MODULAR JACK, SIDE ENTRY, SINGLE / MULTI-PORT, LOW PROFILE

1. SCOPE

1.1. CONTENTS

This specification covers the performance, tests and quality requirements for the **MODULAR JACK, SIDE ENTRY, SINGLE / MULTI-PORT, LOW PROFILE.**

1.2. QUALIFICATION

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

2. APPLICABLE DOCUMENT

The following Tyco 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 SPECIFICATIONS

A. 109-1: General Requirements for Test Specifications

B. 109-197：Tyco Specification vs EIA and IEC Test Methods

C. 501-57614：Test Report

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.

B. Contact：Copper Alloy, Gold plating on contact area, Gold flash or Tin Plating on soldertail over Nickel underplating overall.

C. Shield：Copper Alloy, Tin or Nickel plating overall.

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3.3. RATINGS

A. Voltage: 150 VAC Max.

B. Current: 1 A Max.

C. Temperature: -40℃ to +85℃.

3.4. PERFOMANCE REQUEIREMENT AND TEST DESCRIPTION

The product shall be designed to meet the electrical, mechanical and environmental performance requirements specified in Figure 1.

3.5. TEST REQUIREMENTS AND PROCEDURES SUMMARY

TEST ITEM	REQUIREMENT	PROCEDURE
Examination of product	Meets requirements of product drawing and Tyco Specification.	Visual inspection No physical damage.
ELECTRICAL		
Contact Resistance	[40] m Ohm Max(Initial) [50] m Ohm Max(Final)	Subject mated contacts assembled in housing to 20mV Max open circuit at 10mA Max. EIA-364-6B. Refer to Fig.3
Dielectric withstanding Voltage	No creeping discharge or flashover shall occur. Current leakage: 0.5 mA MAX	1000 VAC for 1minute Test between adjacent circuits of unmated connector. EIA-364-20B
Insulation Resistance	[500] M Ohm Min.(Initial) [200] M Ohm Min.(Final)	Impressed voltage 100 VDC. Test between adjacent circuits of unmated connector. EIA-364-20A.
MECHANICAL		
Connector Mating Force	2 contacts 1.6 Kgf max. 4 contacts 1.8 Kgf max. 6 contacts 2.1 Kgf max. 8 contacts 2.3 Kgf max. 10 contacts 2.5 Kgf max.	Operation Speed: [600] mm/min. Measure the force required to mate connector. EIA-364-13B
Durability	See Note	Operation speed: 10~20 cycles /min. Operation cycles: 750 cycles. EIA-364-09B
ENVIRONMENTAL		
Resistance to Wave Soldering Heat	No physical damage shall occur.	Solder Temp. : 240±5℃, 10±0.5sec. Tyco spec. 109-202, Condition A
Resistance to Wave Soldering Heat	No physical damage shall occur.	Solder Temp. : 265±5℃, 10±0.5sec. Tyco spec. 109-202, Condition B
Resistance to Wave Soldering Heat	No physical damage shall occur.	Solder Temp. : 260±5℃, 10±0.5sec. Tyco spec. 109-202, Condition C
Resistance to Reflow Soldering Heat	No physical damage shall occur.	Pre Heat：100~150℃, 60 sec Max. Heat: 210℃ Min., 30 sec Max. Peak Temp. : 240℃ Max., 10±0.5sec.

Figure 1（Cont.）

TEST ITEM	REQUIREMENT	PROCEDURE
Resistance to Reflow Soldering Heat	No physical damage shall occur.	Pre-soak condition, 85℃/85% RH for 168 hours. Pre Heat: 150~180℃, 90±30sec. Heat: 230℃ Min., 30±10sec. Peak Temp. : 245+0/-5℃, 10~30sec. Duration: 3 cycles Tyco spec. 109-201, Condition A
Resistance to Reflow Soldering Heat	No physical damage shall occur.	Pre-soak condition, 85℃/85% RH for 168 hours. Pre Heat: 150~180℃, 90±30sec. Heat: 230℃ Min., 30±10sec. Peak Temp. : 260+0/-5℃, 20~40sec. Duration: 3 cycles Tyco spec. 109-201, Condition B
Solderability	The inspected area of each lead must have 95% solder coverage minimum.	Steam Aging Preconditioning： (1) Tin、Tin-Cu Coating: 93+3/-5℃ 、100% HR、8hrs. <J-STD-002 category 3 aging> (2) Other Coating: 93+3/-5℃ 、100% HR、1hrs. <J-STD-002 category 2 aging> Solder pot temperature: 245±5℃, 5sec
Temperature Life (Heat Aging)	See Note	Mated Connector 85℃ , 250 hours, EIA-364-17B.
Humidity Test	At a temperature of 40℃±2℃ and relative humidity of 90~ 95% for 96 hours.	MIL-STD-1344A, Method 1002.2
Salt Spray	No detrimental corrosion allowed in contact area and base metal exposed.	Subject mated connectors to 35+/-2 ℃ and 5+/-1% salt condition for 48hours. After test, rinse the sample with water and recondition the room temperature for 1 hour. EIA-364-26B.

Figure 1（End）

NOTE：Shall meet visual requirements, show no physical damage, and meet requirement of additional tests as specified in the test sequence in Figures 2.

3.6. PRODUCT QUALIFICATION AND REQUALIFICATION TEST

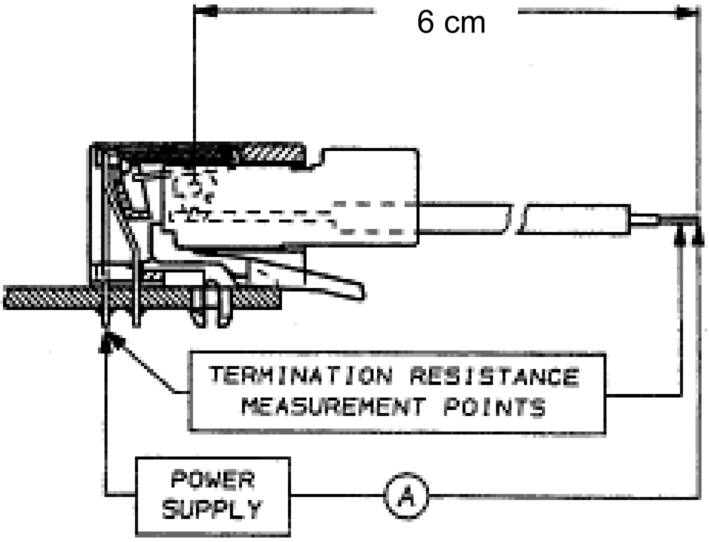
Test or Examination	Test Group						
	A	B	C	D	E	F	G
	Test Sequence（a）						
Examination of Product	1, 7	1, 7	1, 5	1, 5	1, 5	1,3	1,3
Contact Resistance		2, 6	2, 4	2, 4	2, 4		
Dielectric withstanding Voltage	3, 6						
Insulation Resistance	2, 5						
Mating Force		3, 5					
Durability		4					
Solderability							2
Resistance to Soldering Heat						**2**	
Humidity Temperature Cycling	4		3				
Temperature Life				3			
Salt Spray					3		

Figure 2

NOTE：（a）Numbers indicate sequence in which tests are performed.

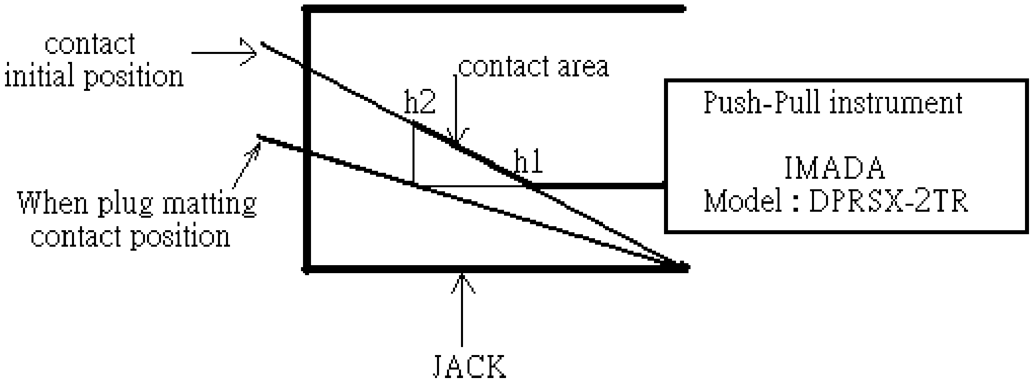
（b）Discontinuities shall not take place in this test group, during tests.

Figure 3. Contact Resistance



Note: Resistance of 6 cm wire length and contact pin shall be subtracted from all reading.

Figure 4. Contact Normal Force



Contact area (from h1 to h2) is the trace of attrition , when plug matting