SATA Receptacle Connector

1. INTRODUCTION

1.1. Purpose

Testing was performed on the TE Connectivity Slant Insertion SATA Receptacle Connector to determine its conformance to the requirements of Product Specification 108-99048, Revision A.

1.2. Scope

This report covers the electrical, mechanical, and environmental performance of the Slant Insertion SATA Receptacle Connector.

1.3. Conclusion

Slant Insertion SATA Receptacle Connector meets the electrical, mechanical, and environmental performance requirements of the Product Specification 108-99048 Rev. A

1.4. Test Samples

Samples of Slant Insertion SATA Receptacle Connector were taken randomly for tests.

P/N: 2129375-1(1.95H); 2129628-1(2.6H); 2129571-1; 2129571-2(7.85H) ; 2129583-1(4.9H)

1.5. Test Specimens

Test specimens were representative of normal production lots. The following specimens were used for test.

Test Group	Quantity	Description
A.B.C.D.E.F.G. H.	3 ea.	Slant Insertion SATA Receptacle Connector

1.6. Qualification Test Sequence

Test Item	Test Group							
	A	B	C	D	E	F	G	H
	Test Sequence (c)							
Examination of Product	**1, 5**	**1, 9**	**1, 7**	**1, 8**	**1, 6**	**1, 4**	1, 3	1, 3
Low Level Contact Resistance	**2, 4**	**2, 8**	**2, 4, 6**		**2, 5**	**3**		
Insulation resistance				**2, 6**				
Dielectric withstanding Voltage				**3, 7**				
Temperature Rise								**2**
Solderability							**2**	
Soldering Heat Resistivity						**2**		
Mating Force		**3,5**						
Durability	**3**	**4(b)**						
Vibration (Random)		**6**						
Physical shock		**7**						
Reseating (manually plug/unplug 3 time)			**5**		**4**			
Humidity				**5**				
Temperature Life			**3**					
Thermal Shock				**4**				
Industrial gas					**3**			

Figure 1

NOTE:

（b）Preconditioning, 50 cycles for the 500-durability cycle requirement. The mating and unmating cycle is at the maximum rate of 200 cycles per hour.

（c）Numbers indicate sequence in which tests are performed

TEST RESULT

Test Group	Test Description	Requirement	Test Result				Judgment
			Max.	Min.	Ave.	σ	
A	Examination of product.	No physical damage.	PASSED				Accepted
	Low level contact resistance.	40mΩ Max(initial)	39.79	18.72	22.78	4.55	Accepted
	Durability (Repeated mate /unmated）	△R=20mΩ Max(Final)	1.78	-2.26	0.06	0.75	Accepted
B	Examination of product.	No physical damage.	PASSED				Accepted
	Low level contact resistance.	40mΩ Max(initial)	34.01	20.51	26.64	1.93	Accepted
	Mating force	20N Max.	6.72	3.22	5.03	1.55	Accepted
	Durability (preconditioning)	No physical damage.	PASSED				Accepted
	Vibration	No electrical discontinuity	PASSED				Accepted
	Physical Shock	NO electrical discontinuity	PASSED				Accepted
	Low level contact resistance.	△R=20mΩ Max.(final)	11.1	-6.49	0.41	2.13	Accepted
	Examination of product.	No physical damage.	PASSED				Accepted
C	Examination of product.	No physical damage.	PASSED				Accepted
	Low level contact resistance.	40mΩ Max(initial)	23.31	19.19	21.58	0.84	Accepted
	Temperature Life	No physical damage.	PASSED				Accepted
	Low level contact resistance.	△R=20mΩ Max	8.41	-0.78	1.41	1.79	Accepted
	Examination of product.	No physical damage.	PASSED				Accepted
D	Examination of product.	No physical damage.	PASSED				Accepted
	Dielectric withstanding voltage	No physical damage.	PASSED				Accepted
	Insulation Resistance	1000MΩ Min.(initial)	PASSED				Accepted
	Thermal Shock	△R=20mΩ Max	PASSED				Accepted
	Humidity Temperature cycling	△R=20mΩ Max.(final)	PASSED				Accepted
	Dielectric withstanding voltage	No physical damage.	PASSED				Accepted
	Insulation Resistance	500MΩ Min..(final)	PASSED				Accepted
	Examination of product.	No physical damage.	PASSED				Accepted

Figure 2 (continued)

Test Group	Test Description	Requirement	Test Result				Judgment
			Max.	Min.	Ave.	σ	
E	Examination of product.	No physical damage.	PASSED				Accepted
	Low level contact resistance	40mΩ Max(initial)	27.62	23.85	25.58	0.8	Accepted
	Industrial Gas	No physical damage.	PASSED				Accepted
	Reseating	No physical damage.	PASSED				Accepted
	Low level contact resistance	△R=20mΩ Max.(final)	2.05	-1.42	0.35	0.74	Accepted
	Examination of product.	No physical damage.	PASSED				Accepted
F	Examination of product.	No physical damage.	PASSED				Accepted
	Resistance to Reflow soldering Heat	No physical damage.	PASSED				Accepted
	Examination of product.	No physical damage.	PASSED				Accepted
G	Examination of product.	No physical damage.	PASSED				Accepted
	Solder ability	Wet solider coverage95% Min	PASSED				Accepted
	Examination of product.	No physical damage.	PASSED				Accepted
H	Examination of product.	No physical damage.	PASSED				Accepted
	Temperature Rise	△T=30 Max	24.25	17.7	19.7		Accepted
	Examination of product.	No physical damage.	PASSED				Accepted

Figure 2 (End)