



# DDR5 DIMM 0.85mm Pitch SMT TYPE 288Pos.

501-115156  
14 Aug 2022 Rev A

## 1. Introduction

1.1 Testing was performed on the DDR5 DIMM SOCKET SMT 288P to determine if it meets the requirement of Product Specification, 108-115141 Rev. 3

## 1.2 Scope

This report covers the electrical, mechanical and environmental performance requirements of all series DDR5 DIMM Socket including normal and narrow type.

The qualification testing for standard type was performed between 1 February 2022 and 25 May 2022, all of the test used 15u" gold plating parts.

For Rev4, update current carrying capacity from 0.75A to 1.2A, updated all of testing group according to latest JEDEC specification.

## 1.3 Conclusion

DDR5 DIMM SOCKET SMT 288P Type meets the electrical, mechanical and environmental performance requirements of Product Specification, 108-115141 Rev. 3

## 1.4 Test Samples

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

Part Number	Description
2355626-4	DDR5 DIMM SOCKET 0.85mm Pitch SMT 288Pos. 15u" Au version
	Did all test group (MFG field life 5 years)
	BLACK HOUSING AND BLACK LATCH
	3 TABs
5-2317336-3	NARROW DDR5 DIMM SOCKET 0.85mm Pitch SMT 288Pos. 30u" Au version
	NATURAL HOUSING AND NATURAL LATCH
	2 Side TAB + Board lock

Fig. 1 (End)



## DDR5 DIMM 0.85mm Pitch SMT TYPE 288Pos.

501-115156

14 Aug 2022 Rev A

### 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)	Initial: 20mΩ Max. Final: ΔR:20 mΩ Max.	Acceptable
2.3	Insulation Resistance	1 MΩ minimum.	Acceptable
2.4	Dielectric withstanding Voltage	One minute hold with no breakdown or flashover. Current leakage: 0.5mA Max.	Acceptable
2.5	Current carrying capability / Temperature Rising	30°C Max. Load with 1.2A	Acceptable
Mechanical Requirements			
2.6	Reseating	No physical damage after 3 times.	Acceptable
2.7	Solderability, lead free	Wet Solder Coverage: 95% Min	Acceptable
2.8	Resistance to Reflow Soldering Heat	No physical damage shall occur. Test connector on PCB	Acceptable
2.9	Vibration (Random)	No discontinuities of ≥ 1 microsecond electrical, mechanical and environmental criteria	Acceptable
2.10	Mechanical shock	No electrical discontinuity greater than 1 microsecond during the test. No physical damage.	Acceptable
2.11	Durability	LLCR and no nickel plating exposed at contact interface	Acceptable
2.12	Mating force	106.8 N maximum.	Acceptable
2.13	Unmating force	19.77 N Minimum	Acceptable
2.14	Contact retention force	3 N minimum per pin.	Acceptable
2.15	Tab & Board lock retention	13.3 N minimum per Tab or board lock.	Acceptable
Environmental Requirements			
2.18	Thermal Shock	No physical damage	Acceptable
2.19	Cyclic Temperature & Humidity	No physical damage	Acceptable
2.20	Thermal cycling	No physical damage	Acceptable
2.21	Temperature Life	No physical damage	Acceptable
2.22	Mixed flowing Gas	No physical damage	Acceptable
2.23	Thermal Disturbance	No physical damage	Acceptable
2.24	Latch Reliability	No physical damage	Acceptable
2.25	Final examination of product	No physical damage	Acceptable

Fig. 2 (End)



## DDR5 DIMM 0.85mm Pitch SMT TYPE 288Pos.

501-115156

14 Aug 2022 Rev A

### 3. Product Qualification and Requalification Test Sequence

Test or Examination	Test Group (a)											
	1	2	3	4	5	6	7	8	9	10	11	12
	Test Sequence (b)											
Initial examination of product	1	1	1	1	1	1	1	1	1	1	1	1
Low level contact resistance	2,5,7	2,7,9,13	2,4,6,8	2,5,7,9,11	2,5,7,9							2,6
Insulation resistance		3,10										
Withstanding voltage		4,11										
Current carrying capacity							2					
Reseating	6	12		10	8							5
Solderability						2						
Vibration, random			5									
Mechanical shock			7									
Durability	3(c)	5(c)	3(c)	3(c)	3(c)	3						3(c)
Mating force								2				
Un mating force									3			
Contact retention										3		
Fork lock retention										2		
Connector insertion force into PCB									2			
Thermal shock		6			4							
Cyclic temperature & humidity		8			6							
Thermal cycling												4
Temperature life	4			4(d)								
Mixed flowing gas				6								
Thermal disturbance				8								
Latch Reliability											2	
Final examination of product	8	14	9	12	10	4	3	3	3	3	3	6

**NOTE**

- a) See paragraph 4.1.A.
- b) Numbers indicate sequence in which tests are performed.
- c) Durability preconditioning with only 5 cycles.
- d) Temperature life preconditioning, 72 hours duration.
- e) Measure contact gaps across mating interface.

Figure 3



# DDR5 DIMM 0.85mm Pitch

## SMT TYPE 288Pos.

501-115156

14 Aug 2022 Rev A

## TEST RESULT for Standard Type

Condition	Measure Item	N	Unit	Results			Requirement	Judgment
				MAX.	MIN.	AVE.		
Test Group 1								
Initial	Appearance	5	-	No abnormalities			No abnormalities	Acceptable
	Resistance	1440	mΩ	9.93	6.00	6.99	20mΩMAX.	Acceptable
After Durability	Appearance	5	-	No abnormalities			No abnormalities	Acceptable
Temperature life	Circuit Continuity	5	-	No discontinuity			No abnormalities	Acceptable
After Temperature life	Resistance	1440	mΩ	15.27	6.00	7.22		
	Δ R	1440	mΩ	7.64	-2.11	0.24	20mΩ MAX.	Acceptable
After Reseating	Resistance	1440	mΩ	11.91	4.75	7.52		
	Δ R	1440	mΩ	5.33	-2.74	0.53	20mΩ MAX.	Acceptable
Final	Appearance	5	-	No abnormalities			No abnormalities	Acceptable
Test Group 2								
Initial	Appearance	5	-	No abnormalities			No abnormalities	Acceptable
	Resistance	1440	mΩ	8.99	6.00	7.17	20mΩMAX.	Acceptable
	Insulation Resistance	5	-	5.5 x 10 <sup>10</sup> Ω MIN.			1MΩMIN	Acceptable
	Withstanding voltage	5	-	No creeping discharge nor flashover occurred.			No abnormalities	Acceptable
After Durability	Appearance	5	-	No abnormalities			No abnormalities	Acceptable
After Thermal shock	Resistance	1440	mΩ	8.99	5.54	7.53		
	Δ R	1440	mΩ	2.83	-2.28	0.36	20mΩMAX.	Acceptable
After Cyclic temperature & humidity	Resistance	1440	mΩ	15.24	5.08	7.76	-	-
	Δ R	1440	mΩ	8.52	-2.70	0.59	20mΩMAX.	Acceptable
	Insulation resistance	5	-	6.5 x 10 <sup>10</sup> Ω MIN.			1MΩMIN	Acceptable
	Withstanding voltage	5	-	No creeping discharge nor flashover occurred.			No abnormalities	Acceptable
After Reseating	Resistance	1440	mΩ	14.84	5.07	7.56	-	-
	Δ R	1440	mΩ	7.84	-2.68	0.39	20mΩMAX.	Acceptable
Final	Appearance	5	-	No abnormalities			No abnormalities	Acceptable

Fig. 4 (to be continued)



# DDR5 DIMM 0.85mm Pitch SMT TYPE 288Pos.

501-115156

14 Aug 2022 Rev A

Condition	Measure Item	N	Unit	Results			Requirement	Judgment
				MAX.	MIN.	AVE.		
Test Group 3								
Initial	Appearance	5	-	No abnormalities			No abnormalities	Acceptable
	Resistance	1440	mΩ	7.95	5.78	6.75	20mΩMAX.	Acceptable
After Durability	Resistance	1440	mΩ	9.95	5.23	6.75	-	-
	Δ R	1440	mΩ	3.52	-1.70	0.01	20mΩMAX.	Acceptable
Vibration (Random) During test	Circuit Continuity	5	μS	No discontinuity			1μsec. MIN.	Acceptable
After Vibration	Resistance	1440	mΩ	8.62	5.81	6.85	-	-
	Δ R	1440	mΩ	2.23	-1.69	0.10	20mΩMAX.	Acceptable
Mechanical Shock During test	Circuit Continuity	5	μS	No discontinuity			1μsec. MIN.	Acceptable
After Mechanical Shock	Resistance	1440	mΩ	7.86	6.01	6.70	-	-
	Δ R	1440	mΩ	1.23	-1.85	-0.05	20mΩMAX.	Acceptable
Final	Appearance	5	-	No abnormalities			Final	Appearance
Test Group 4								
Initial	Appearance	10	-	No abnormalities			No abnormalities	Acceptable
	Resistance	2880	mΩ	8.73	5.40	6.93	20mΩMAX.	Acceptable
After Durability	Appearance	10	-	No abnormalities			No abnormalities	Acceptable
After Temperature life	Resistance	2880	mΩ	9.75	6.17	7.35	-	-
	Δ R	2880	mΩ	3.10	-1.73	0.42	20mΩMAX.	Acceptable
After MFG	Resistance	2880	mΩ	10.93	3.86	7.86	-	-
	Δ R	2880	mΩ	4.45	-2.98	0.94	20mΩMAX.	Acceptable
After Thermal Disturbance	Resistance	2880	mΩ	13.04	6.03	7.33	-	-
	Δ R	2880	mΩ	5.98	-1.82	0.41	20mΩMAX.	Acceptable
After Reseating	Resistance	2880	mΩ	15.24	6.02	7.26	-	-
	Δ R	2880	mΩ	8.17	-2.33	0.34	20mΩMAX.	Acceptable
Final	Appearance	10	-	No abnormalities			Final	Acceptable

Fig. 4 (to be continued)



# DDR5 DIMM 0.85mm Pitch SMT TYPE 288Pos.

501-115156

14 Aug 2022 Rev A

Condition	Measure Item	N	Unit	Results			Requirement	Judgment
				MAX.	MIN.	AVE.		
Test Group 5								
Initial	Appearance	5	-	No abnormalities			No abnormalities	Acceptable
	Resistance	1440	mΩ	8.94	6.00	7.31		
Durability	Appearance	5	-	No abnormalities			No abnormalities	Acceptable
After Thermal shock	Resistance	1440	mΩ	12.88	2.97	7.43		
	Δ R	1440	mΩ	6.04	-4.03	0.12	20mΩMAX.	Acceptable
After Cyclic temperature & humidity	Resistance	1440	mΩ	13.66	6.01	7.42		
	Δ R	1440	mΩ	7.52	-2.64	0.11	20mΩMAX.	Acceptable
After Reseating	Resistance	1440	mΩ	17.78	6.11	7.62		
	Δ R	1440	mΩ	10.48	-1.72	0.31	20mΩMAX.	Acceptable
Final	Appearance	5	-	No abnormalities			Final	Appearance
Test Group 6								
Initial	Appearance	5	-	No abnormalities			No abnormalities	Acceptable
Solderability	Appearance	5	-	More than 95% of tested area was covered with fresh, wet solder			95% MIN.	Acceptable
Durability	Appearance	5	-	No abnormalities			No abnormalities	Acceptable
Final	Appearance	5	-	No abnormalities			Final	Appearance
Final	Appearance	5	-	No abnormalities			Final	Appearance
Test Group 7								
Initial	Appearance	5	-	No abnormalities			No abnormalities	Acceptable
Current carrying capacity	Current carrying capacity	5	-	12.91°C	7.85 °C	10.76°C	30°C MAX.	Acceptable
Final	Appearance	5	-	No abnormalities			Final	Appearance
Test Group 8								
Initial	Appearance	5	-	No abnormalities			No abnormalities	Acceptable
Mating force	Mating force	5	N	87.6	77.3	81	106.8 Max	Acceptable
Latch open force	Latch open force	5	N	14.9	10.6	12.6	32.4N Max	Acceptable
Final	Appearance	5	-	No abnormalities			Final	Appearance

Fig. 4 (to be continued)



# DDR5 DIMM 0.85mm Pitch

## SMT TYPE 288Pos.

501-115156

14 Aug 2022 Rev A

Condition	Measure Item	N	Unit	Results			Requirement	Judgment
				MAX.	MIN.	AVE.		
Test Group 9								
Initial	Appearance	5	-	No abnormalities			No abnormalities	Acceptable
Connector insertion force into PCB	Connector insertion force into PCB	5	N	27.80N	20.08N	25.54N	35N Max.	Acceptable
Unmating force	Unmating force	5	N	22.7	20.3	21.4	19.77N MIN.	Acceptable
Final	Appearance	5	-	No abnormalities			Final	Appearance
Test Group 10								
Initial	Appearance	5	-	No abnormalities			No abnormalities	Acceptable
Fork lock retention.	Fork lock retention	10	N	25.5	14.5	19.13	13.3N Min	Acceptable
Contact retention	Contact retention	10	N	7.2	3.6	5.28	3N Min	Acceptable
Final	Appearance	5	-	No abnormalities			Final	Appearance
Test Group 11								
Initial	Appearance	5	-	No abnormalities			No abnormalities	Acceptable
Latch Reliability	Latch Reliability	5	N	No abnormalities			No abnormalities	Acceptable
Final	Appearance	5	-	No abnormalities			Final	Appearance
Test Group 12								
Initial	Appearance	5	-	No abnormalities			No abnormalities	Acceptable
	Resistance	1440	mΩ	9.52	6.18	7.50	20mΩMAX.	Acceptable
Durability	Appearance	5	-	No abnormalities			No abnormalities	Acceptable
Thermal cycling	Appearance	5	-	No abnormalities			No abnormalities	Acceptable
Reseating	Appearance	5	-	No abnormalities			No abnormalities	Acceptable
After Reseating	Resistance	1440	mΩ	13.35	6.07	7.38	-	Acceptable
	Resistance	1440	mΩ	6.14	-2.41	-0.12	20mΩMAX.	Acceptable
Initial	Appearance	5	-	No abnormalities			No abnormalities	Acceptable
Test Group 13								
Initial	Appearance	5	-	No abnormalities			No abnormalities	Acceptable
Resistance to Reflow Soldering Heat	Appearance	5	-	No abnormalities			No abnormalities	Acceptable
Final	Appearance	5	-	No abnormalities			Final	Appearance

Fig. 4 (END)