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**DDR3 DIMM Socket 240 Positions SMT Type**

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**1. Scope :****1. 1 Contents:**

This specification covers the requirements for product performance, test methods and quality assurance provisions of DDR3 DIMM Socket 240 positions.

This specification applies product which is including name of DDR3 DIMM socket and written number of 108-78570 in customer drawing.

**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 Tyco Electronics Specifications:**

A. 109-5000 Test Specification, General Requirements for Test Methods

B. 501-5957 Test Report for \*-2040727-\*

501-78405 Test Report for \*-2134250-\* (VLP Type)

**2. 2 Commercial Standards and Specifications:**

A. 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:****A. Contact:**

Copper Alloy

**Finish:**

Contact area: Gold Plated or Gold Plated with Pd-Ni Plated

Tine area: Tin Plated (\*-2040727-\*), Au Flash Plated (\*-2134250-\*)

Under-plate: Nickel Plated

**B. Housing:**

Thermo plastic UL94V-0

**C. Extractor**

Thermo plastic UL94V-0

**D. Leg**

Copper Alloy, Tin Plated

**E. Cover**

Thermo plastic UL94V-0

**F. Peg**

Copper Alloy, Au Flash Plated

### 3. 3 Ratings :

- A. Voltage Rating: 25VAC
- B. Current Rating: 0.5A
- C. Temperature Rating:  $-55^{\circ}\text{C}$  to  $105^{\circ}\text{C}$

### 3. 4 Performance Requirements and Test Descriptions:

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 Items	Requirements	Procedures
3.5.1	Examination of Product	Meets requirements of product drawing	Visual inspection No physical damage
Electrical Requirements			
3.5.2	Termination Resistance (Low Level)	(Standard Type) 30 m $\Omega$ Max. (Initial) $\Delta R=20$ m $\Omega$ Max. (Final) (LLCR Type) 10 m $\Omega$ Max. (Initial) $\Delta R=10$ m $\Omega$ Max. (Final)	Subject mated contacts assembled in housing to closed circuit current of 10 mA Max. at open circuit voltage of 20mV Max. obtain resistance value by dividing the measured reading into two. Fig. 3 EIA-364-23
3.5.3	Insulation Resistance	1000M $\Omega$ Min.	Test between adjacent circuits of unmated connectors. EIA-364-21 0.5 kVAC for 1 minute.
3.5.4	Dielectric withstanding Voltage	No creeping discharge nor flashover shall occur.	Test between adjacent circuits of unmated connectors. 500 volts AC at sea level. EIA-364-20
3.5.5	Current carrying capability / Temperature Rising	30 $^{\circ}\text{C}$ Max. Under loaded	Connect 10 consecutive contacts on 1 side of the specimen in series and load with 0.5 ampere. EIA-364-70

Fig1-1

Para.	Test Items	Requirements	Procedures
Mechanical Requirements			
3.5.6	Reseating	No physical damage	Manually unplug and plug module card 3 times.
3.5.7	Vibration (Random)	No electrical discontinuity greater than 1 $\mu$ sec. shall occur.	Frequency Range: 5 to 500 Hz, 10 minutes per axis to: 5 to 20Hz(slope): (0.01g <sup>2</sup> /Hz)@5Hz, (0.02g <sup>2</sup> /Hz)@20Hz 20 to 500Hz(flat): (0.02g <sup>2</sup> /Hz)@20Hz, (0.02g <sup>2</sup> /Hz)@20Hz Input acceleration: 3.13g RMS Random control limit tolerance: +/-3dB. EIA 364-28
3.5.8	Physical Shock	No electrical discontinuity greater than 1 $\mu$ sec. shall occur.	Profile: Trapezoidal shock of 50G +/-10% Duration: 11ms Min. Velocity changes: 67cm/sec. +/-10% Number of Drops: 3 drops each to normal and reversed directions of X, Y and Z axes, totally 18 drops. Fig. 4 EIA 364-27
3.5.9	Durability	Rating of 25 cycles as determined by EIA-TS-364-1000.1	Number of cycles: 25cycles. Operation speed: 500cycles per hour. Use the JEDEC GS-005 max. insertion force gauge EIA 364-9
3.5.10	Insertion Force (Module to Connector)	106.8N Max.	Operation Speed: 25.4 mm/min. Use the JEDEC GS-005 module thickness gauge. EIA 364-13
3.5.11	Contact Retention	2.94N (300gf) minimum / pin.	EIA 364-29
3.5.12	Solderability	Wet Solder Coverage: 95 % Min.	30 second exposure at 190°C oven. Processing criteria: solder 260 $\pm$ 5°C for 5 seconds. EIA 364-52 Class 1, Category 3.

Fig1-2

Para.	Test Items	Requirements	Procedures
Environmental Requirements			
3.5.13	Resistance to Reflow Soldering Heat	No physical damage shall occur	Test connector on P.C.Board Reflow condition is applied to JEDEC standard (J-STD-020C)
3.5.14	Thermal Shock	Show no physical damage	Mated connector –55°C / 30 min., +85°C / 30 min. Making this a cycle, repeat 10 cycles. EIA 364-32 Test Condition I.
3.5.15	Humidity-Temperature Cycling	Show no physical damage	Mated connector, Cycle between 25°C+/-3°C at 80%+/-3% RH and 65°C+/-3°C at 50%+/-3% Ramp times should be 0.5 hour and dwell times should be 1.0 hour. Dwell times start when the temperature and humidity have stabilized within the specified level. Perform 24 cycles EIA 364-31 Method III.
3.5.16	Temperature Life	Show no physical damage	Mated connector 105°C for 96 hours. EIA364-17, Method A, Test Condition 4.
3.5.17	Mixed flowing Gas	Show no physical damage	Mated connector 30°C, 70% R.H., 7Days Cl <sub>2</sub> : 10+/-3ppb No <sub>2</sub> : 200+/-50ppb H <sub>2</sub> S: 10+/-5ppb So <sub>2</sub> : 100+/-20ppb EIA 364-65, Class IIA
3.5.18	Thermal Disturbance	Show no physical damage	Subject mated specimens to 10 cycles between 15+/-3°C and 85+/-3°C as measured on the part. Ramps shall be a minimum of 2°C per minute. Dwell times shall ensure that the contacts reach the temperature extreme (5 minutes minimum). Humidity is not controlled.

Fig1-3

#### 4. Product Qualification Test Sequence

Test Examination	Test Group								
	1	2(b)	3(b)	4	5	6	7	8	9
	Test Sequence (a)								
Examination of Product	1,8	1,14	1,9	1,12	1,3	1,3	1,3	1,3	1,3
Termination Resistance (Low Level)	2,5,7	2,7,9,13	2,5,8	2,5,7,9,11					
Insulation Resistance		3,10							
Dielectric withstanding Voltage		4,11							
Current carrying capacity					2				
Reseating	6	12		10					
Vibration (Random)			6						
Physical Shock			7						
Durability	3	5	3	3					
Insertion Force (Module to Connector)						2			
Contact Retention							2		
Solderability								2	
Resistance to Reflow Soldering Heat									3
Thermal Shock		6							
Temperature Humidity Cycling		8							
Temperature Life	4		4	4					
Mixed Flowing Gas				6					
Thermal Disturbance				8					

Fig. 2

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

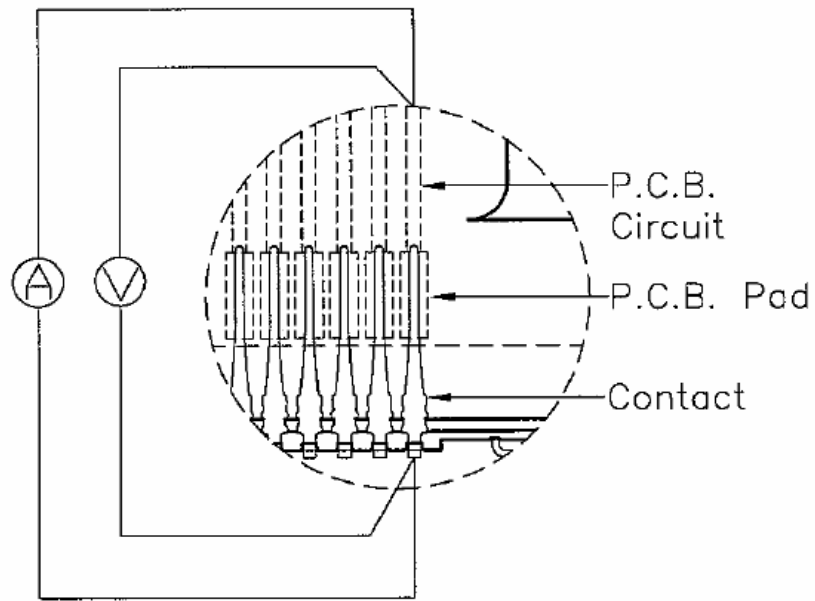


Fig.3 Termination Resistance Mesuring Points.

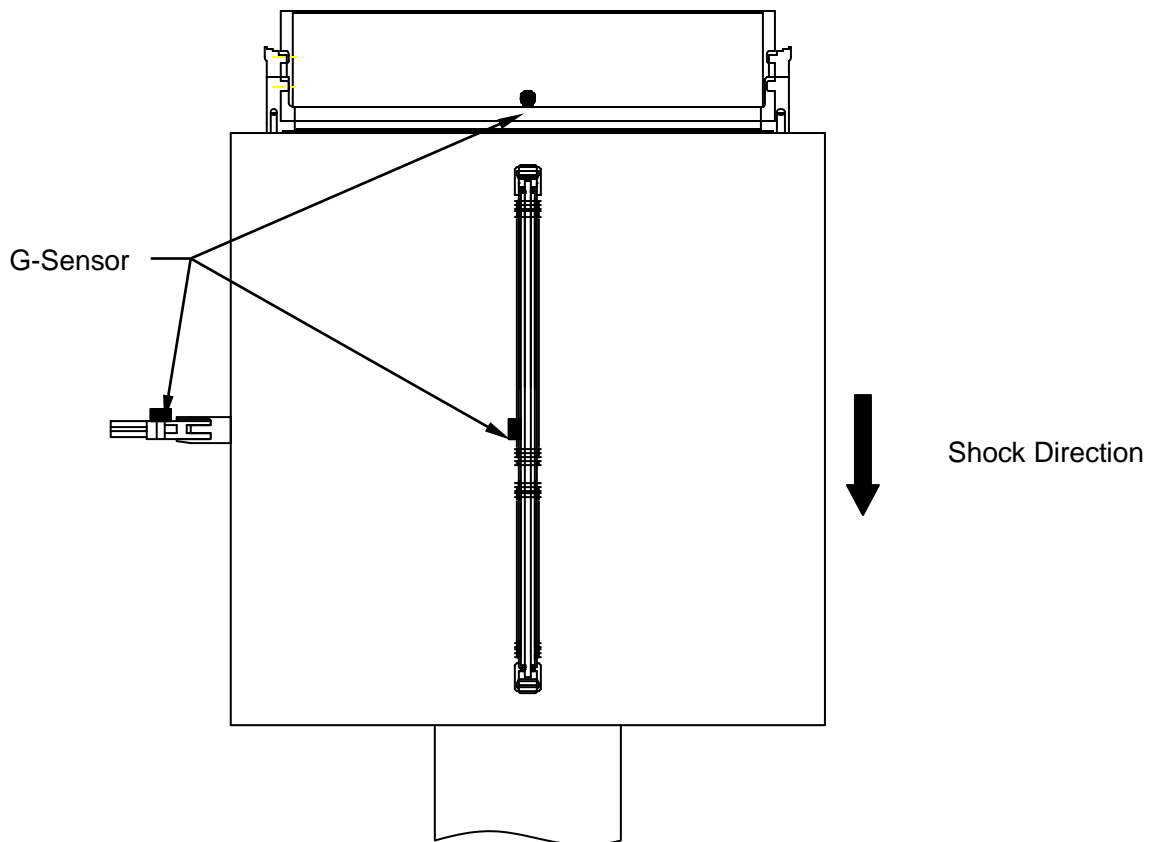


Fig.4 Mechanical Shock Mounting fixture, and G-sensor setting points.

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