DDR4 SODIMM Socket
0.5mm Pitch 260Pos

1. Introduction

1.1 Testing was performed on DDR4 SODIMM SOCKET 260P to determine if it meets the requirement of Product Specification , 108-115122 Rev.A.

1.2 Scope

This report covers the electrical, mechanical and environmental performance requirements of the DDR4 SODIMM SOCKET 260P.

1.3 Conclusion

DDR4 SODIMM SOCKET TH 260P Type meets the electrical, mechanical and environmental performance requirements of Product Specification, 501-115136 Rev.B

1.4 Test Samples

Samples were taken randomly from current production. The following samples were used.

Test Group	Quantity	PN	Description	
1、2、3、4、5、6、7、8、9、10、12	5ea.	*-2309411-*	8H STD	DDR4 SODIMM SOCKET 260P
		-2309412-	8H RVS	
		-2309413-	9.2H STD	
		-2309414-	9.2H RVS	

Fig. 1

2. Test Contents

NO.	Test Items	Requirements	Judgment
2.1	Examination of Product	Visual, inspection No physical damage.	Acceptable
		Electrical Requirements	
2.2	Termination Resistance (Low Level)	Standard Type: 50mΩ Max. (Initial) ΔR = 20mΩMax. (Final)	Acceptable
2.3	Insulation Resistance	Impressed voltage 500V DC for 1 minute. Test between adjacent circuits of unmated connector. 100MΩ Min.	Acceptable
2.4	Dielectric withstanding Voltage	250 V AC for 1 minute. Test between adjacent circuits of unmated connector. No creeping discharge nor flashover shall occur. Current leakage: 0.5mA Max.	Acceptable
2.5	Current carrying capability / Temperature Rising	30℃ Max. (Only 6 contacts) Load with 0.5A	Acceptable

Fig. 2 (to be continued)

Mechanical Requirements			
2.6	Reseating	No physical damege after 3 times.	Acceptable
2.7	Solderability, lead free	95% coverage. No physical damage; contact gap within manufacturer's tolerance. JESD22-B-102, Condition C, Method 1.	Acceptable
2.8	Resistance to Solder Heat	Reflow condition: Comply with JEDEC standard (J-STD-020C) Peak: 265±5℃ 10s	Acceptable
2.9	Vibration (Random)	Vibration Frequency: 10-55-10 Hz traversed in 1 minute Amplitude:1.52mm Vibration Direction: In each of 3 mutually pependicular Planes Duration: 2 hours 100mA applied. No electrical discontinuity greater than 1μsec shall occur.	Acceptable
2.10	Mechanical shock	Module weight 5 g Profile: Trapezoidal shock of 50 g ± 10%. Waveform: Half sine Duration: 11 m sec. Quantity: Three drops in each of 6 directions are applied to each of the three samples. No electrical discontinuity greater than 1 μ sec shall occur.	Acceptable
2.11	Durability	Repeated insertion and extraction of P.C.B to and from the connector with the turns to lock it and then unlock it for 50 cycles at a maximum rate of 500 cycles per hour.	Acceptable
2.12	Mating force	Operation Speed: 25.4 mm/min. Measure the force required to mate connectors. (In this test, the force required to turn PCB before it engages on lacking, is excluded.)	Acceptable
2.13	Unmating force	Operation Speed: 25.4 mm/min. Measure the force required to unmate connectors.	Acceptable

Fig. 2 (to be continued)

Environmental Requirements			
2.14	Thermal Shock	-55 and 85℃, perform 5 cycles in mated condition.	Acceptable
2.15	Cyclic Temperature & Humidity	EIA-364-31B, Method III. Mated connector, 25～65°C, 90～95 % R. H. 10 cycles Cold shock －10°C performed	Acceptable
2.16	Temperature Life	Subject mated and mounted specimens to 105℃ for 250 hours.	Acceptable
2.17	Mixed flowing Gas	EIA-364-65, Class IIA. 30u" Au version (field life 7 years): Five specimens unmated for 160 hours, mated for 80 hours. Five specimens mated for 240 hours. Store module cards at laboratory ambient during the unmated portion of the exposure. 15u" Au version (field life 5 years): Five specimens unmated for 112 hours, mated for 56 hours. Five specimens mated for 168 hours. Store module cards at laboratory ambient during the unmated portion of the exposure.	Acceptable
2.18	Salt Spray	Subject mated connectors to 5 % salt concentration 35℃ for 48 hours.	Acceptable

Fig. 2 (End)

3. Product Qualification and Requalification Test Sequence

Test Examination	Test Group											
	1	2	3	4	5	6	7	8	9	10	11(c)	12(d)
	Test Sequence (a)											
Examination of Product	1,7	1,9	1,6	1,5	1,5	1,5	1,5	1,3	1,3	1,3	1,5	1,5
Contact Resistance (Low Level)		2,8	2,5	2,4	2,4	2,4	2,4				2,4	2,4
Dielectric withstanding Voltage	3,6											
Insulation Resistance	2,5											
Temperature rising								2				
Mating force		3,7										
Unmating force		4,6										
Durability		5										
Vibration			3									
Mechanical Shock			4									
Solderability									2			
Resistance to Reflow Soldering Heat										2		
Thermal Shock				3								
Temperature Humidity Cycling	4				3							
Temperature Life						3						
Salt Spray							3					
Industrial SO2 Gas (c)											3	
Mixed Flowing Gas (d)												3

NOTE

(a) Numbers indicate sequence in which tests are performed;

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

(c) Apply to GF&5u"&10u" Au type.

(d) Apply to 15"&30u" Au type;

Figure 3

4. TEST RESULT

4.1 TEST RESULT For Standard Type

Group	Test Item	N	Condition	Test Result			Requirement	Judgement
				Max	Min	Ave		
1	Examination of Product	5	Initial	No physical damage occurred			NO abnormalities	Acceptable
	Insulation Resistance	5	Initial	11.69×10^{11} Ω	3.04×10^{11}Ω	5.18×10^{11}Ω	250M Min	Acceptable
	Dielectric Withstanding voltage	5	Initial	No creeping discharge nor flashover occurred			NO abnormalities	Acceptable
	After Temperature-Humidity cycling (Insulation Resistance)	5	Final	4.48×10^{12}Ω	0.02×10^{12}Ω	2.91×10^{12}Ω	100M Min	Acceptable
	After Temperature-Humidity cycling (Dielectric Withstanding voltage)	5	Final	No creeping discharge nor flashover occurred			NO abnormalities	Acceptable
	Examination of Product	5	Final	No physical damage occurred			NO abnormalities	Acceptable
2	Examination of Product	5	Initial	No physical damage occurred			NO abnormalities	Acceptable
	Termination Resistance	1300	Initial	41.65mΩ	30.07mΩ	33.76mΩ	50mΩ Max	Acceptable
	Connector mating force	5	Initial	36.84 N	30.57 N	24.91 N	59.8N Max	Acceptable
	Connector unmating force	5	Initial	15.22N	9.56N	13.36N	19.6N Max	Acceptable
	Connector mating force	5	Final	36.19 N	28.32 N	19.84 N	59.8N Max	Acceptable
	Connector unmating force	5	Final	14.78N	9.31N	12.59N	19.6N Max	Acceptable
	After Durability (Termination Resistance)	1300	Final	45.32mΩ	31.20mΩ	34.37mΩ	70mΩ Max	Acceptable
	Examination of Product	5	Final	No physical damage occurred			NO abnormalities	Acceptable
3	Examination of Product	5	Initial	No physical damage occurred			NO abnormalities	Acceptable
	Termination Resistance	1300	Initial	44.34mΩ	36.91mΩ	41.50mΩ	50mΩ Max	Acceptable
	Vibration (Continuity or Discontinuity)	5	Final	No discontinuities of 0.1 u sec or longer duration occurred			NO abnormalities	Acceptable

	Physical Shock (Continuity or Discontinuity)	5	Final	No discontinuities of 0.1 u sec or longer duration occurred			NO abnormalities	Acceptable
	After Vibration &shock test (Termination Resistance)	1300	Final	49.48mΩ	32.96mΩ	37.81mΩ	70mΩ Max	Acceptable
	Examination of Product	5	Final	No physical damage occurred			NO abnormalities	Acceptable
4	Examination of Product	5	Initial	No physical damage occurred			NO abnormalities	Acceptable
	Termination Resistance	1300	Initial	39.41mΩ	33.48mΩ	33.86mΩ	50mΩ Max	Acceptable
	After Thermal Shock (Termination Resistance)	1300	Final	49.48mΩ	27.99mΩ	34.01mΩ	70mΩ Max	Acceptable
	Examination of Product	5	Final	No physical damage occurred			NO abnormalities	Acceptable
5	Examination of Product	5	Initial	No physical damage occurred			NO abnormalities	Acceptable
	Termination Resistance	1300	Initial	40.13mΩ	30.94mΩ	34.34mΩ	50mΩ Max	Acceptable
	After Temperature Humidity Cycling(Termination Resistance)	1300	Final	67.30mΩ	42.98mΩ	55.32mΩ	70mΩ Max	Acceptable
	Examination of Product	5	Final	No physical damage occurred			NO abnormalities	Acceptable
6	Examination of Product	5	Initial	No physical damage occurred			NO abnormalities	Acceptable
	Termination Resistance	1300	Initial	38.21mΩ	22.87mΩ	33.58mΩ	50mΩ Max	Acceptable
	After Temperature Life (Termina Resistance)	1300	Final	55.22mΩ	35.07mΩ	34.18mΩ	70mΩ Max	Acceptable
	Examination of Product	5	Final	No physical damage occurred			NO abnormalities	Acceptable
7	Examination of Product	5	Initial	No physical damage occurred			NO abnormalities	Acceptable
	Termination Resistance	1300	Initial	41.77mΩ	26.96mΩ	34.14mΩ	50mΩ Max	Acceptable
	After Salt Spray (Termination Resistance)	1300	Final	68.10mΩ	30mΩ	41.16mΩ	70mΩ Max	Acceptable
	Examination of Product	5	Final	No physical damage occurred			NO abnormalities	Acceptable

Group	Test Item	N	Condition	Test Result			Requirement	Judgement
				Max	Min	Ave		
8	Examination of Product	5	Initial	No physical damage occurred			NO abnormalities	Acceptable
	Temperature Rising	5	Final	29.12°C	20.31°C	25.14°C	30°C	Acceptable
	Examination of Product	5	Final	No physical damage occurred			NO abnormalities	Acceptable
9	Examination of Product	5	Initial	No physical damage occurred			NO abnormalities	Acceptable
	Solderability	5	Final	Solderability area had a minimum of 95% solder coverage.			NO abnormalities	Acceptable
	Examination of Product	5	Final	No physical damage occurred			NO abnormalities	Acceptable
10	Examination of Product	5	Initial	No physical damage occurred			NO abnormalities	Acceptable
	Resistance to Reflow Soldering Heat	5	Final	No physical damage occurred			NO abnormalities	Acceptable
	Examination of Product	5	Final	No physical damage occurred			NO abnormalities	Acceptable
12	Examination of Product	5	Initial	No physical damage occurred			NO abnormalities	Acceptable
	Termination Resistance	1300	Initial	38.94mΩ	30.70mΩ	33.92mΩ	50mΩ Max	Acceptable
	After MFG (Termination Resistance)	1300	Initial	56.26mΩ	30.26mΩ	34.08mΩ	70mΩ Max	Acceptable
	Examination of Product	5	Final	No physical damage occurred			NO abnormalities	Acceptable

Fig. 4 (END)