DDR4 SO DIMM Socket 260 Positions

1. SCOPE

1.1. Content

This specification covers the requirements for product performance, test methods and quality assurance provisions of DDR4 SO DIMM Socket 260 positions of Gold Plating.
This specification applies product which is including name of DDR4 SO DIMM socket and written number of 108-115122 in customer drawing.

1.2. Qualification
When tests are performed on the subject product line, procedures specified in Figure 1 shall be used. All inspections shall be performed using the applicable inspection plan and product drawing.

1.3. Qualification Test Results

Qualification testing on the subject product line will be arranged.

2. APPLICABLE DOCUMENTS

The following documents form a part of this specification to the extent specified herein. In the event of conflict between the requirements of this specification and the product drawing, the product drawing shall take precedence.
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2.1. TE Connectivity Documents

- 109 series: Test Specification as indicated in Figure 1
- 109-197: Test Specification (AMP Test Specifications vs EIA and IEC Test Methods)
- 114-*****: Application Specification

2.2. Industry Standards

EIA-364: Electrical Connector/Socket Test Procedures Including Environmental Classifications

3. REQUIREMENTS

3.1. Design and Construction

Product shall be of the design, construction and physical dimensions specified on the applicable product drawing.

3.2. Materials

Materials used in the construction of this product shall be as specified on the applicable product drawing.

3.3. Ratings

- Voltage: 25 volts AC
- Current: 0.5 A
- Temperature: -55 to 85℃

3.4. Performance and Test Description

The product shall be designed to meet the electrical, mechanical and environmental performance requirements specified in Fig. 1.
All tests shall be performed in the room temperature, unless otherwise specified.

3.5. Test Requirements and Procedures Summary

Para	Test Description	Requirement	Procedure
3.5.1	Initial examination of product.	Meets requirements of product drawing.	EIA-364-18. Visual inspection No physical damage
		ELECTRICAL	
3.5.2	Low level contact resistance.	50 milliohms maximum initial. ΔR 20 milliohms maximum.	EIA-364-23. Subject specimens mated with bussed module boards to 100 milliamperes maximum and 20 millivolts maximum open circuit voltage. Measure all 260 positions. See Figure 3.
3.5.3	Insulation resistance.	250MΩ Min.(Initial) 100MΩ Min.(Final)	EIA-364-21. Impressed voltage 500 volts DC Test between adjacent contacts of mounted specimens.
3.5.4	Dielectric withstanding Voltage	No creeping discharge or flashover shall occur. Current leakage : 0.5 mA Max	250 VAC for 1 minute. Test between adjacent circuits of unmated connectors.
3.5.5	Current carrying capacity.	30℃ maximum temperature rise at specified current.	EIA 364-70. Connect 6 consecutive contacts on 1 side of specimen in series and load with 0.5 ampere. Place a thermocouple through a small hole in the housing as close to the contact as possible.
3.5.6	Reseating.	See Note.	Manually unplug and plug module card 3 times with latches enabled.
3.5.7	Solderability, lead free	Wet Solder Coverage: 95% Min.	Unmated connector. Steam age for 8 hour +/-15 min. Dip solder tails into solder pot at a temperature of 245±5℃ for 5±0.5 seconds. Flux type-ROL0 JESD 22-B-102; Condition C.

Figure 1 (continued)

Para	Test Description	Requirement	Procedure
MECHANICAL			
3.5.8	Resistance to Solder Heat	Visual: No damage or discoloration of connector materials.	Test connector on PCB Reflow condition: Comply with JEDEC standard (J-STD-020C) Peak: 265±5℃ 10s
3.5.9	Vibration, random.	No discontinuities of 1 microsecond or longer duration. See Note.	EIA-364-28. Subject mated connectors to 10-55-10 Hz traversed in 1 minute at 1.52 mm amplitude 2 hours each of 3 mutually perpendicular planes. 100 mA applied.
3.5.10	Mechanical shock.	No discontinuities of 1 microsecond or longer duration. See Note.	EIA-364-27. Accelerated Velocity: 490 m/s2 (50 G) Waveform: Half sine Duration: 11 m sec. Quantity: 3 drops each to normal and reversed directions of X, Y and Z axes, totally 18 drops.
3.5.11	Durability.	See Note.	EIA-364-9. 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.
3.5.12	Mating force	6.1 Kgf (59.8N) Max. with 1.30mm card; 2.5 Kgf (24.5N) Max. with 1.20mm card.	EIA-364-05. 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.)
3.5.13	Unmating force	4.55 Kgf (44.6N) Max. with 1.30mm card; 2.0 Kgf (19.6N) Max. with 1.20mm card.	Operation Speed: 25.4 mm/min. Measure the force required to unmate connectors.

Figure 1 (continued)

Para	Test Description	Requirement	Procedure
ENVIRONMENTAL			
3.5.14	Thermal shock	See Note.	EIA-364-32, Method A, Table 2, Test Condition I. Mated connector －55°C / 30 min., 85°C / 30 min. Making this a cycle, repeat 5 cycles.
3.5.15	Temperature & Humidity Cycling	See Note.	EIA-364-31B, Method III. Mated connector, 25～65°C, 90～95 % R. H.　10 cycles Cold shock －10°C performed
3.5.16	Temperature life	See Note.	EIA-364-17, Method A, Test Condition 4. Mated connector 105°C, Duration: 250H.
3.5.17	Mixed flowing gas	See Note	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.
3.5.18	Industrial Gas (SO2)	See Note	EIA 364-65A Mated connector SO2 Gas: 10 ppm, 95 % R. H. 25°C,　24 hours
3.5.19	Salt Spray	No detrimental corrosion allowed in contact area and base metal exposed.	EIA 364-26B Condition B Subject mated connectors to 5 % salt concentration 35℃ for 48 hours :

NOTE ***Shall meet visual requirements, show no physical damage, and meet requirements of additional tests as specified in the Product Qualification and Requalification Test Sequence shown in Figure 2.***

Figure 1 (end)

3.6. 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 2

4. QUALITY ASSURANCE PROVISIONS

4.1. Qualification Testing

A. Specimen Selection

Specimens shall be prepared in accordance with applicable instruction sheets and shall be selected at random from current production. All test groups shall each consist of 5 specimens.

B. Test Sequence

Qualification inspection shall be verified by testing specimens as specified in Figure 2.

4.2. Requalification Testing

If changes significantly affecting form, fit or function are made to the product or manufacturing process, product assurance shall coordinate requalification testing, consisting of all or part of the original testing sequence as determined by development/product, quality and reliability engineering.

4.3. Acceptance

Acceptance is based on verification that the product meets the requirements of Figure 1. Failures attributed to equipment, test setup or operator deficiencies shall not disqualify the product. If product failure occurs, corrective action shall be taken and specimens resubmitted for qualification. Testing to confirm corrective action is required before resubmittal.

4.4. Quality Conformance Inspection

The applicable quality inspection plan shall specify the sampling acceptable quality level to be used. Dimensional and functional requirements shall be in accordance with the applicable product drawing and this specification.

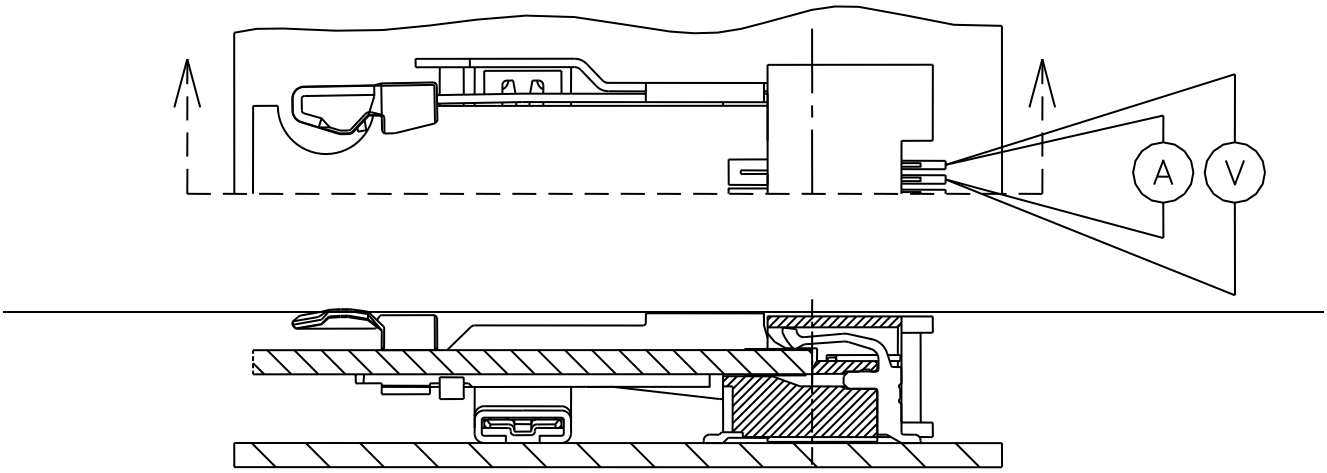

Fig.3 Termination Resistance Measuring Points.