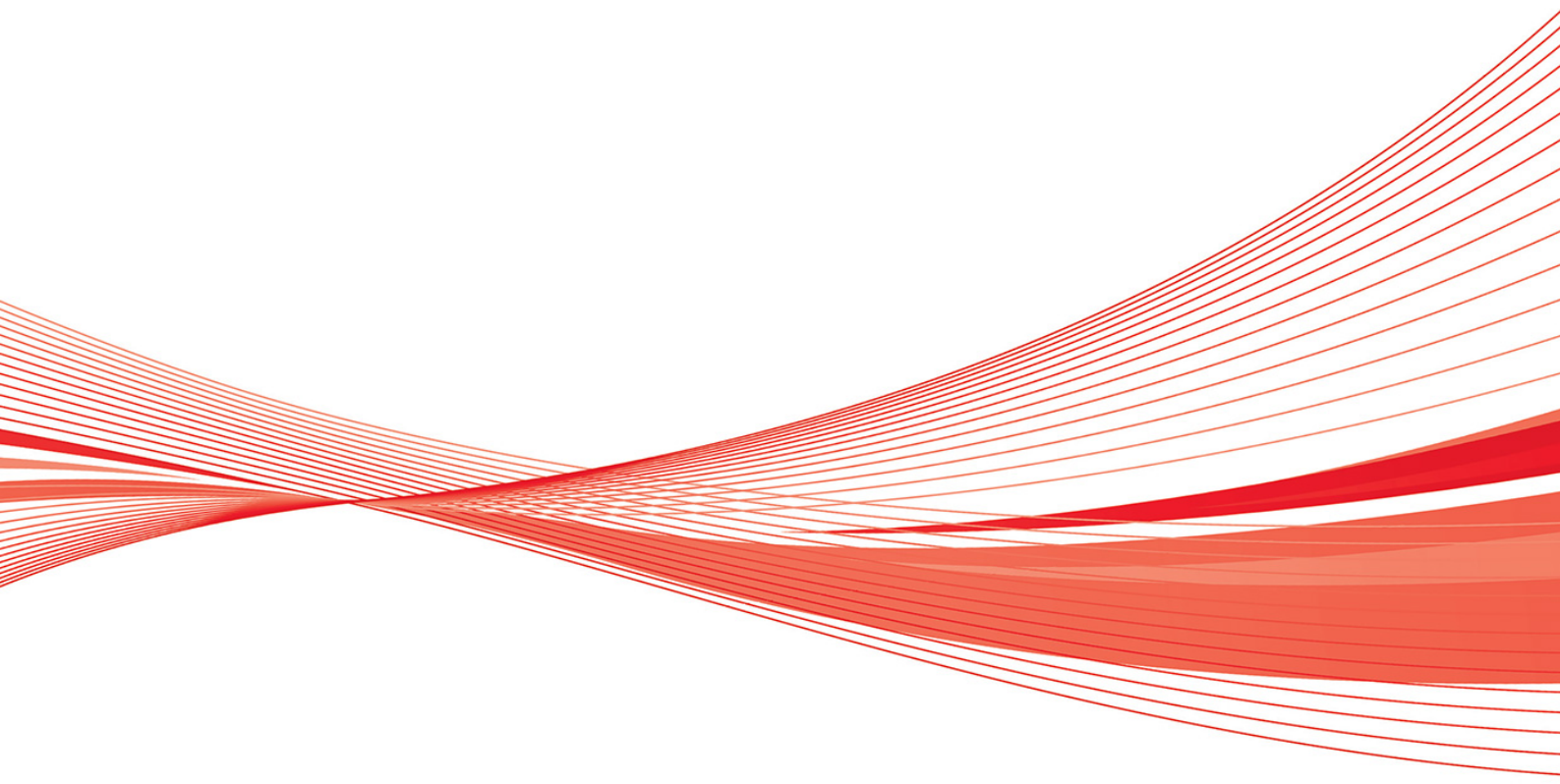
Harwin Test Report Summary

HT03101

Electrical and Mechanical Testing of M40-110 Series (1.00mm Pitch SIL Female Crimp Conn.)



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1. Introduction.

1.1. Description and Purpose.

The following tests were performed on the M40-110 series (1.00mm pitch SIL Female Crimp Housing) with associated assembled contacts (M40-1000046). Tests perfomed include:

- Insulation Resistance (Electrical)
- Contact Resistance (Electrical)
- Voltage Proof, also known as Dieletric Withstanding Voltage (Electrical)
- Temperature Cycling (Environmental)
- Insertion and Withdrawal (Mating and Unmating) Forces (Mechanical)

1.2. Conclusion.

All samples of the product in question fully peformed to the stated standards.

2. Test Method, Requirements and Results.

2.1. List of Test Samples.

Five samples of M40-1100400, assembled with crimp contacts M40-1000046, representatitve of current production, were subjected to the following Electrical and Environmental tests.

Ten samples were used for the Mechanical tests.

2.2. Specification Parameters.

All tests were conducted in accordance with EIA-364 standards and the detailed product specification. The products were required to meet the following specifications:

a) Insulation Resistance = 100MΩ min.
b) Contact Resistance = 20mΩ max. initial, 40mΩ max. after conditioning.
c) Voltage Proof = No breakdown after one minute of 500V AC.
d) Temperature Cycling = After conditioning, the product must still meet the specifications for Insulation Resistance, Contact Resistance, Voltage Proof, and exhibit no damage or breakdown.
e) Insertion Force (complete connector) = 7.85N max.
f) Withdrawal Force (complete connector) = 1.57N min.

2.3. Test Method and Results.

a) Insulation Resistance.
100V DC was applied for one minute. After the test, all connectors were visually inspected, and no damage had occurred.

Sample no.	1	2	3	4	5
Insulation Resistance	>100MΩ	>100MΩ	>100MΩ	>100MΩ	>100MΩ

b) Contact Resistance.
For this test, a 10mA DC current was passed through the connector.

Sample no.	1	2	3	4	5
Contact Resistance	6.90mΩ	7.24mΩ	7.82mΩ	7.18mΩ	7.20mΩ

c) Voltage Proof.
A voltage of 500V AC was passed through the five connectors for the duration of one minute. Parts were visually inspected after one minute; no damage was present and no breakdown occurred during the test.

d) Temperature Cycling.
Five samples were tested for one cycle of 96 hours, in a temperature of 40°C and relative humidity of 90%-95%. Contact Resistance and visual inspection were conducted after test – no damage was present.

Sample no.	1	2	3	4	5
Contact Resistance	9.86mΩ	9.38mΩ	10.03mΩ	9.51mΩ	9.76mΩ

e) Insertion and Withdrawal Forces.
Ten crimp connectors were mated and unmated with the corresponding male header M40-4010446.

Result	Insertion Force	Withdrawal Force
Maximum result	3.92N	2.84N
Minimum result	3.43N	2.06N
Average result	3.69N	2.41N