

Battery Holder

1. INTRODUCTION

1.1. Purpose

Testing was performed on the AMP* thru-hole and surface mount battery holders to determine their conformance to the requirements of AMP Product Specification 108-1691 Revision A.

1.2. Scope

This report covers the electrical and mechanical performance of the thru-hole and surface mount battery holders. The testing was performed between 18Feb97 and 19Feb97 and between 16Aug99 and 18Aug99. The test file number for this testing is 2932-001. This documentation is on file at and available from the Americas Regional Laboratory.

1.3. Conclusion

The battery holders listed in paragraph 1.5, meet the electrical and mechanical performance requirements of AMP Product Specification 108-1691 Revision A.

1.4. Product Description

The thru-hole and surface mount battery holders are designed for the CR2032 battery. Each holder consists of a housing with a positive and negative contact.

1.5. Test Samples

Test samples were randomly selected from normal current production lots. The following part numbers were used for test:

Test Group	Quantity	Part Number	Description
1	6	120591-1	Thru-hole battery holder
<u>1</u>	<u>6</u>	<u>796136-1</u>	<u>Surface mount battery holder</u>

Figure 1

1.6. Qualification Test Sequence

Test or Examination	Test Group
	Examination of Product
Termination Resistance, Dry Circuit	3,6
Dielectric Withstanding Voltage	2
Vibration	5
Durability	4

NOTE The numbers indicate sequence in which tests were performed.

Figure 2

2. SUMMARY OF TESTING

2.1. Examination of Product - Test Group 1

All samples submitted for testing were randomly selected from current production lots. A Certificate of Conformance was issued by the Product Assurance Department. Where specified, samples were visually examined and no evidence of physical damage detrimental to product performance was observed.

2.2. Termination Resistance, Dry Circuit - Test Group 1

All termination resistance measurements, taken at 20 milliamperes maximum and 50 millivolts open circuit voltage were less than 50 millionhms initially and finally.

Test Group	Number of Data Points	Condition	Termination Resistance		
			Min	Max	Mean
<u>Thru-Hole Product</u>					
1	6	Initial	9.64	11.70	10.76
		After Mechanical	9.55	13.18	11.53
<u>Surface Mount Product</u>					
1	6	Initial	6.93	8.93	7.78
		After Mechanical	10.031	19.38	13.64

Figure 3

2.3. Dielectric Withstanding Voltage - Test Group 1

No dielectric breakdown or flashover occurred.

2.4. Vibration - Test Group 1

Following vibration, no cracks, breaks, or loose parts on the connector assemblies were visible.

2.5. Durability - Test Group 1

No physical damage occurred to the samples as a result of mating and unmating the battery to the holder 2 times.

3. TEST METHODS

3.1. Examination of Product

Where specified, samples were visually examined for evidence of physical damage detrimental to product performance.

3.2. Termination Resistance, Low Level

Termination resistance measurements at low level current were made using a 4 terminal measuring technique (Figure 4). The test current was maintained at 20 milliamperes maximum with a 50 millivolt open circuit voltage.

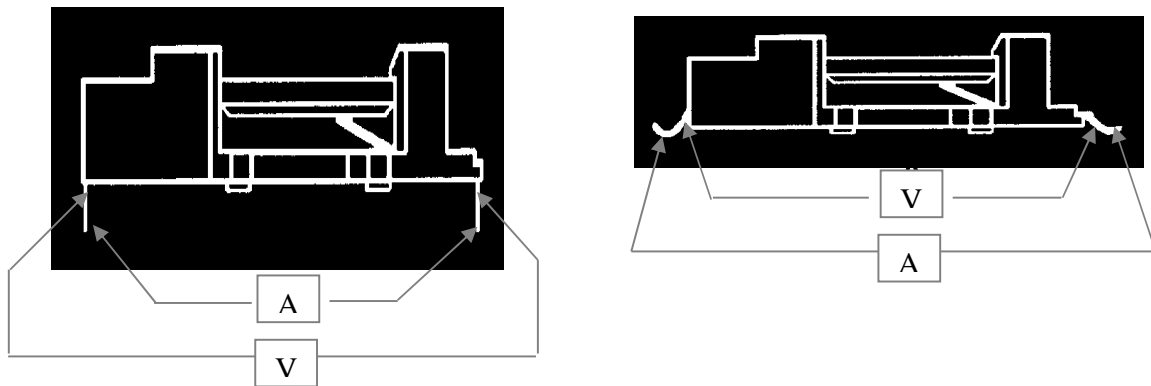


Figure 4
Typical Termination Resistance Measurement Points

3.3. Dielectric Withstanding Voltage

A test potential of 250 volts AC was applied between adjacent contacts. This potential was applied for 1 minute and then returned to zero.

3.4. Vibration, Random

Mated connectors were subjected to a random vibration test, specified by a random vibration spectrum, with excitation frequency bounds of 10 and 500 Hz. The power spectral density at 10 Hz was 0.005 G^2/Hz . The spectrum sloped up to a PSD of 0.02 G^2/Hz at 14 Hz. The spectrum was flat at 0.02 G^2/Hz from 14 to 500 Hz. The root-mean square amplitude of the excitation was 3.13 GRMS. This was performed for 15 minutes in each of 3 mutually perpendicular planes for a total vibration time of 45 minutes.

3.5. Durability

Holder and battery were mated and unmated 2 times.