

---

**AMP-LATCH\* and IDC Header Connectors, .100 X .100 Inch Grid**

---

**1. SCOPE**

## 1.1. Content

This specification covers performance, tests and quality requirements for AMP-LATCH\* universal and low profile, and IDC standard and low profile .100 X .100 inch grid headers, right angle and vertical assemblies.

## 1.2. Qualification

When tests are performed on subject product line, procedures specified in Figure 1 shall be used. All inspections shall be performed using applicable inspection plan and product drawing.

- | 1.3. Successful qualification testing on the subject product line was completed on 03Nov95, additional testing was completed on 23Feb10. The Qualification Test Report number for this testing is 501-325. This documentation is on file at and available from Engineering Practices and Standards (EPS).

**2. APPLICABLE DOCUMENTS**

The following documents form a part of this specification to the extent specified herein. Unless otherwise specified, the latest edition of the document applies. 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 referenced documents, this specification shall take precedence.

## 2.1. Tyco Electronics Documents

- 109-1: Test Specification (General Requirements for Test Specifications)
- 109 Series: Test Specifications as indicated in Figure 1
- 501-325: Qualification Test Report (Connector, AMPLATCH\* Header, .100 X .100 Inch Grid)

## 2.2. Industry Document

| EIA-364: Electrical Connector/Socket Test Procedures Including Environmental Classifications

## 2.3. Reference Document

| 109-197: Test Specification (Tyco Electronics Test Specifications vs EIA and IEC Test Methods)

**3. REQUIREMENTS**

## 3.1. Design and Construction

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

## 3.2. Materials

Materials used in the construction of this product shall be as specified on the applicable product drawing.

3.3. Ratings

- Voltage: 250 volts AC
- Current: Signal application only, 1 ampere maximum per contact
- Temperature: -65 to 105°C

3.4. Performance and Test Description

Product is designed to meet electrical, mechanical and environmental performance requirements specified in Figure 1. Unless otherwise specified, all tests shall be performed at ambient environmental conditions per Test Specification 109-1.

3.5. Test Requirements and Procedures Summary

Test Description	Requirement	Procedure
Examination of product.	Meets requirements of product drawing.	Visual, dimensional and functional per applicable quality inspection plan.
<b>ELECTRICAL</b>		
Insulation resistance.	5000 megohms minimum initial. 1000 megohms minimum final.	EIA-364-21. 500 volts DC, 2 minute hold. Test between adjacent contacts of unmated specimens.
Withstanding voltage.	One minute hold with no breakdown or flashover.	EIA-364-20, Condition I. 1000 volts AC at sea level. Test between adjacent contacts of unmated specimens.
<b>MECHANICAL</b>		
Solderability.	Solderable area shall have minimum of 95% solder coverage.	AMP Spec 109-11-1. Subject contacts to solderability for specimens with tin-lead plated soldertails.
		AMP Spec 109-11-11. Subject contacts to solderability for specimens with lead-free tin plated soldertails.
Component resistance to wave soldering.	See Note.	AMP Spec 109-202, Condition A. 240°C for specimens with tin-lead plated soldertails.
		AMP Spec 109-202, Condition B. 265°C for specimens with lead-free tin plated soldertails.
Contact retention.	Post shall not dislodge from normal position.	EIA-364-29, Method A. Apply axial load of 2 pounds to contacts and hold for 6 seconds. See Figure 3.

Figure 1 (continued)

Test Description	Requirement	Procedure
<b>ENVIRONMENTAL</b>		
Thermal shock.	See Note.	EIA-364-32, Test Condition II. Subject unmated specimens to 5 cycles between -65 and 105°C with 30 minute dwells at temperature extremes.
Humidity/temperature cycling.	See Note.	EIA-364-31, Method III. Subject unmated specimens to 10 cycles (10 days) between 25 and 65°C at 80 to 100% RH with cold shock.

**NOTE** *Shall meet visual requirements, show no physical damage and shall meet requirements of additional tests as specified in Test Sequence in Figure 2.*

Figure 1 (end)

3.6. Product Qualification and Requalification Test Sequence

Test or Examination	Test Group (a)		
	1	2	3
	Test Sequence (b)		
Examination of product	1,3,5	1,3	1,8
Insulation resistance			2,6
Withstanding voltage			3,7
Solderability		2	
Component resistance to wave soldering	2		
Contact retention	4		
Thermal shock			4
Humidity/temperature cycling			5

**NOTE** (a) *See paragraph 4.1.A.*  
 (b) *Numbers indicate sequence in which tests are performed.*

Figure 2

#### 4. QUALITY ASSURANCE PROVISIONS

##### 4.1. Qualification Testing

###### A. Specimen Selection

Specimens shall be prepared in accordance with applicable Instruction Sheets and shall be selected at random from current production. All test groups shall each consist of a minimum of 5 headers of each type.

###### B. Test Sequence

Qualification inspection shall be verified by testing specimens as specified in Figure 2.

##### 4.2. Requalification Testing

If changes significantly affecting form, fit or function are made to the product or manufacturing process, product assurance shall coordinate requalification testing, consisting of all or part of the original testing sequence as determined by development/product, quality and reliability engineering.

##### 4.3. Acceptance

Acceptance is based on verification that the product meets the requirements of Figure 1. Failures attributed to equipment, test setup or operator deficiencies shall not disqualify the product. When product failure occurs, corrective action shall be taken and specimens resubmitted for qualification. Testing to confirm corrective action is required before resubmittal.

##### 4.4. Quality Conformance Inspection

The applicable quality inspection plan will specify sampling acceptable quality level to be used. Dimensional and functional requirements shall be in accordance with the applicable product drawing and this specification.

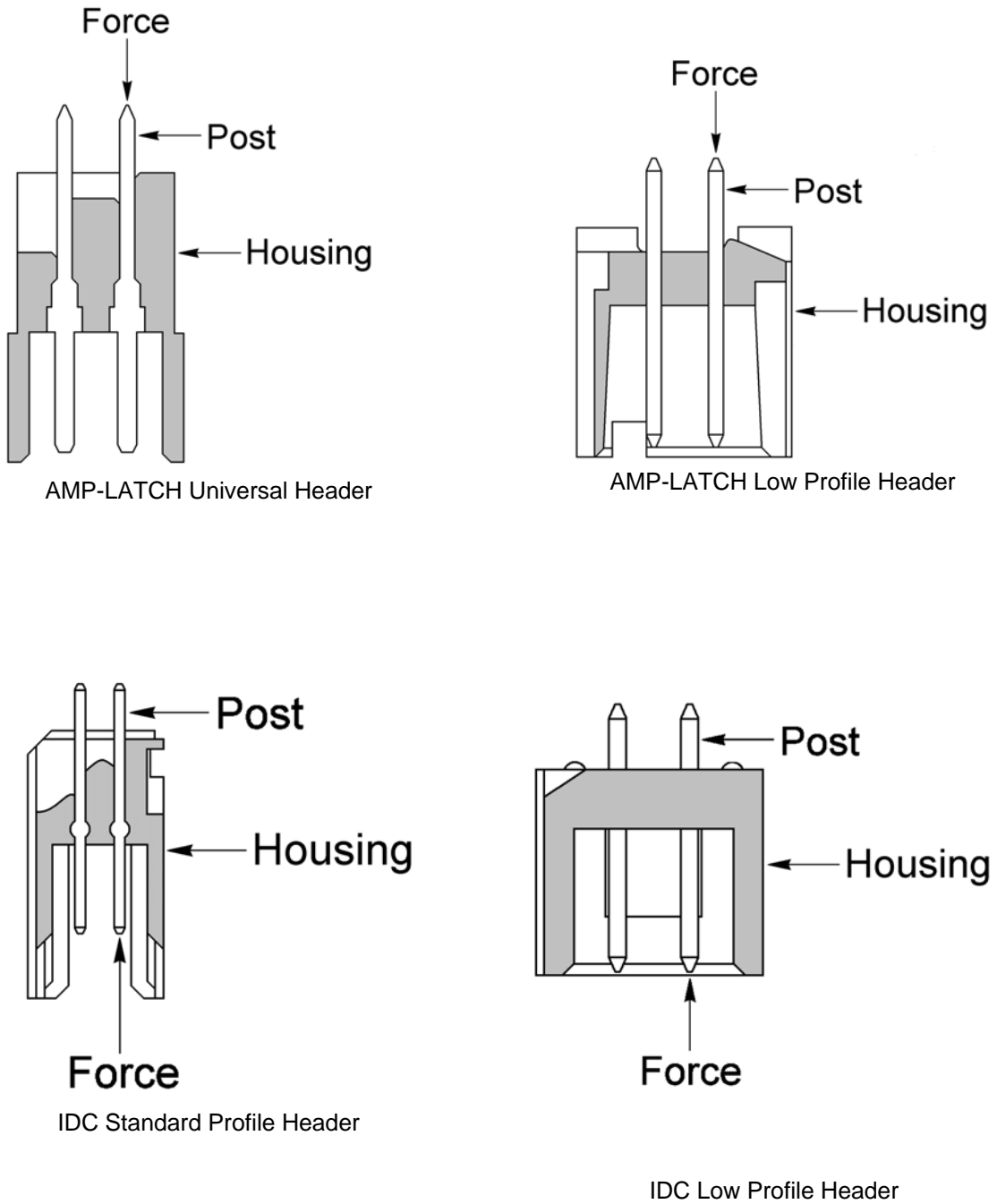


Figure 3  
Contact Retention