MINI USB CONNECTOR, RECEPTACLE, VERTICAL, DIP, B TYPE

1. INTRODUCTION

1.1. PURPOSE

Testing was performed on TE Connectivity MINI USB CONNECTOR, RECEPTACLE, VERTICAL, DIP, B TYPE to determine its conformance to the requirements of Product Specification 108-57912 Rev.A.

1.2. SCOPE

This report covers the electrical, mechanical, and environmental performance of TE Connectivity MINI USB Connector.

1.3. CONCLUSION

The TE Connectivity MINI USB CONNECTOR, RECEPTACLE, VERTICAL, DIP, B TYPE meets the electrical, mechanical, and environmental performance requirements of Product Specification 108-57912 Rev.A.

1.4. PRODUCT DESCRIPTION

The TE Connectivity MINI USB CONNECTOR, RECEPTACLE, VERTICAL, DIP, B TYPE is designed for printed circuit board applications. The contacts are copper alloy, Gold plating or Gold Flash over Nickel plated on the contact area and Matte Tin plating on the solder tail, 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	5 EA.	MINI USB CONNECTOR, RECEPTACLE, VERTICAL, DIP, B TYPE	2041517-X

1.6. QUALIFICATION TEST SEQUENCE

Test or Examination	Test Group							
	A	B	C	D	E	F	G	H
	Test Sequence（a）							
Examination of Product	1, 11	1, 5	1, 9	1, 3	1, 3	1, 3	1, 5	1, 3
Contact Resistance	3, 9	2, 4					2, 4	
Dielectric withstanding Voltage			4, 8					
Insulation Resistance			3, 7					
Contact Current Rating				2				
Contact Capacitance			2					
Mating Force	2, 8							
Unmating Force	4, 10							
Durability	5							
Vibration	6							
Mechanical Shock	7							
Contact Retention Force						2		
Solder ability					2			
Resistance to Soldering Heat								2
Thermal Shock			5					
Humidity Temperature Cycling			6					
Temperature Life		3						
Salt Spray							3	

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	Meet product drawing	PASSED				ACCEPTED
	Mating Force	35N (3.57kgf) Max.	17.6	13.3	15.14	1.62	ACCEPTED
	Contact Resistance	50 mΩ Max.	27.4	24.6	25.96	0.76	ACCEPTED
	Unmating Force	7N (0.71 kgf) Min. (Initial)	16.5	13.8	15.04	1.02	ACCEPTED
	Durability	No damage	PASSED				ACCEPTED
	Vibration	No discontinuities of 1 μs or longer duration. No damage.	PASSED				ACCEPTED
	Mechanical Shock	No discontinuities of 1 μs or longer duration. No damage.	PASSED				ACCEPTED
	Mating Force	35N (3.57kgf) Max.	4.5	2.0	3.54	1.05	ACCEPTED
	Contact Resistance	50 mΩ Max.	27.8	22.5	25.42	1.25	ACCEPTED
	Unmating Force	3N (0.31 kgf) Min. (Final)	4.0	3.1	3.58	0.35	ACCEPTED
	Examination of Product	Meet product drawing	PASSED				ACCEPTED
B	Examination of Product	Meet product drawing	PASSED				ACCEPTED
	Contact Resistance	50 mΩ Max.	27.9	23.7	25.82	1.22	ACCEPTED
	Temperature Life	No damage	PASSED				ACCEPTED
	Contact Resistance	50 mΩ Max.	25.7	22.1	23.77	0.78	ACCEPTED
	Examination of Product	Meet product drawing	PASSED				ACCEPTED
C	Examination of Product	Meet product drawing	PASSED				ACCEPTED
	Contact Capacitance	2pF Max.	0.37	0.28	0.32	0.08	ACCEPTED
	Insulation Resistance	100MΩ Min..	PASSED				ACCEPTED
	Dielectric withstanding Voltage	No breakdown or flashover.	PASSED				ACCEPTED
	Thermal Shock	No damage	PASSED				ACCEPTED
	Humidity Temperature Cycling	No damage	PASSED				ACCEPTED
	Insulation Resistance	100MΩ Min..	PASSED				ACCEPTED
	Dielectric withstanding Voltage	No breakdown or flashover.	PASSED				ACCEPTED
	Examination of Product	Meet product drawing	PASSED				ACCEPTED

Figure 2（Cont.）

GP	TEST	Requirement	DATA				Judgment
			Max.	Min.	Mean	Std. Dev.	
D	Examination of Product	Meet product drawing	PASSED				ACCEPTED
	Contact Current Rating	30°C Max.	PASSED				ACCEPTED
	Examination of Product	Meet product drawing	PASSED				ACCEPTED
E	Examination of Product	Meet product drawing	PASSED				ACCEPTED
	Solder ability	95% Min. solder coverage	PASSED				ACCEPTED
	Examination of Product	Meet product drawing	PASSED				ACCEPTED
F	Examination of Product	Meet product drawing	PASSED				ACCEPTED
	Contact Retention Force	3.92 N (0.4 kgf) Min.	14.22	7.26	10.26	1.70	ACCEPTED
	Examination of Product	Meet product drawing	PASSED				ACCEPTED
G	Examination of Product	Meet product drawing	PASSED				ACCEPTED
	Contact Resistance	50 mΩ Max.	27.9	24.0	25.78	0.84	ACCEPTED
	Salt Spray	No damage	PASSED				ACCEPTED
	Contact Resistance	50 mΩ Max.	30.7	23.1	26.39	1.79	ACCEPTED
	Examination of Product	Meet product drawing	PASSED				ACCEPTED
H	Examination of Product	Meet product drawing	PASSED				ACCEPTED
	Resistance to Soldering Heat	No damage	PASSED				ACCEPTED
	Examination of Product	Meet product drawing	PASSED				ACCEPTED

Figure 2（End）