WIRE TO BOARD WAFER P=1.2mm TOP ENTRY CONNECTOR

1. INTRODUCTION

1.1. Purpose

Testing was performed on the Tyco Electronics WIRE TO BOARD WAFER P=1.2mm TOP ENTRY CONNECTOR to determine its conformance to the requirements of Product Specification 108-57767.

1.2. Scope

This report covers the electrical, mechanical, and environmental performance of the Tyco Electronics WIRE TO BOARD WAFER P=1.2mm TOP ENTRY CONNECTOR.

1.3. Conclusion

The Tyco Electronics WIRE TO BOARD WAFER P=1.2mm TOP ENTRY CONNECTOR meets the electrical, mechanical, and environmental performance requirements of Product Specification 108-57767.

1.4. Product description

The WIRE TO BOARD WAFER P=1.2mm TOP ENTRY CONNECTOR is designed for printed circuit board applications. The contacts are copper alloy, Gold plated on the contact interface and Gold plating on the soldertail, all over nickel under-plated. The housing material is glass filled insulating polymer, UL94V-0.

1.5. Test samples

Test specimens were randomly selected from normal current production lots, and the following Product were used for test：

Test Group	Quantity	Description	Part Number
A, B, C, D, E, F, G, H, I	5EA.	WTB P=1.2mm TOP ENTRY CONNECTOR.	1909782-*(Plug) 1909783-*(Rec. Housing) 1909784-*(Rec. Contact)

1.6. Qualification test sequence

Test or Examination	Test Group								
	A	B	C	D	E	F	G	H	I
	Test Sequence（a）								
Examination of Product	1,7	1,3	1,6	1,9	1,5	1,5	1,9	1,3	1,3,5
Contact Resistance	2,8		2,5	4,6	2,4	2,4	4,6		
Dielectric withstanding Voltage				3,8			3,8		
Insulation Resistance				2,7			2,7		
Temperature Rising		2							
Mating Force	3,6								
Un-mating Force	4,7								
Durability	5								
Vibration			4						
Mechanical Shock			3						
Solder ability						3			
Resistance to Soldering Heat									2,4
Thermal Shock					3				
Humidity Temperature Cycling				5					
Temperature Life							5		
Salt Spray								2	

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

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

Figure 1

2. TEST RESULT

GP	TEST	Requirement	TEST DATA				Judgment
			Max.	Min.	Mean	Std. Dev.	
A	Examination of Product	No abnormalities	PASSED				ACCEPTED
	Contact Resistance	20 mΩ Max.	10.2	8.5	9.5	0.62	ACCEPTED
	Mating Force	See Note1.	PASSED (See Note1)				ACCEPTED
	Un-mating Force	See Note1.	PASSED (See Note1)				ACCEPTED
	Durability	50 Cycles	PASSED				ACCEPTED
	Mating Force	See Note 1.	PASSED (See Note1)				ACCEPTED
	Un-mating Force	See Note 1.	PASSED (See Note1)				ACCEPTED
	Contact Resistance	40mΩ Max.	12.1	9.2	10.8	1.08	ACCEPTED
	Examination of Product	No abnormalities	PASSED				ACCEPTED
B	Examination of Product	No abnormalities	PASSED				ACCEPTED
	Temperature Rising	30℃ Max.	15	11	13.2	1.48	ACCEPTED
	Examination of Product	No abnormalities	PASSED				ACCEPTED
C	Examination of Product	No abnormalities	PASSED				ACCEPTED
	Contact Resistance	20 mΩ Max.	9.9	7.6	8.1	1.01	ACCEPTED
	Mechanical Shock	50G, 11msec.	PASSED				ACCEPTED
	Vibration	10-55-10 Hz	PASSED				ACCEPTED
	Contact Resistance	40 mΩ Max.	10.1	8.2	8.6	0.83	ACCEPTED
	Examination of Product	No abnormalities	PASSED				ACCEPTED
D	Examination of Product	No abnormalities	PASSED				ACCEPTED
	Insulation Resistance	100 MΩ Min.	PASSED				ACCEPTED
	Dielectric withstanding Voltage	500VAC, 1Minute	PASSED				ACCEPTED
	Contact Resistance	20 mΩ Max.	9.9	7.1	8.2	1.08	ACCEPTED
	Humidity Temperature Cycling	25~65℃,90~95%RH, 10cycles	PASSED				ACCEPTED
	Contact Resistance	40 mΩ Max.	10.1	7.9	8.6	0.88	ACCEPTED
	Insulation Resistance	100 MΩ Min.	PASSED				ACCEPTED
	Dielectric withstanding Voltage	500 VAC, 1Minute	PASSED				ACCEPTED
	Examination of Product	No abnormalities	PASSED				ACCEPTED

Figure 2（Cont.）

GP	TEST	Requirement	DATA				Judgment
			Max.	Min.	Mean	Std. Dev.	
E	Examination of Product	No abnormalities	PASSED				ACCEPTED
	Contact Resistance	20 mΩ Max.	9.8	8.6.	8.8	0.54	ACCEPTED
	Thermal Shock	-55℃/+85℃, 5 Cycles	PASSED				ACCEPTED
	Contact Resistance	40 mΩ Max.	10.2	8.5	8.9	0.72	ACCEPTED
	Examination of Product	No abnormalities	PASSED				ACCEPTED
F	Examination of Product	No abnormalities	PASSED				ACCEPTED
	Contact Resistance	20 mΩ Max.	9.5	8.4	8.9	0.40	ACCEPTED
	Solder ability	95% Min. coverage	PASSED				ACCEPTED
	Contact Resistance	40 mΩ Max.	10.5	8.6	9.8	0.72	ACCEPTED
	Examination of Product	No abnormalities	PASSED				ACCEPTED
G	Examination of Product	No abnormalities	PASSED				ACCEPTED
	Insulation Resistance	100 MΩ Min.	PASSED				ACCEPTED
	Dielectric withstanding Voltage	500 VAC, 1Minute	PASSED				ACCEPTED
	Contact Resistance	20 mΩ Max.	9.8	7.0	8.2	1.07	ACCEPTED
	Temperature Life	85℃, 250Hrs	PASSED				ACCEPTED
	Contact Resistance	40 mΩ Max.	12.5	7.5	9.8	2.05	ACCEPTED
	Insulation Resistance	100 MΩ Min.	PASSED				ACCEPTED
	Dielectric withstanding Voltage	500 VAC, 1Minute	PASSED				ACCEPTED
	Examination of Product	No abnormalities	PASSED				ACCEPTED
H	Examination of Product	No abnormalities	PASSED				ACCEPTED
	Salt Spray	35℃, 5%Salt, 48hours	PASSED				ACCEPTED
	Examination of Product	No abnormalities	PASSED				ACCEPTED
I	Examination of Product	No abnormalities	PASSED				ACCEPTED
	Resistance to Solder Heat	150~180℃, 90±30sec 230℃ Min., 30±10sec Peak Temp.: 260+0/-5℃	PASSED				ACCEPTED
	Examination of Product	No abnormalities	PASSED				ACCEPTED
	Resistance to Solder Heat	150~180℃, 90±30sec 230℃ Min., 30±10sec Peak Temp.: 260+0/-5℃	PASSED				ACCEPTED
	Examination of Product	No abnormalities	PASSED				ACCEPTED

Figure 2（End）

NOTE 1.

Initial test result

NO.OF PIN.	Initial							
	MATING				UNMATING			
	Min	Max	Avg.	Std	Min	Max	Avg.	Std
2PIN	0.37	0.53	0.45	0.06	0.30	0.34	0.33	0.02
3PIN	0.40	0.66	0.50	0.10	0.31	0.40	0.35	0.04
4PIN	0.44	0.63	0.52	0.09	0.34	0.47	0.41	0.05
5PIN	0.38	0.60	0.46	0.09	0.34	0.47	0.41	0.05
6PIN	0.31	0.47	0.41	0.07	0.36	0.40	0.38	0.02

Unit: kgf

Finial test result

NO.OF PIN.	Final							
	MATING				UNMATING			
	Min	Max	Avg.	Std	Min	Max	Avg.	Std
2PIN	0.35	0.47	0.42	0.08	0.18	0.28	0.24	0.04
3PIN	0.34	0.46	0.38	0.05	0.24	0.29	0.26	0.02
4PIN	0.28	0.35	0.32	0.03	0.18	0.27	0.23	0.03
5PIN	0.32	0.39	0.35	0.03	0.18	0.39	0.31	0.09
6PIN	0.29	0.43	0.36	0.06	0.17	0.36	0.28	0.08

Unit: kgf