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**AMP Door's Off Connectors**

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*This Specification may change without notice , as a result of product design changes and / or evaluation testing .*

**1. SCOPE****1.1 Content**

This Specification covers the performance, tests and quality requirements of the "Door's Off Connectors" for automotive vehicles .

**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 AND PRODUCTS**

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 later shall take precedence . In the event of conflict between the requirements of this Specification and the referenced documents , the earlier shall take precedence .

**2.1 AMP Documents**

A. 109-1	General Requirements for Test Specifications
B. 109 Series	Test Specifications , as indicated (comply with MIL-STD-02 , MIL-STD-1344 and EIA RS-364)
C. Corporate Bulletin 401-76	Cross Reference between AMP Test Specifications and Military or Commercial documents

**2.2 Applicable Products**

Products of the following Part Numbers shall be governed by this Specification.

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Part Number	Description
282439-1	Mini MIC recpt. contact
282440-1	Mini MIC tab contact
444121-1	Housing 27 Posn. Multi Lock tab
444122-1	Spacer 27 Posn. Multi Lock tab
444123-1	Housing Assembly, 27 Posn. Multi Lock recpt.
444124-1	Housing 27 Posn. Multi Lock recpt.
444125-1	Spacer 27 Posn. Multi Lock recpt.
444126-1	Coupling Ring
444127-1	Rubber Seal

### 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) Contacts : Pre-tinned brass or pre-tinned phosphor bronze
- b) Housings : Polybutilene Terephtalate
- c) Spacers : Polybutilene Terephtalate
- d) Coupling Ring : Polycarbonate
- e) Seal : Thermoplastic rubber

#### 3.3 Ratings

- a) Current rating : up to 14 A with a 1,5mm<sup>2</sup> wire
- b) Test current : 6 A for 0,5 mm<sup>2</sup>  
11 A for 1,0 mm<sup>2</sup>  
14 A for 1,5 mm<sup>2</sup>
- c) Working Temperature : -40 to 110 °C

#### 3.4 Performance and Test Description

The product is designed to meet the electrical, mechanical and environmental performance specified , as tested per the test sequence showed . All tests are performed at ambient environmental conditions per 109-1 unless otherwise specified .

#### 3.5 Test Requirements and Procedures Summary

Test Description	Requirements	Procedure
Examination of the Product	To meet the Product Dwg.	Inspect the product per applicable Quality Inspection Plan
<b>Electrical</b>		
Termination resistance, specified current	Less than 3,0 miliohms	Measure potential drop of the mated contacts between the end of crimps; AMP Spec 109-25
Dielectrical withstanding voltage	No breakdown or flash-over	Apply 1,0 kV for one minute between two adjacent mated contacts assembled in the connector; AMP Spec 109-29-1

Insulation resistance	Less than 200 miliohms	Apply the current between two adjacent mated contacts assembled in the connector; AMP Spec 109-28-4
<b>Mechanical</b>		
Contact mating force	8 N maximum	Engage the tab into the receptacle contact
Contact unmating force	2,2 N minimum	Disengage the tab for the receptacle
Contact insertion force	12 N max. for the Receptacle contact and 23 N max. for the Tab contact	Measure force to insert the contact into the housing's cavity; AMP Spec 109-41
Contact retention	60 N minimum	Apply an axial force to the contact until it dislodges from the housing's cavity; AMP Spec 109-30-1
Housing lock strength	145 N minimum	Determine the mated connector's locking device strength; AMP Spec 109-50
Mating torque	1,10 N x m minimum	Measure torque necessary to mate the connector by applying force to the Coupling Ring
Housing panel retention	145 N minimum	Apply force to disengage the housing from the car's panel without pressing the three locking lances; AMP Spec 109-49
Unmating force	160 N minimum	Measure the force required to unmate the connector after having turned the Coupling Ring to its open position

### 3.6 Test Sequence

Group	Test Sequence	Sampling
1	Examination Insulation Resistance Examination	1 Housing Recept. 1 Housing Tab 27 Recept. Contacts 27 Tab Contacts
2	Examination Contact Mating Force Contact Unmating Force Examination	10 Recept. Contacts 10 Tab Contacts
3	Examination Dielectrical Withstand Examination	10 Housing Recept. 10 Housing Tab 20 Recept. Contacts 20 Tab Contacts
4	Examination Insertion Force Contact Retention Examination	1 Housing Recept. 1 Housing Tab 10 Recept. Contacts 10 Tab Contacts
5	Examination Hsg. Lock Strength Examination	10 Housing Recept. 10 Housing Tab

6	Examination Mating Torque Unmating Force Examination	10 Housing Recept. 10 Housing Tab 270 Recept. Contacts 270 Tab Contacts
7	Examination Hsg. Panel Retention Examination	10 Housing Tab

#### 4. QUALITY ASSURANCE PROVISIONS

##### 4.1 Qualification Testing

###### a) Sample Selection

Connectors and contacts shall be prepared in accordance to applicable Instruction sheets and shall be selected at random from current production .

##### 4.2 Requalification Testing

If changes affecting the fit , form or function are made to the Product or to its manufacturing process , Product Assurance shall conduct testing , consisting of all the sequence or part of it , as determined by Product Eng'g , Manufacturing Eng'g and Quality Assurance .

##### 4.3 Quality Conformance Inspection

The applicable AMP Quality Inspection Plan shall specify the sampling acceptance quality level to be used .

Revision Record		
Revision	Date	Description
0	07-Dec-96	Released

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