RAST 5 Tab Headers

1. Scope

1.1 Contents

This specification covers performance, tests and quality requirements for the TE Connectivity **RAST 5 Tab Headers**. The housing is designed with latching, keying and polarization to the RAST 5 Specification and is available in vertical and right angle versions as well as a standard RAST 5 tab header and a Positive-Lock version.

1.2 Qualification

When tests are performed on the subject product line, the procedures specified in TE 109 series specifications shall be used. All inspections shall be performed using the applicable inspection plan and product drawing.

2. Applicable Documents

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.

2.1 TE Connectivity Document

A. 109-1: General Requirements for Test Specifications
B. 109 series: Test Specification as indicated in figure 2 (Comply with EIA-364)
C. 501-106080: Test Report

2.2 International Standards

- EIA-364: Electrical Connector/Socket Test Procedures Including Environment Classifications.
- IEC 60695-2-11: Fire Hazard Testing - Part 2-11: Glowing/hot-wire Based Test Methods -Glow-wire Flammability Test Method for End-products

© Copyright 2005 by Tyco Electronics Shanghai Co., Ltd. K.K. All rights reserved.
* : Trademark

3. Requirements

3.1 Design and Construction

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

3.2 Materials

A. Housing：Thermoplastic or Thermoplastic High Temp., UL94V-0 and GWFI 850 ºC, GWIT 775ºC.

B. Contact：Copper Alloy, Tin or Silver plating on contact over Nickel under-plating overall.

3.3 Ratings

A. Voltage Rating:
   400VAC/DC for fully loaded
   600VAC/DC for selectively loaded

B. Current Rating: (USR and CNR:)
   25 amperes for tin plated contacts, (mating with TE standard power timer, high current version), 4 positions MAX
   20 amperes for silver plated contacts, 8 positions MAX
   20 amperes for tin plated contacts, 8 positions MAX
   16 amperes for tin plated contacts, (mating with TE standard power timer), 8 positions MAX

C. Temperature Rating: -40℃ to +120℃ 1).

3.4 Performance Requirements and Test Descriptions

Product is designed to meet the electrical, mechanical and environmental performance requirements specified in Figure 1. Unless otherwise specified, all tests shall be performed at ambient environmental conditions per AMP Specification 109-1 unless otherwise specified

Note: 1). UL certified RTI 140℃ max

3.5 Test Requirements and Procedures Summary (Fig 1)

NO.	TEST ITEMS	REQUIREMENTS	PROCEDURES
3.5.1	Examination of Product	Meets requirements of product drawing. No physical damage.	Visually, dimensionally and functionally inspected per applicable inspection plan. EIA-364-18
ELECTRICAL REQUIREMENTS			
3.5.2.1	Insulation Resistance	5000M ohms min. (Initial) 5000M ohms min (Final)	Measure by applying test potential between adjacent contacts. EIA-364-21
3.5.2.2	Dielectric Strength	Tab headers must withstand test potential of 3000VAC for 1 min. Current leakage limit to 0.5mA max.	Measure by applying test potential between adjacent contacts. EIA-364-20, Method A
MECHANICAL REQUIREMENTS			
NO.	**TEST ITEMS**	**REQUIREMENTS**	**PROCEDURES**
3.5.3.1	Contact Retention Force	26.7 N [6 lbf] minimum.	EIA-364-13. Measure force necessary to remove contact tab from housing at a maximum rate of 12.7 mm [.5 in] per minute.
3.5.3.2	Glow wire test	Tested part shall have rating of 750° C with no flame.	IEC 60695-2-11
ENVIRONMENTAL REQUIREMENTS			
3.5.4.1	Temperature Life	No Physical damage	Subject connectors to temperature life at 85°C±2°C for 96 hours. EIA 364-17 condition III
3.5.4.2	Humidity-Temperature Cycling	No Physical damage	Subject connectors to steady state humidity at 40°C±2°C and 90-95% R.H for 96hrs. EIA-364-31, Method III, condition B
3.5.4.3	Solder ability	The inspected area of each lead must have 95% solder coverage minimum.	Temperature: 245±5° C, 3±0.5sec. EIA-364-52, class I. category 1.
3.5.4.4	Resistance to Soldering Heat	No Physical damage	For through hole product: EIA-364-56, Procedure 3, Condition B. Subject connectors to solder bath at 260±5°C for 5±1 seconds (Flow soldering). The distance between the mounting surface and solder surface shall be 1.5 mm to 2.54mm For SMT product: EIA-364-56, Procedure 5, Level 3.

3.5.4.5	Cold	No physical damage	Acc. IEC 512-11-10 T: -40 ° C, duration time: 2 hours.
3.5.4.6	Dry heat	No physical damage	Acc. IEC 512-11-9 T: 120 ° C, duration time: 7 days

Fig. 1 (End)

*** Notes**

A) Product must be without rust, corrosion transformation, crack and discoloration.

B) Shall meet visual requirements, show no physical damage, and meet requirements of additional tests as specified in the Product Qualification and Requalification.

3.6 Product Qualification Test Sequence (Fig 2)

Test or Examination	Test Group						
	1	2	3	4	5	6	7
	Test Sequence (a)						
Examination of product	1	1,3	1,3	1,3	1	1,9	1,4
Insulation Resistance					2,6	2,7	
Dielectric withstanding Voltage					3,7	3,8	
Contact Retention Force	2						
Glow Wire Test				2			
Temperature Life					5	5	
Humidity-Temperature Cycling					4	4	
Solder ability		2					
Resistance to Soldering Heat			2				
Condensed water/changing climate with air containing SO2						6	
Cold							2
Dry Heat							3

*** Notes:**

(a) Numbers indicate the sequence in which the tests are performed.
(b) Group 6 is for silver plated product.

4. Quality Assurance Provisions

4.1 Test Conditions

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

Temperature :	15～35℃
Relative Humidity :	45～75 %
Atmospheric Pressure :	86.6～106.6 Kpa

Fig. 3

4.2 Tests

4.2.1 Test Specimens

Specimens shall be prepared in accordance with applicable Instruction Sheets and shall be selected at random from current production. Test group 1 shall consist of a minimum of 10 specimens. Test groups 2, 3, 4 and 5 shall each consist of a minimum of 5 specimens.

4.2.2 Test sequence

Qualification inspection shall be verified by testing specimens as specified in fig2

4.3 Acceptance

Acceptance is based on verification that the product meets the requirements of 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 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 Storage Conditions

A. Recommended storage condition: +10°C to +35°C with a relative humidity of 30-70%.
B. The parts should be stored in the original packaging ensuring to have no damages such as rips and punctures.
C. The parts should not be exposed to direct sunlight or UV light. It should be protected from extreme ambient conditions and away from chemical storages.
D. Tarnish caused by any kind of dust or any atmospheric deposition must me be avoided.
E. If the applicable storage conditions are complied, the admissible Shelf life for Silver plated Headers are about 6 months and 12 months for Tin plated Headers.
F. After storage over an extended period, the solderability must be checked and verified.

The applicable product description and part numbers please see the customer drawings: C-1971845, C-2232043, C-521383, C-2390874, C-2232511, C-2322950, C-1969740, C-1969738, C-521385, C-521386, C-1955660, C-1969352, C-2232532, C-2232611, C-2232647, C-2372858, C-2385644, C-2371466, C-2371673, C-2405963, C-2405966, C-2292457, C-2337101, C-521384, C-1969234, C-2364002.

* Not exhaustive list

LTR	REVISION RECORD	DR	CHK	APRD	DATE
A	Release	Richard Chen	Hapye Wu	Eric Kong	10APR2012
B	ECR-12-008565	Bob Yang	Hapye Wu	Yuhong Mao	4MAY2012
C	---	RuiPing. Wu	Hapye Wu	Yuhong Mao	28JAN2013
C1	Correct the GWT description	Winter Wang	Hapye Wu	Yuhong Mao	14MAY2013
D	Update ratings of item3.3	Ruiping.wu	Hapye Wu	Yuhong Mao	31MAY2013
D1	---	Winter Wang	Hapye Wu	Yuhong Mao	07JUN2013
D2	ECR-21-102725	Subhash M	Lanboo Zhang	Federico Lupo	28APR2021
D3	ECR-23-176816	Subhash M	Federico Lupo	Federico Lupo	17MAY2023

D4	ECR-24-204759	Teresa Li	Federico Lupo	Federico Lupo	03APR2024
D5	---	Teresa Li	Federico Lupo	Federico Lupo	03JUN2024

Unikeyic Electronics

Global Electronic Components Distributor

Click to view pricing, inventory, delivery, and lifecycle information:

TE Connectivity:

1-794222-0 1903112-2 2377783-2 2380312-2 650075-000 2-292161-3 ROX05SJ18R SMW73R0JT 1393431-1 1743455-2 3430B2F51RTDF 936348-1 CPF0402B37K4E1 MPT100C18RF 141991-2 2310537-1 RH73H2A40MKTN SBCHE64R7K TE50BR39J U5254-000005-030PA 2834055-1 2005330-1 1-962915-1 3631B101LL 175977-2 1969656-1 3-1393225-0 917696-1 CRGCQ2010J3K3 SBCHE154R7K