Economy RF Coaxial Connectors(ZDC)

1. SCOPE

1.1. Content

This specification covers performance, tests and quality requirements for various Tyco Electronics Economy RF Coaxial Connectors (BNC, TNC, SMA, F, UHF, M-UHF type).

1.2. Qualification

When tests are performed on the subject product line, procedures specified in Figure 1 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. Tyco Electronics Documents

- 109-197: Test Specification (Tyco Electronics Test Specifications vs EIA and IEC Test Methods)
- 114-Series : Application Specifications as required
- 501-112000 : Qualification Test Report (Economy RF Coaxial Connectors)

2.2. Industry Document

EIA-364: Electrical Connector/Socket Test Procedures Including Environmental Classifications

3. REQUIREMENTS

3.1. Design and Construction

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

3.2. Materials

Materials used in the construction of this product shall be as specified on the applicable product drawings.

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3.3. Ratings

Requirement	Connector Type					
	BNC	TNC	SMA	F Series	UHF	M-UHF
Voltage	500	500	500	500	500	335
Temperature(℃)	-55 to 85	-55 to 85	-55 to 85	-55 to 85	-55 to 85	-55 to 85
Nominal impedance (ohms)	50 and 75	50 and 75	50	75	50	50
Frequency range, 50 ohm (GHz)	DC-4	DC-4	DC-3	-----	-----	DC-2
Frequency range, 75 ohm (GHz)	DC-2	DC-2	-----	DC-2	-----	-----

Figure 1

3.4. Performance and Test Description

Product is designed to meet the electrical, mechanical and environmental performance requirements specified in Figure 2. Unless otherwise specified, all tests shall be performed at ambient environmental conditions.

3.5. Test Requirements and Procedures Summary

Test Description	Requirement	Procedure
Initial examination of product.	Meets requirements of product drawing.	EIA-364-18. Visual and dimensional (C of C) inspection per product drawing.
Final examination of product.	Meets visual requirements.	EIA-364-18. Visual inspection.
ELECTRICAL		
Low Level Contact Resistance. (LLCR)	∆R 3 milliohms maximum, center and outer contact.	EIA-364-23. Subject specimens to 100 milliamperes maximum and 20 millivolts maximum open circuit voltage. See Figure 4.
Insulation resistance.	5000 megohms minimum.	EIA-364-21. 500 volts DC, 2 minute hold. Test between adjacent contacts.
Withstanding voltage.	One minute hold with no breakdown or flashover.	EIA-364-20, Condition I. 500 volts AC (rms) at sea level for F Series and SMA product. 1000 volts AC (rms) at sea level for M-UHF product. 1500 volts AC (rms) at sea level for BNC, TNC and UHF product. Test between adjacent contacts.

Figure 2 (continued)

Test Description	Requirement	Procedure
	MECHANICAL	
Sinusoidal vibration.	No discontinuities of 1 microsecond or longer duration. See Note.	EIA-364-28, Test Condition VII, Condition Letter B. Subject mated specimens to 1.57 G's rms between 20 to 500 Hz. Fifteen minutes in each of 3 mutually perpendicular planes.
Mechanical shock.	No discontinuities of 1 microsecond or longer duration. See Note.	EIA-364-27, Condition H. Subject mated specimens to 30 G's half-sine shock pulses of 11 milliseconds duration. Three shocks in each direction applied along 3 mutually perpendicular planes, 18 total shocks.
Durability.	See Note.	EIA-364-9. Mate and unmate specimens for 50 cycles at a maximum rate of 500 cycles per hour.

NOTE *Shall meet visual requirements, show no physical damage, and meet requirements of additional tests as specified in the Product Qualification and Requalification Test Sequence shown in Figure2.*

Figure 2 (end)

3.6. Product Qualification and Requalification Test Sequence

Test or Examination	Test Group (a)
	1
	Test Sequence (b)
Initial examination of product	1
LLCR	2,6
Insulation resistance	3
Withstanding voltage	4
Durability	5
Sinusoidal Vibration	7
Mechanical shock	8
Final examination of product	9

NOTE

(a) See paragraph 4.1.A.
(b) Numbers indicate sequence in which tests are performed.

Figure 3

4. QUALITY ASSURANCE PROVISIONS

4.1. Qualification Testing

A. Specimen Selection

Specimens shall be prepared in accordance with applicable Instruction Sheets and shall be selected at random from current production. Test group shall consist of 5 jacks and 5 plugs. Jacks shall be mounted on 0.62 inch thick printed circuit boards. Plugs shall be crimped to a 12 inch length of applicable cable as specified on the customer drawing.

B. Test Sequence

Qualification inspection shall be verified by testing specimens as specified in Figure 2.

4.2. Requalification Testing

If changes significantly affecting form, fit or function are made to the product or manufacturing process, product assurance shall coordinate requalification testing, consisting of all or part of the original testing sequence as determined by development/product, quality and reliability engineering.

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 resubmitted.

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.

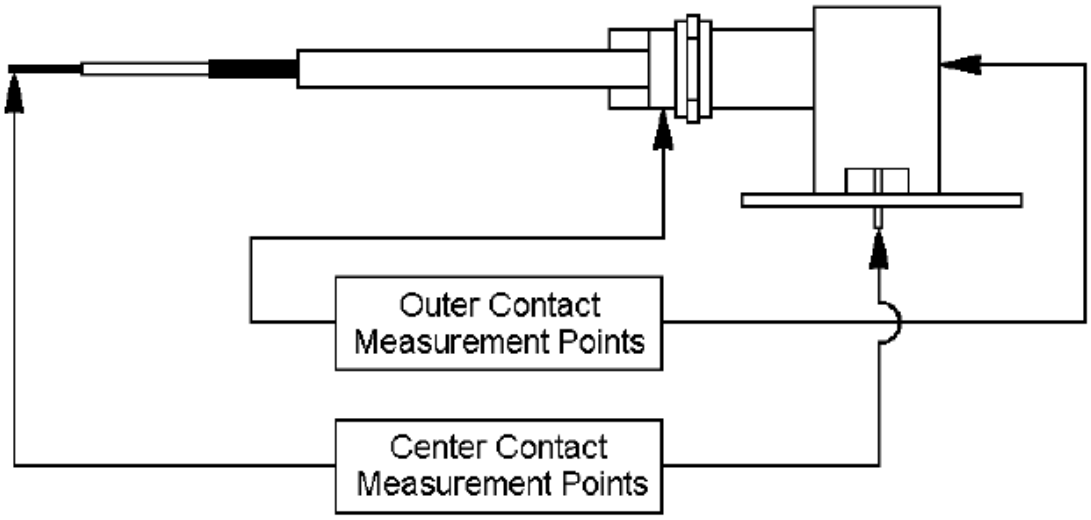


Figure 4
Typical LLCR Measurement Points

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Global Electronic Components Distributor

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

TE Connectivity:

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