

**PCI 1.27mm Pitch Card Edge Connector****1. SCOPE****1.1. CONTENTS**

This specification covers the performance, tests and quality requirements for the PCI 1.27 mm Pitch Card Edge Connector.

**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. 501-57570 : 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, UL94V-0
- B. Contact : Copper Alloy, Gold plating on contact area, Tin or Tin-Lead Plating on soldertail over Nickel underplating overall.

**3.3. RATINGS**

- A. Voltage : 250 VDC .
- B. Current : 1 A Max
- C. Temperature : - 55°C to 85°C

---

DR  
Joseph Lee

DATE  
28-Sep-2005

APVD  
Wei-Jer Ke

DATE  
28-Sep-2005

**3.4. PERFORMANCE REQUIREMENT AND TEST DESCRIPTION**

The product shall be designed to meet the electrical, mechanical and environmental performance requirements specified in Figure 1. All tests shall be performed at ambient environmental conditions per AMP Specification 109-1 TEST REQUIREMENTS AND PROCEDURES SUMMARY.

**3.5. TEST REQUIREMENTS AND PROCEDURES SUMMARY**

Test Item		Requirement	Procedure														
1	Examination of Product	Meets requirements of product drawing. No physical damage.	Visual inspection.														
<b>ELECTRICAL REQUIREMENT</b>																	
2	Contact Resistance	30 m Ohm Max (Initial) 40 m Ohm Max (Final)	Subject mated contacts assembled in housing to 20mV Max open circuit at 10mA Max. EIA-364-6B.														
3	Dielectric withstanding Voltage	No creeping discharge or flashover shall occur. Current leakage: 0.5 mA MAX.	500 VAC for 1minute Test between adjacent circuits of unmated connector. EIA-364-20B														
4	Insulation Resistance	1000 M Ohm Min.	Impressed voltage 500 VDC. Test between adjacent circuits of unmated connector. EIA-364-21C.														
<b>MECHANICAL REQUIREMENT</b>																	
5	Connector Mating Force	230 gf /pair-pin Max.	Operation Speed : 25 mm/min. Measure the force required to mate connector. EIA-364-13B														
6	Connector Unmating Force	15 gf /pair-pin Min..	Operation Speed : 25 mm/min. Measure the force required to unmate connector. EIA-364-13B														
7	Durability	Shall meet visual requirements, show no physical damage, and meet requirement of additional tests as specified in the test sequence in Figures 2	Operation Speed : 500 cycle/hour. Durability Cycles : EIA-364-9C <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>Cycles</th> <th>Contact Plating thickness</th> </tr> </thead> <tbody> <tr> <td>75</td> <td>Flash Gold</td> </tr> <tr> <td>125</td> <td>10 μ"</td> </tr> <tr> <td>150</td> <td>15 μ" Pd/Ni or 15 μ" Au</td> </tr> <tr> <td>200</td> <td>20 μ" Pd/Ni</td> </tr> <tr> <td>250</td> <td>30 μ" Pd/Ni or 30 μ" Au</td> </tr> <tr> <td>300</td> <td>40 μ" Pd/Ni</td> </tr> </tbody> </table>	Cycles	Contact Plating thickness	75	Flash Gold	125	10 μ"	150	15 μ" Pd/Ni or 15 μ" Au	200	20 μ" Pd/Ni	250	30 μ" Pd/Ni or 30 μ" Au	300	40 μ" Pd/Ni
Cycles	Contact Plating thickness																
75	Flash Gold																
125	10 μ"																
150	15 μ" Pd/Ni or 15 μ" Au																
200	20 μ" Pd/Ni																
250	30 μ" Pd/Ni or 30 μ" Au																
300	40 μ" Pd/Ni																
8	Contact Retention Force	0.5 kgf /pair-pin Min.	Measure the contact retention force with Tensile strength tester.														
9	Solder ability	The inspected area of each lead must have 95% solder coverage minimum.	Steam Aging Preconditioning : 93+3/-5°C 、100%HR、8hrs. <J-STD-002 category 3 aging> Solder pot temperature: 245±5°C, 5sec														

Figure 1 ( Cont. )

Test Item	Requirement	Procedure
<b>ENVIRONMENTAL REQUIREMENTS [BASED ON PLATING TYPE]</b>		
Resistance to Wave Soldering Heat [For customer drawing is applied with wave process]	No physical damage shall occur.	Solder Temp. : 265±5°C, 10±0.5sec. Tyco spec. 109-202, Condition B
Resistance to Reflow Soldering Heat [For customer drawing is applied with Reflow process]	No physical damage shall occur.	Pre-soak condition, 85°C/85% RH for 168 hours. Pre Heat : 150~180°C, 90±30sec. Heat : 230°C Min., 30±10sec. Peak Temp. : 260+0/-5°C, 20~40sec. Duration : 3 cycles Tyco spec. 109-201, Condition B
11 Salt Spray	No detrimental corrosion allowed in contact area and base metal exposed.	Subject mated connectors to 35+/-2 °C 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
	Test Sequence (a)				
Examination of Product	1, 4,	1, 9	1, 5	1, 5	1, 3
Contact Resistance		2, 8	2, 4		
Dielectric withstanding Voltage	3,				
Insulation Resistance	2,				
Mating Force		3, 7			
Unmating Force		4, 6			
Durability		5			
Contact Retention Force				2, 4	
Solderability					2
Resistance to Soldering Heat				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.