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**PCI EXPRESS CARD EDGE, 3GIO Connector**

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**1. SCOPE**

This specification covers the performance, tests and quality requirements for PCI Express connector.

**2. APPLICABLE DOCUMENT**

The following documents form 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.

Test Report: 501-57446

**2.1. INDUSTRY STANDARDS**

- EIA-364: Electrical Connector/Socket Test Procedures Including Environmental Classifications
- PCI Express Base Specification

**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, UL 94V-0.
- B. Contact: Copper Alloy, Gold plating on contact area, Tin or Tin-lead plated on soldertails, Nickel underplated overall.

**3.3. RATINGS**

- A. Voltage: 50 V
- B. Current: 1.1 Amperes
- C. Temperature: -55°C to 105°C

**3.4. TEST CONDITION**

The product is designed to meet the electrical, mechanical and environmental performance requirements specified in Figure1. All tests shall be performed in the room temperature unless otherwise specified.

DWN	DATE	APVD	DATE
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### 3.5. TEST REQUIREMENTS AND PROCEDURES SUMMARY

TEST DESCRIPTION	REQUIREMENT	PROCEDURE
Examination of product	Meets requirements of product drawing	Visual, dimensional and functional per applicable quality inspection plan
<b>ELECTRICAL</b>		
Contact Resistance	30 mΩ Max.	EIA-364-23B Subject mated contacts assembled in housing to 20mV Max open circuit at 100mA Max
Insulation Resistance	1000 MΩ Min.	EIA-364-21C After 500 VDC for 1 minute, measure the insulation resistance between the adjacent contacts of mated and unmated connector assemblies
Dielectric Withstanding Voltage	No creeping discharge or flashover shall occur.	EIA-364-20B Method B Test between adjacent contacts of unmated connector. Voltage : 500VAC, 1 minute. Current leakage : 0.5mA Max.
<b>MECHANICAL</b>		
Mating Force	1.15N per pair Max	EIA-364-13B Measure force necessary to mate the connector assemblies at a rate of 12.5mm/minute
Unmating Force	0.15N per pair Min	EIA-364-13B Measure force necessary to mate the connector assemblies at a rate of 12.5mm/minute
Durability	No physical damage meet requirements of additional test as spec	EIA-364-09C Mate and unmate connector assemblies for 50cycles at a maximum rate of 200 cycles/hour;
Vibration	No discontinuities of 1 microsecond or longer duration. See note	EIA-364-28D Test Condition VII Test letter D Frequency : 20Hz~500Hz Accelerate : 3.10G's rms Duration : 15minute in each of three mutually perpendicular planes
<b>ENVIRONMENT</b>		
Temperature Life	See note	EIA-364-17B Method A Subject mated connectors to temperature life at 105°C for 168 hours.
Temperature Life (Preconditioning)	See note	EIA-364-17B Method A Subject mated connectors to temperature life at 105°C for 92 hours.
Thermal Shock	See note	EIA-364-32C Test Condition I Subject mated connectors to 10cycles between -55°C and 85°C
Humidity Temperature Cycling	See note	EIA-364-31B Subject mated connectors to 24 cycles between 25°C at 80% RH and 65°C at 50% RH.
Resistance to Wave Soldering Heat	No physical damage shall occur.	Solder Temp.: 265±5°C, 10±0.5 sec. Tyco spec. 109-202, Condition B

Figure 1

Note: Shall meet visual requirements, show no physical damage, and shall meet requirements of additional tests as specified in the Test Sequence in Figure 2.

### 3.6. PRODUCT QUALIFICATION AND REQUALIFICATION TEST SEQUENCE

Test or Examination	Test Group					
	A	B	C	D	E	F
	Test Sequence (a)					
Examination of Product	1, 9	1, 8	1, 10	1, 8	1, 8	1, 3
Contact Resistance	3, 7	2, 5, 7	2, 5, 7, 9	2, 5, 7		
Insulation Resistance					2, 6	
Dielectric Withstanding Voltage					3, 7	
Mating Force	2, 6					
Unmating Force	4, 8					
Durability	5	3	3	3		
Vibration				6		
Reseating (Manually unplug/plug the connector. Perform 3 such cycles)		6	8			
Temperature Life		4				
Temperature Life (Preconditioning)				4		
Thermal Shock			4		4	
Humidity-Temperature Cycling			6		5	
Resistance to Wave Soldering Heat						2

Figure2

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