d)	Spring	Stainless Steel

3.3 Performance and Test Description

The product is designed to meet the electrical, mechanical and environmental performance requirements specified in Figure 1. All tests are performed at ambient environmental conditions per AMP Specification 109-1 unless otherwise specified.

3.4 Test Requirements and Procedures Summary

TEST DESCRIPTION	REQUIREMENT	PROCEDURE
Examination of Product	Meets requirements of product drawing and AMP Spec. 114-18018	Visual, dimensional and functional per applicable quality inspection plan.
Electrical		
Termination Resistance	According 108-18013	According 108-18013
Breakdown Voltage	1000 V eff. minimum	Test between adjacent contacts of mated or unmated connector assemblies : AMP Spec. 109-29-2
Insulation Resistance	100 m Ω minimum	Test between adjacent contacts of mated connector assembly : AMP Spec. 109-28-4
Current Cycling	60°C and Terminal Resistance	Subject mated contacts to 500 cycles at 25 A (2.5 mm ²) current for 45 minutes "ON" - 15 minutes "OFF": AMP Spec. 109-51
Temperature Rise vs. Current	30°C maximum temperature rise at current 25 A	Measure temperature vs. Current ; AMP Spec. 109-45-1
Mechanical		
Vibration Sinusoidal	No discontinuities greater than 1 μ s (microsecond) and Termination Resistance	Subject mated connectors to 10-500-10 Hz traversed in 1 min at 1.0 mm total excursion ; 2 hours in each of 3 mutually perpendicular planes ; AMP Spec. 109-21-1
Mating Force	2 w : Force = 70N max. 3 w : Force = 85N max. 4 w : Force = 100N max. 5 w : Force = 115N max. 7 w : Force = 145N max.	Measure force necessary to mate connector assembly to counter part (locking system activated) at a rate of 25 mm/min ; AMP Spec. 109-42
Unmating Force	2 w : Force = 20N max. 3 w : Force = 35N max. 4 w : Force = 50N max. 5 w : Force = 65N max. 7 w : Force = 90N max.	Measure force necessary to unmate connector assembly from counter part (locking system not activated) released, at a rate of 25 mm/min ; AMP Spec. 109-42
Contact Retention	No discontinuities greater than 1 μ s (microsecond) and Termination Resistance	Apply axial load of 60N to contacts, through wires (Pull out force) ; at a rate of 60 mm/minute ; AMP Spec. 109-30

Figure 1

Sliding Lock Mating Force	60N maximum (Hsg. with terminals)	Measure force necessary to mate sliding lock in the secondary locking
Housing Lock Strength	100N minimum	Determine strength of housing locking mechanism , at a rate of 60mm per minute ; AMP Spec. 109-50
Humidity Temperature Cycling	Termination Resistance	Subject mated connector to 5 humidity temperature cycles between - 30°C and + 125°C at 95% RH ; AMP Spec. 109-23
Humidity Steady State	(a)	Subject mated conn. to steady state humidity acc. IEC 529 IPX4 - 2h
Temperature Life	Termination Resistance	Subject mated connectors to temperature life at 125°C for 200 hours duration ; AMP Spec. 109-43
(a) Shall meet visual requirements, show no physical damage.		

Figure 1 (cont)

3.5 Contact Test and Sequence

Test or Examination	Test Group							
	1	2	3	4	5	6	7	8
	Test Sequence							
Examination of Product	1,5	1,5	1,5	1,4	1,3	1,8	1,3	1,5
Termination Resistance	2,4	2,4	2,4					2,4
Breakdown				3				
Insulation Resistance				2				
Temperature Rise vs. Current					2			
Vibration	3							
Current Cycling								3
Mating Force						4		
Unmating Force						5		
Contact Insertion Force						2		
Contact Retention						6		
Sliding Locking Mating Force						3		
Housing Lock Strength						7		
Humidity Temperature Cycling			3					
Humidity Steady State							2	
Temperature Life		3						

Revision Record		
Revision	Date	Description
0	08-Jul-93	Released
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