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|-----------------------------------------------------------------------------------|--------------------------------|-----------------------|--|
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| TITLE<br><br>EYE OF NEEDLE PRESS FIT QUICKIE HEADERS                              | PAGE<br>1 of 6                 | REVISION<br>A         |  |
|                                                                                   | AUTHORIZED BY<br>M. BARRIOS    | DATE<br>Sep. 21, 2006 |  |
|                                                                                   | CLASSIFICATION<br>UNRESTRICTED |                       |  |

## 1.0 SCOPE.

- 1.1 Content. This specification covers the performance requirements for EON Press Fit Quickie family of compliant, press-fit daughter board post headers.
- 1.2 Qualification. When tests are performed on the subject product line, the procedures specified in the applicable specifications must be used. All inspections shall be performed using the applicable inspection plans and product drawings.

## 2.0 APPLICABLE DOCUMENTS

- 2.1 Specifications.
  - (a) General requirements from test specification.
  - (b) Engineering drawings
  - (c) Process drawings
- 2.2 Military Standards.
  - (a) MIL-STD-105: Sampling procedure and tables for inspection by attributes.
  - (b) MIL-STD-1344: Test methods from electrical connectors
  - (c) MIL-STD-202:
- 2.3 Commercial Standards.
  - (a) UL94-V0

## 3.0 REQUIREMENTS.

- 3.1 Design and construction. Connectors shall be of the design, construction, and physical dimensions specified on the applicable product drawing.
- 3.2 Materials.
  - A. Contacts. Copper Alloy, nickel plate all-over or duplex plate of gold, GXT, Tin or Tin-Lead as required by the product drawing.
  - B. Thermoplastic, UL94-V-0
- 3.3 Performance and Test Description Header assemblies shall be designed to meet the electrical, mechanical, and environmental performance requirements specified in Section 3.4.
- 3.4 Test Requirements and Procedure Summary.

|                                                                                   |                                                      |                       |                |               |            |  |
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| TEST DESCRIPTION                          | REQUIREMENT                                                                                                          | PROCEDURE                                                                                                                                                                            |
|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Examination of product.                   | Meets requirements of product drawing.                                                                               | Visual, dimensional and functional per QAP                                                                                                                                           |
| Contact to plated through hole resistance | 1.0 Milliohms max. init.<br>4.0 Milliohms max. final                                                                 | Test as shown in Figure 1                                                                                                                                                            |
| Insulation Resistance                     | 5000 Mégohms min. init.<br>1000 Mégohms min. final                                                                   | Method 3003 of MIL-STD-1344                                                                                                                                                          |
| Dielectric Withstanding Voltage (DWV)     | No arcover or insulation breakdown or current leakage greater than 1 Milliamp.                                       | Method 3001 condition 1 of MIL-STD-1344 test voltage 1000 VRMS, 60 cycles per second duration 60 seconds                                                                             |
| Bend Strength                             | No damage to wire-wrap pin                                                                                           | Tested on a circuit board-connector assembly in accordance with method 211 MIL-STD-202 test method C: load of one (1) pound and a maximum bend of 30°, each side of the center line. |
| Torque Strength                           | 1) No damage to wire-wrap terminals<br>2) Meets the final contact to plated through hole resistance                  | Tested to method 211, MIL-STD202 test condition E with 2 ½ ounce inches of torque                                                                                                    |
| Pin to board Retention                    | Three (3) pound min.                                                                                                 | Pull or push individual pin at a rate of 0.1 inches per minute and measure force required to move pin                                                                                |
| Pin to housing Retention                  | Three (3) pound min.                                                                                                 | Pull or push individual pin at a rate of 0.1 inches per minute and measure force required to move pin                                                                                |
| Pin Stability                             | No visible motion of the board interface                                                                             | Pins assembled to a PCB shall experience a motion of 30° magnitude in any radial direction at either end of the pin                                                                  |
| Thermal Shock                             | 1) No evidence of crazing, cracking or other damage to the assembly                                                  | Test to method 1003 of MIL-STD-1344. For connectors to be used in higher than 85° C environment, test to MIL-STD-202 Method 107 Condition.                                           |
| Humidity                                  | 1) Meets the insulation resistance final min value.<br>2) Meets the final contact to plated through hole resistance. | Test to method 1002 of MIL-STD-1344 Type 1, test condition B (96 HOURS AT 40° C and 95% RH)                                                                                          |

|                                                                                   |                                                      |                       |                |               |            |  |
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|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| Vibration          | 1) No physical or mechanical damage.<br>2) No discontinuity greater than 1 Microsecond.<br>3) Meets the final contact to plated through hole resistance. | Mate connector assembly with test Board and test to method 2005, MIL-STD-1344 test condition III.                                         |
| Shock              | 1) No physical or mechanical damage.<br>2) No physical or mechanical damage.<br>3) Meets the final contact to plated through hole resistance.            | Test to method 2004, MIL-STD-1344, test three blows in each direction along each of three mutually perpendicular axes-total of 18 shocks. |
| Solvent Resistance | No evidence of swelling, cracking, crazing, dimensional change or entrapment of foreign matter that would effect connector function                      | Connector assemblies cleaned in a vapor degreaser using Freon™ TF for 30 seconds (10 seconds at peak temperature).                        |

### 3.5 Test Sequence.

- a) See Paragraph 4.1.A
- b) Numbers indicate sequence in which tests are performed.

| TEST DESCRIPTION              | TEST GROUP (a)    |   |     |     |
|-------------------------------|-------------------|---|-----|-----|
|                               | 1                 | 2 | 3   | 4   |
|                               | TEST SEQUENCE (b) |   |     |     |
| Examination of product        | 1                 | 1 | 1   | 1   |
| Contact to Plated though Hole | 2, 4, 6           |   |     | 2,5 |
| Insulation Resistance         |                   |   | 2,6 |     |
| Bend Strength                 |                   | 2 |     |     |
| Torque Strength               |                   | 3 |     |     |
| Board Retention               | 7                 | 5 |     |     |
| Housing Retention             |                   |   | 3   |     |
| DWV                           |                   | 6 |     |     |
| Pin Stability                 |                   | 4 |     |     |
| Thermal Shock                 | 3                 |   | 4   |     |
| Humidity                      | 5                 |   | 5   |     |
| Vibration                     |                   |   |     | 3   |
| Shock                         |                   |   |     | 4   |
| Solvent Resistance            |                   | 7 |     |     |

|                                                                                   |                                |                     |                       |
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#### 4.0 QUALITY ASSURANCE PROVISIONS.

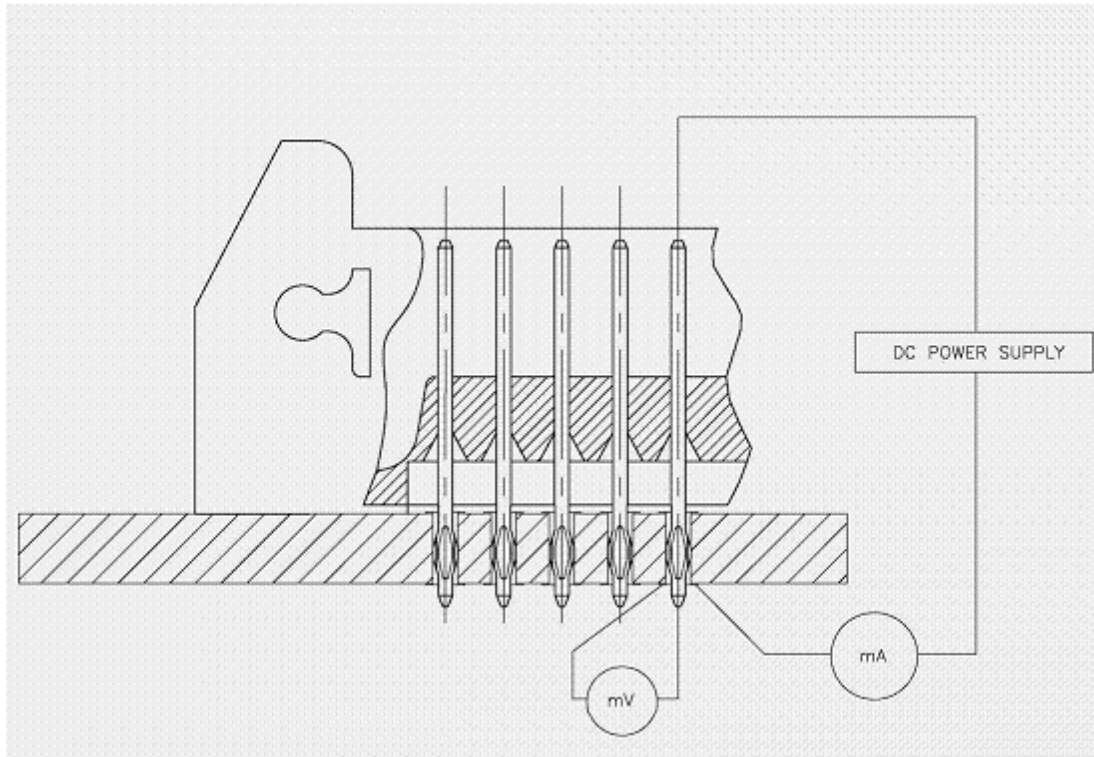
##### 4.1 Qualification Inspection.

- A. Sample Selection. Connector housings and contacts shall be prepared in accordance with applicable instruction sheets. They shall be selected at random from current production. Each group shall consist of three connector assemblies. Where individual readings are specified, only 15 random readings shall be taken per test group.
- B. Test Sequence. Qualification inspection shall be verified by testing samples as specified in Section 3.5

##### 4.2 Acceptance.

- 4.2.1 Acceptance Inspection. Acceptance inspection shall be consistent with 4.2.3 below.
- 4.2.2 Inspection Lot. An inspection lot shall consist of all connectors produced under essentially the same and offered for inspection at one time.
- 4.2.3 Sampling Plan. A) Statistical sampling and inspection shall be performed for General Inspection; B) FCI is committed to a Zero Defect Philosophy utilizing Statistical Process Control. Our commitment to Zero Defects is a continuous improvement in process quality.
- 4.2.4 Rejected Lots. Rejected lots shall be reworked to correct the defects or screened to remove defective units and re-submitted for inspection.
- 4.2.5 Disposition of Sample Units. Sample units that have been subjected to the acceptance inspection shall be considered deliverable on the contract or purchase order.

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**FIGURE 1 – CONTACT TO PLATED THROUGH HOLE RESISTANCE**

|                                                                                   |                               |                                |                       |
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