
0.3mm pitch H1.0 FPC CONN.**(Front Flip)****1. Introduction****1.1 Purpose**

Testing was performed on the 0.3mm pitch H1.0 FPC Connector. To determine its conformance to the requirements of Product Specification 108-115143.

1.2 Scope

This report covers the electrical, mechanical, and environmental performance of the FPC Connector.

1.3 Conclusion

The FPC connector meets the electrical, mechanical, and environmental performance requirements of Design Objective, 108-115143.

1.4 Product Description

The FPC connector is made of copper alloy. And it is Gold plating on function area and the under plating is Nickel.

1.5 Test samples.

The test samples were taken randomly from normal current production lots. And the following product were used for test.

Test Group	Quality	Requirements
A,B,C,D,E,F,G,H,I,J	5 pcs Each	0.3mm pitch H1.0 FPC connector

1.6 Product Qualification Test Sequence

Test or Examination	Test Group									
	A	B	C	D	E	F	G	H	I	J
	Test Sequence									
Examination of Product	1,9	1,3	1,7	1,6	1,3	1,3	1,3	1,7	1,7	1,5
Contact resistance	2,8		2,6	2,5				2,4,6	2,4,6	2,4
Dielectric withstanding voltage	4,6									
Insulation resistance	3,7									
Temperature rising		2								
Durability			4							
Vibration				3						
Mechanical shock				4						
Contact retention force					2					
FPC retention force			3,5							
Solderability						2				
Resistance to reflow Soldering Heat							2			
Thermal Shock								3		
Humidity- temperature cycle								5		
Temperature Life									3	
Resistance to cold									5	
Humidity (steady state)	5									
Salt spray										3
No.of test samples	5	5	5	5	5	5	5	5	5	5

NOTE: (a) Numbers indicate sequence in which the tests are performed.
 (b) Discontinuities shall not take place in this test group, during tests.

2. TEST RESULT

Group	Test Item	Spec.	Test result				Conclusion
			Max.	Min.	Avg.	Unit	
A	Examination of Product	Meets requirements of product drawing	OK			/	Pass
	Contact resistance	50mΩ Max.	30.12	20.12	25.52	mΩ	Pass
	Insulation resistance	250VDC, 500 MΩ MIN.	OK			/	Pass
	Dielectric withstanding voltage	250VAC for 1 minute	OK			/	Pass
	Humidity (steady state)	no physical damage	OK			/	Pass
	Dielectric withstanding voltage	250VAC for 1 minute	OK			/	Pass
	Insulation resistance	250VDC, 500 MΩ MIN.	OK			/	Pass
	Contact resistance	80mΩ Max. (Final)	33.22	21.15	26.85	mΩ	Pass
	Examination of Product	No physical damage	OK			/	Pass
B	Examination of Product	Meets requirements of product drawing	OK			/	Pass
	Temperature rising	30 °C MAX.	18.8	17.3	18	°C	Pass
	Examination of Product	No physical damage	OK			/	Pass
C	Examination of Product	Meets requirements of product drawing	OK			/	Pass
	Contact resistance	50mΩ Max.	30.12	20.96	25.56	mΩ	Pass
	FPC retention force	0.2 N X Pin NO. MIN.	7.78	7.5	8.2	N	Pass
	Durability	no physical damage	OK			/	Pass
	FPC retention force	0.2 N X Pin NO. MIN.	6.57	5.97	6.31	N	Pass
	Contact resistance	80mΩ Max. (Final)	32.53	21.55	27.00	mΩ	Pass
	Examination of Product	No physical damage	OK			/	Pass
D	Examination of Product	Meets requirements of product drawing	OK			/	Pass
	Contact resistance	50mΩ Max. (Initial)	30.12	20.45	25.55	mΩ	Pass
	Vibration	No electrical discontinuity greater than 1 μsec shall occur.	OK			/	Pass
	Mechanical shock		OK			/	Pass
	Contact resistance	80mΩ Max. (Final)	35.23	21.12	27.36	/	Pass
	Examination of Product	No physical damage	OK			/	Pass
E	Examination of Product	Meets requirements of product drawing	OK			/	Pass
	Contact retention force	0.20N/Pin MIN.	0.41	0.28	0.34	N	Pass
	Examination of Product	No physical damage	OK			/	Pass
F	Examination of Product	Meets requirements of product drawing	OK			/	Pass
	Solderability	must have 95% Solder Coverage minimum.	OK			/	Pass
	Examination of Product	No physical damage	OK			/	Pass
G	Examination of Product	Meets requirements of product drawing	OK			/	Pass
	Resistance to reflow Soldering Heat	No physical damage	OK			/	Pass
	Examination of Product	No physical damage	OK			/	Pass
H	Examination of Product	Meets requirements of product drawing	OK			/	Pass
	Contact resistance	50mΩ Max. (Initial)	31.44	20.96	25.72	mΩ	Pass
	Thermal Shock	No physical damage	OK			/	Pass
	Contact resistance	80mΩ Max. (Final)	33.12	22.02	26.83	mΩ	Pass
	Humidity- temperature cycle	No physical damage	OK			/	Pass
	Contact resistance	80mΩ Max. (Final)	35.53	21.42	28.30	mΩ	Pass
	Examination of Product	No physical damage	OK			/	Pass
I	Examination of Product	Meets requirements of product drawing	OK			/	Pass
	Contact resistance	50mΩ Max. (Initial)	30.12	20.58	25.60	mΩ	Pass
	Temperature Life	No physical damage	OK			/	Pass
	Contact resistance	80mΩ Max. (Final)	31.25	22.01	26.61	mΩ	Pass

	Resistance to cold	No physical damage	OK			/	Pass
	Contact resistance	80mΩ Max. (Final)	35.2	22.18	28.31	mΩ	Pass
	Examination of Product	No physical damage	OK			/	Pass
J	Examination of Product	Meets requirements of product drawing	OK			/	Pass
	Contact resistance	50mΩ Max. (Initial)	33.05	21.14	26.40	mΩ	Pass
	Salt spray	No detrimental corrosion allowed in contact area and base metal exposed.	OK			/	Pass
	Contact resistance	80mΩ Max. (Final)	42.84	22.12	28.25	mΩ	Pass
	Examination of Product	No physical damage	OK			/	Pass

NOTE:

1. The test PCB and mated FPC are not the real product from the customer. So LLCR test results are just for the spacemen module.
2. 2-2328724-5 is as the representative part NO. The other part NO. can refer this reliability test result. Mated FPC :0.2mm thickness FPC.

END