



NOTE

The product described in this document has not been fully tested to ensure conformance to the requirements outlined below. Therefore, TE Connectivity (TE) makes no representation or warranty, express or implied, that the product will comply with these requirements. Further, TE may change these requirements based on the results of additional testing and evaluation. Contact TE Engineering for further details.

Miniature AMP-IN Contacts

1. SCOPE

1.1. Content

This specification covers performance, tests, and quality assurance provisions of Miniature AMP-IN contacts.

1.2. Qualification

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

1.3. Qualification Test Results

Successful qualification testing on the subject product line was completed between Jun to Dec 2022. The Qualification Test Report 501-106642 and 501-106667(restricted sales) are available.

1.4. Revision Summary

Revisions to this specification include:

- Initial release of specification.

2. APPLICABLE DOCUMENTS AND FORMS

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 the referenced documents, this specification shall take precedence.

1.适用范围

1.1. 内容

本规范覆盖了 Miniature AMP-IN 端子的性能, 实验方法和品质保证条件等。

1.2. 验证

在目标产品上进行试验时, 应使用图 1 中规定的程序。所有样品检查均应依据适用的检查计划和产品图纸进行。

1.3.验证结果

产品的测试已经成功完成, 测试结果请参考 TE 测试报告 501-106642,501-106667(限制销售)。

1.4. 本规范的修订内容包括

- 初次释放

2. 适用文件和表格

以下文件在本文规定的范围内构成本规范的一部分。除非另有规定, 否则文件的最新版本适用。如果本规范的要求与产品图纸之间存在冲突, 应以产品图纸为准。如果本规范的要求与参考文件之间存在冲突, 应以本规范为准。

2.1. TE Connectivity Specifications

114-106642	Application Specification
114-106667	Application Specification (Restricted sales)
501-106642	Qualification Test Report
501-106667	Qualification Test Report (Restricted sales)

2.1.规范

114-106642	应用规范
114-106667	应用规范(限制销售)
501-106642	验证报告
501-106667	验证报告(限制销售)

2.2. Commercial Standards and Specifications

IEC 61984	International Standard – Safety Requirements and Tests
IEC 60335	International Standard – Safety of Household and Similar Appliance
IEC 60512	International Standard – Connectors for Electronic Equipment – Tests and Measurements
IEC 60695	International Standard – Fire Hazard Testing
UL 1977	Safety Standards – Component Connectors for Use in Data, Signal, Control, and Power Applications
EIA-364	Electrical Connector/Socket Test Procedures Including Environmental Classifications

2.2.商业标准和规范

IEC 61984	国际标准-安全要求和测试
IEC 60335	国际标准-家用和类似用途 电器的安全
IEC 60512	国际标准-电子设备连接器- 测试和测量
IEC 60695	国际标准-火灾危险测试
UL 1977	安全标准-用于数据、信 号、控制和电源应用的组 件连接器
EIA-364	电气连接器/插座测试程 序，包括环境分类

2.3. Reference Documents

109-1	General Requirements for Testing
102-950	Qualification of Separable Interface Connectors

2.3.参考文档

109-1	测试的一般要求
102-950	可分离接口连接器的鉴定

3. REQUIREMENTS

3.1. Design and Construction

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

3. 需求

3.1.设计和结构

产品的设计、结构和物理尺寸应符合相应产品图纸的规定。

3.2. Materials

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

A. Contacts: Pre-tin copper alloy

3.2.材料

产品材料应符合适用 TE 图纸的规定。

A.端子: 预镀锡 铜合金

3.3. Ratings (工作参数)

A. Voltage Rating: 250VAC

B. Current Rating: Applicable for current rating of the wire (AWG26-12)

C. Temperature Rating: -40°C to +105°C

3.3.工作参数

A.额定电压:250VAC

B.额定电流:适用于导线的额定电流(AWG26-12)

C.工作温度: -40°C ~ +105°C

3.4. Performance Requirements and Test Description

The product should meet the mechanical performance requirements specified in Figure 1. All tests shall be performed at room temperature unless otherwise specified.

3.4. 性能必要条件及试验方法

产品应满足图 1 中规定的机械性能要求。除非另有规定, 所有试验应在室温下进行。

3.5. Test Requirements and Procedure Summary

3.5.性能要求和试验方法

Test Description 试验描述	Requirement 规格值	Procedure 实验方法
Examination of Product 样品检查	Meets requirements of product drawing. 符合产品图纸	Visual inspection, no physical damage 目视检查, 无物理损坏
Mechanical 机械性能		
Contact Insertion Force 端子插入力	AWG26-22: 34.3N(3.5kgf)Max. AWG22-18: 34.3N(3.5kgf)Max. AWG18-16: 34.3N(3.5kgf)Max. AWG14: 34.3N(3.5kgf)Max. AWG12: 50.0N(4.0kgf)Max.	Measure the force required to insert contact vertically into printed circuit board with nominal hole size as specified on customer print, see Figure 5. Operation Speed: 25mm/min. Test specification: EIA 364-5 测量端子垂直插入图纸规定的 PCB 孔径所需的力, 如图 5 所示, 速度 25mm/min. 测试规范: EIA 364-5
Contact Retention Force 端子保持力	AWG26-22: 9.8N(1.0kgf)Min. AWG22-18: 9.8N(1.0kgf)Min. AWG18-16: 9.8N(1.0kgf)Min. AWG14: 9.8N(1.0kgf)Min. AWG12: 15.0N(1.53kgf)Min.	Apply an axial load to crimped contact assembled in printed circuit board to remove the crimped terminal from PCB, see Figure 6. Operation Speed: 25mm/min. Test specification: EIA 364-29 施加轴向拉力去移除已经装入 PCB 的端子, 如图 6 所示, 速度 25mm/min. 测试规范: EIA 364-29

<p>Solderability 可焊性</p>	<p>Applicable portion of contact shall have minimum of 95% solder coverage 端子焊接位置应至少具有 95%的焊料覆盖率</p>		<p>Test specification: TEC-109-11-13-1 Solder Temperature: 245±5°C Immersion duration: 3±0.5s 测试规范 TEC-109-11-13-1 测试温度: 245±5°C, 时间: 3±0.5s</p>
<p>Crimp Tensile Strength 压着部引张强度</p>	<p>AWG26-22</p>	<p>AWG26:19.6N(2.0kgf)Min. AWG24:19.6N(2.0kgf)Min. AWG22:19.6N(2.0kgf)Min.</p>	<p>Apply an axial pull-off load to crimped wire Operation Speed: 25.4mm/min. Test specification: EIA 364-8 施加轴向的拉力去拉端子上的电线直到端子和电线分离 速度 25mm/min. 测试规范: EIA 364-8</p>
<p>AWG22-18</p>	<p>AWG22:19.6N(2.0kgf)Min. AWG20:19.6N(2.0kgf)Min. AWG18:19.6N(2.0kgf)Min.</p>		
<p>AWG18-16</p>	<p>AWG18:19.6N(2.0kgf)Min. AWG16:24.5N(2.5kgf)Min.</p>		
<p>AWG14</p>	<p>29.4N(3.0kgf)Min.</p>		
<p>AWG12</p>	<p>15.0N(1.5kgf)Min.</p>		

Figure 1



NOTE

Shall meet visual requirements, show no physical damage, and meet requirements of additional tests as specified in the Product Qualification Test Sequence shown in Figure 2.



注释

应符合视觉要求, 无物理损伤, 并符合图 2 所示产品验证测试顺序中规定的附加测试要求。

3.6. Product Qualification and Test Sequence

3.6. 产品验证项目和测试顺序

Test or Examination	试验项目	Test Groups(a) 测试组别		
		1	2	3
		Test Sequence(b) 测试顺序		
Examination of Product	样品检查	1	1	1
Contact Insertion Force	端子插入力	2		
Contact Retention Force	端子保持力	3		
Solderability	可焊性		2	
Crimp Tensile Strength	压着部引张强度			2

Figure 2



NOTE

(a) See paragraph 4.2.
(b) Numbers indicate sequence in which tests are performed.



注释

(a) 参考 4.2.
(b) 数字代表每一组的测试顺序。

4. QUALITY ASSURANCE PROVISIONS

4.质量保证规定

4.1. Test Conditions

4.1. 测试条件

Unless otherwise specified, all the tests shall be performed in any combination of the following test conditions shown in Figure 3.

除非另有规定，否则所有试验应在图 3 所示的试验条件下进行。

Temperature	15°C – 35°C
Relative Humidity	45% – 75%
Atmospheric Pressure	86.6 – 106.6 kPa

Figure 3

4.2. Qualification Testing

4.2. 验证测试

A. Specimen Selection

A. 样品选择

Specimens shall be prepared in accordance with applicable instruction sheets and shall be selected at random from current production

样品应从当前生产中随机选择,并且根据适用的说明书进行准备

Product Types	Insulation Diameter (mm)	PCB Diameter (mm) (±0.05)	PCB Thickness (mm) (±0.05)
AWG26-22	1.02 – 2.5	1.85	1.60
AWG22-18	1.5 – 3.0	1.85	
AWG18-16	2.8 – 3.4	2.40	
AWG14	3.4 – 3.8	2.55	
AWG12	4.0 – 4.2	3.55	

Figure 4

B. Test Sequence

B. 测试顺序

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

测试样品需要依据图 2 中的测试项目进行试验

4.3. Requalification Testing

4.3. 重新验证试验

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.

如果对产品或制造过程的变更显著影响了产品形状、配合或功能，产品应重新进行验证测试，包括由产品开发、质量和可靠性工程团队确定的全部或部分原始测试顺序。

4.4. Acceptance

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

4.4. 验收

验收基于验证产品是否满足图 1 中的要求。由于测试设备、测试设置或操作人员缺陷导致的测试失效不能说明产品不合格。如果发生测试失效，应采取纠正措施并重新提交样品进行鉴定。在重新提交之前需要进行测试以确认纠正措施。

4.5. Quality Conformance Inspection

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

4.5. 质量一致性检查

适用的质量检验计划应规定可使用的抽样的质量接受水平。尺寸和功能要求应符合适用的产品图纸和本规范。

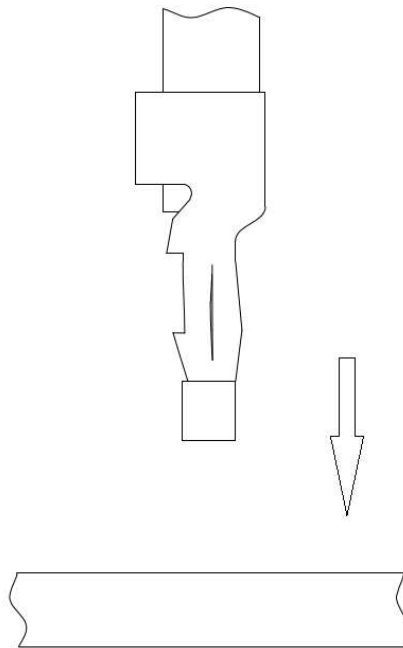


Figure 5

Contact insertion force test method

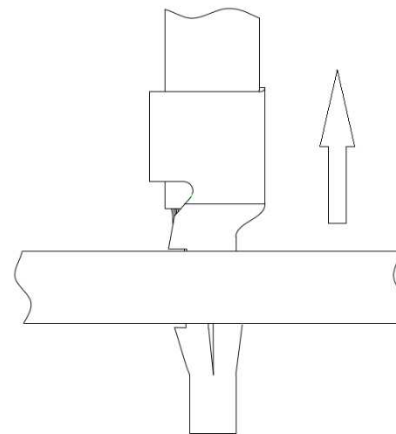


Figure 6

Contact retention force test method