1.Introduction

1. 1. Testing was performed on the LGA 250 to determine if it meets the requirement of Product Specification , 108-115155 REV.A

1. 2. Scope

This report covers the electrical, mechanical and environmental performance requirements of the LGA 250. The qualification testing for standard type was performed between 16 Apr 2019 and 8 Jul 2019.

1. 3. Conclusion

LGA 250 meets the electrical, mechanical and environmental performance requirements of Product Specification, 108-115155 REV.A

1. 4. Test Samples

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

Part Number	Description
2350616-1	DUAL LGA,250 POS, DMD SOCKET

Fig. 1

2. Test Contents

Test Items	Requirements	Procedures
Initial examination of product	Meets requirements of customer drawing.	EIA-364-18. Visual and dimensional inspection. No physical damage
Final examination of product	Meets visual requirements.	EIA-364-18. Visual inspection.
Electrical Requirements		
Termination resistance (Low level)	30mΩ max for initial △R=10mΩ max after test.	EIA-364-23 method 1. Subject specimens to 100 mA maximum and 20 mV maximum open circuit voltage.
Dielectric withstanding voltage	No creeping discharge nor flashover shall occur. Current leakage: 0.5mA Max	EIA-364-20D 360 Vrms for 1 minute. Test between adjacent contacts of unmated specimens.
Insulation resistance	800MΩ Min	EIA-364-21D. Impressed voltage 500VDC. Test between adjacent contacts of unmated specimens
Current Rating	After tests maximum increase for environmental temperature, 30 °C Max	0.5A min for arrays of 4X4 and 6X6 contacts. Refer to EIA-364-70B，Method 1.
Mechanical Requirements		
Contact Normal Force	Minimum contact normal force at full deflection=20g	EIA-364-04A
Durability (Repeated mate unmating)	30mΩ max for initial △R=10mΩ max after test.	EIA-364-9C Operation rate: 8cycle/min No. of cycles: 30cycles.

Figure 2 (Continue)

Environmental Requirement

Vibration (Random)	30mΩ max for initial △R=10mΩ max after test.	EIA-364-28 test condition VII , Letter D Vibration frequency: 20 to 500Hz (Random) Accelerated velocity: 30.38 m/s2 (3.1 G),rms, Vibration direction: In each of 3 mutually perpendicular planes. Duration: 10 minute each axis Random control limit tolerance is+/-3dB.
Physical shock	30mΩ max for initial △R=10mΩ max after test.	EIA-364-27B, Condition A Accelerated velocity: 30 G Waveform: Halfsine Duration: 11 m sec. Number of drops: 3 drops each to normal and reversed directions of X, Y and Z axes, totally 18 drops.
Temperature humidity	30mΩ max for initial △R=10mΩ max after test.	Subject mated interposers to 240hours of 25℃ to 85 ℃ exposure,2 hours dwell at each temperature, 2hours transition time ,with 80+/-2% RH at 25℃, 47% RH max at 85℃
Temperature life (Heat aging)	30mΩ max for initial △R=10mΩ max after test.	EIA-364-17B Condition 5, Time condition D Mated, 105 °C, / 533 hours
Thermal Shock	30mΩ max for initial △R=10mΩ max after test.	Subject mated interposers to 10cycles of -55℃ to 85℃ exposure,60 minutes per temperature. EIA-364-32.
Salt Spray	30mΩ max for initial △R=10mΩ max after test. No physical damage shall occur	EIA-364-26B Condition B,Temperature:35+/-2℃，95%RH, 5%NaCl

Figure. 2
(end)

Chain numbers are subject to change on actual testing

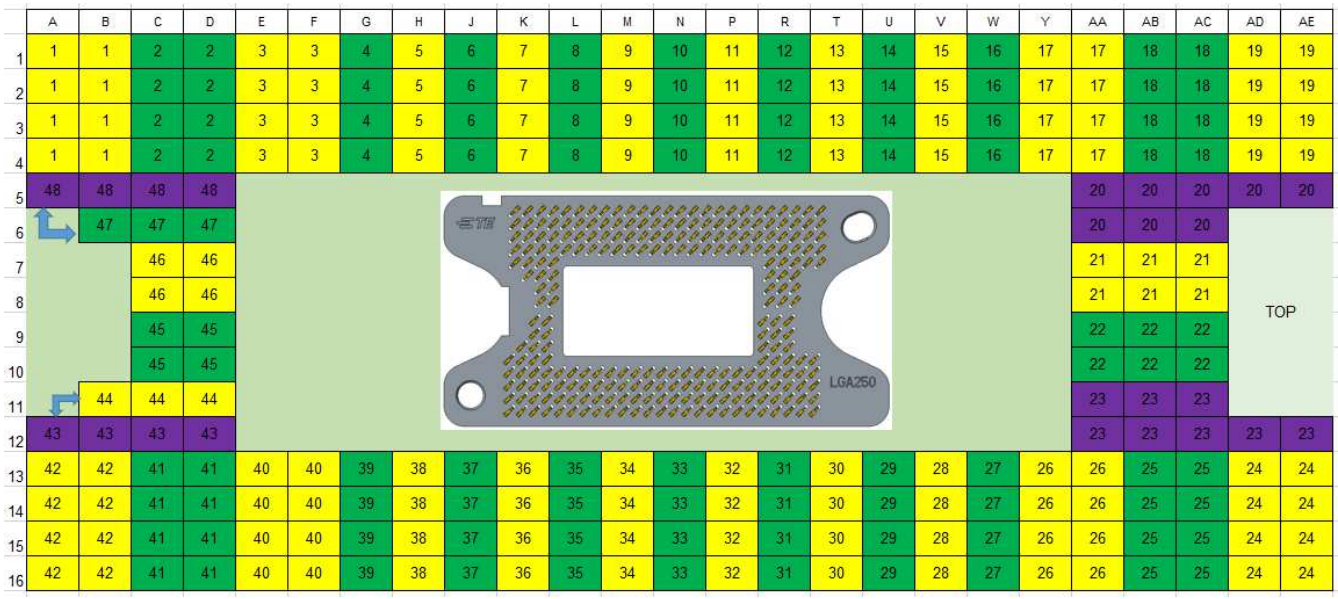

Figure 3
Location of termination resistance daisy chain, socket top side view.

3. Test Sequence

Table 2

Test examination / Test sequence	Test Group							
	1	2	3	4	5	6	7	8
Test sequence (a)								
Examination of product	1,7	1,5	1,5	1,10	1,5	1,5	1,4	1,5
Termination resistance (Low Level)	2,4,6	2,4	2,4		2,4	2,4		2,4
Dielectric withstanding voltage				2,5,8				
Insulation resistance				3,6,9				
Vibration (Low frequency)	5							
Physical shock	3							
Durability (Repeated mate/unmating)			3					
Temperature humidity		3		7				
Temperature life (Heat aging)					3			
Thermal shock				4		3		
Contact normal force							2	
Current Rating							3	3

4.Test result

Group	Test Item	N	Condition	Test Result			Requirement	Conclusion
				Max	Min	Ave		
1	Examination of Product	5	Initial	No physical damage			No abnormalities	Meet Spec
	LLCR	250	Initial	29.9 mΩ	21.7 mΩ	26.4 mΩ	30mΩ Max	Meet Spec
	Physical Shock	5	Final	No physical damage			No abnormalities	Meet Spec
	△LLCR	250	Final	4.62 mΩ	-4.21 mΩ	-0.36 mΩ	10mΩ Max	Meet Spec
	Vibration	5	Final	No physical damage			No abnormalities	Meet Spec
	△LLCR	250	Final	3.71 mΩ	-5.31 mΩ	-1.18 mΩ	10mΩ Max	Meet Spec
	Examination of Product	5	Final	No physical damage			No abnormalities	Meet Spec
2	Examination of Product	5	Initial	No physical damage			No abnormalities	Meet Spec
	LLCR	250	Initial	29.5 mΩ	23.2 mΩ	27.2 mΩ	30mΩ Max	Meet Spec
	Temperature Humidity (240H)	5	Final	No physical damage			No abnormalities	Meet Spec
	△LLCR	250	Final	-0.12 mΩ	-8.39 mΩ	-5.45 mΩ	10mΩ Max	Meet Spec
	Examination of Product	5	Final	No physical damage			No abnormalities	Meet Spec
3	Examination of Product	5	Initial	No physical damage			No abnormalities	Meet Spec
	LLCR	250	Initial	29.30 mΩ	22.40 mΩ	26.90 mΩ	30mΩ Max	Meet Spec
	Durability	5	Final	No physical damage			No abnormalities	Meet Spec
	△LLCR	250	Final	9.53 mΩ	-3.19 mΩ	2.24 mΩ	10mΩ Max	Meet Spec
	Examination of Product	5	Final	No physical damage			No abnormalities	Meet Spec
4	Examination of Product	5	Initial	No physical damage			No abnormalities	Meet Spec
	Withstanding Voltage	25	Initial	No creeping discharge nor flashover occurred.			No abnormalities	Meet Spec
	Insulation Resistance	25	Initial	3.52xE11	0.75xE11	1.63xE11	800MΩ Min	Meet Spec
	Thermal Cycling(10X)	5	Final	No physical damage			No abnormalities	Meet Spec
	Withstanding Voltage	25	Final	No creeping discharge nor flashover occurred.			No abnormalities	Meet Spec
	Insulation Resistance	25	Final	3.57xE11	0.73xE11	1.69xE11	800MΩ Min	Meet Spec
	Temperature Humidity	5	Final	No physical damage			No abnormalities	Meet Spec
	Withstanding Voltage	25	Final	No creeping discharge nor flashover occurred.			No abnormalities	Meet Spec
	Insulation Resistance	25	Final	2.92xE11	0.54xE11	1.41xE11	800MΩ Min	Meet Spec
	Examination of Product	5	Final	No physical damage			No abnormalities	Meet Spec

5	Examination of Product	5	Initial	No physical damage			No abnormalities	Meet Spec
	LLCR	250	Initial	29.30 mΩ	22.20 mΩ	26.60mΩ	30mΩ Max	Meet Spec
	Temperature Life (533H)	5	Final	No physical damage			No abnormalities	Meet Spec
	△LLCR	250	Final	9.74 mΩ	-7.83 mΩ	-2.56 mΩ	10mΩ Max	Meet Spec
	Examination of Product	5	Final	No physical damage			No abnormalities	Meet Spec

Group	Test Item	N	Condition	Test Result			Requirement	Conclusion
				Max	Min	Ave		
6	Examination of Product	5	Initial	No physical damage			No abnormalities	Meet Spec
	LLCR	250	Initial	29.5 mΩ	22.80 mΩ	27.20 mΩ	30mΩ Max	Meet Spec
	Thermal Shock	5	Final	No physical damage			No abnormalities	Meet Spec
	△LLCR	250	Final	1.44 mΩ	-7.15 mΩ	-3.35 mΩ	10mΩ Max	Meet Spec
	Examination of Product	5	Final	No physical damage			No abnormalities	Meet Spec
7	Examination of Product	5	Initial	No physical damage			No abnormalities	Meet Spec
	Contact normal force	25	Final	28.3gf	21.80gf	24.06gf	20gf MIN	Meet Spec
	Current Rating	5	Final	16.63℃	12.20℃	15.03℃	△30℃ MAX	Meet Spec
	Examination of Product	5	Initial	No physical damage			No abnormalities	Meet Spec

8	Examination of Product	5	Initial	No physical damage			No abnormalities	Meet Spec
	LLCR	250	Initial	29.5 mΩ	21.69 mΩ	26.18 mΩ	30mΩ Max	Meet Spec
	Salt Spray	5	Final	No physical damage			No abnormalities	Meet Spec
	△LLCR	250	Final	2.42 mΩ	-7.93 mΩ	-2.63 mΩ	10mΩ Max	Meet Spec
	Examination of Product	5	Final	No physical damage			No abnormalities	Meet Spec

End

REV	REV. RECORD	PREPARED		CHECK		APPROVAL	
A	RELEASED	Tony Zhu	8th JUL19	Bill Lv	8th JUL 19	Simon Li	8th JUL 19