025 (0.64) TH Vertical Header

1. SCOPE

1.1. Content

This specification covers the requirements for product performance, test method and quality assurance provisions for the TE Connectivity (TE) 025 (0.64) TH Vertical Header.

Applicable product description and part numbers are as follow.

Part Number	Part Description
2237033	TH40V 025 Cap Connector (Male)
Sumitomo PN	NH40FW Female Connector
Sumitomo PN	NHF Terminal

Note: The model number (part number) is configured with a single digit number with a dash in the list parent number. For more information on the dash with a number for each parent numbers refer to the drawing or catalog for the customer. It should be noted that if the prefix is zero, zero and dash are omitted.

1.2. Qualification

When tests are performed on the subject product line, procedures specified in Figure 1 and 2 shall be used. All inspections shall be performed using the applicable inspection plan and product drawing.

2. APPLICABLE DOCUMENTS

The following documents and forms constitute a part of this specification to the extent specified herein. 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. Unless otherwise indicated, the latest edition of the document applies.

2.1. TE Documents

- 501-166001: Qualification Test Report (025 (0.64) TH Vertical Header)

2.2. Reference Documents

- 109-197: Test Specification (TE Test Specifications vs EIA and IEC Test Methods)
- 109-5000: Test Specification (General Requirements for Test Methods)

| Indicates Change

3. REQUIREMENTS

3.1. Design and Construction

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

3.2. Materials

A. Tab (Male)

Material: Brass

Finish: Pre-Tinned

B. Housing

Cap Material: PCT

3.3. Conditions of use

- Nominal Voltage: 13.5V DC
- Temperature: Class 2
  - Operating Temperature: -40 to 100°C
  - Test Temperature: 125°C
- Vibration: Class 1
- Sealing: Class 0
- Maximum temperature for reflow process: 260°C
  Profile according spec TEC 109-201 condition B

3.4. Performance Requirements and Test Description

The product is designed to meet the electrical, mechanical and environmental performance requirements specified in Figure 1 and 2. All tests shall be performed in the room temperature, unless otherwise specified.

3.5. Test Requirements and Procedures before Reflow

Test Description	Requirement	Procedure
Visual Examination	No defect that would impair normal operation	Naked eye examination
ELECTRICAL		
Insulation Resistance	Ri ≥ 100 MΩ	Test Voltage: 500V DC during 1 min between one contact and the others
Dielectric Withstanding Voltage	No breakdown, no flashover	Test Voltage: 1000V AC during 1 min between each contact
MECHANICAL		
Pin Retention into the Header	F ≥ 25N	Apply an axial force on each pin: speed 50mm/min
Mounting Header on the PCB	F ≤ 50N	Apply an axial force on central housing: speed 50mm/min
Retention Header on the PCB	F ≤ 10N	Apply an axial extraction force on central housing: speed 50mm/min

Figure 1

3.6. Test Requirements and Procedures after Reflow

Test Description	Requirement	Procedure
Visual Examination	No defect that would impair normal operation	Naked eye examination
MECHANICAL		
Mating Force into Counterpart	40P: F ≤ 100N	Apply an axial force: speed 50mm/min
Unmating force into Counterpart (with action on the locking device)	40P: F ≤ 100N	Apply an axial force: speed 50mm/min
Latching Force into Counterpart (without action on the locking device)	F ≤ 120N	Apply an axial force: speed 50mm/min
Mechanical locating device	F ≤ 150N	Apply an axial force: speed 50mm/min
Resistance to Maneuver	Neither breakdown nor crack, connector mating and unmating must be possible 5^{th} maneuver 40P: F ≤ 100N Ri ≥ 100MΩ/1000V AC ΔRc < 5mΩ	Operate Number: 5 Temperature -30°C Operate Number: 5 At ambient temperature

Figure 2

4. QUALITY ASSURANCE PROVISIONS

4.1. Qualification Testing

Samples shall be selected at random from current production. The number of test points will correspond to the number of positions on the connector.

4.2. Re-Qualification Testing

If changes significantly affecting form, fit or function are made to the product or manufacturing process, product quality assurance shall co-ordinate re-qualification testing, consisting of all or part of the original testing sequence as determined by development/product, quality and reliability engineers.

4.3. Acceptance

Acceptance is based upon verification that product meets requirements of Figure 1. Failures attributed to equipment, test set-up or operator deficiencies shall not disqualify product. When product failure occurs, corrective actions shall be taken and samples re-submitted for qualification. Testing to confirm corrective action is required before re-submittal.

4.4. Quality Conformance Inspection

Applicable TE quality inspection plan will specify sampling acceptable quality level to be used. Dimensional and functional requirements shall be accordance with applicable product drawing and specification.