


NUMBER GS-12-195	TYPE PRODUCT SPECIFICATION		
DDR SO-DIMM SOCKET		PAGE 1 of 7	REVISION M
		AUTHORIZED BY Rick Bian	DATE Apr 13 th , 2010
		CLASSIFICATION UNRESTRICTED	

1.0 General:

This specification defines the performance, test, quality and reliability requirement of the DDR SO-DIMM socket.

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2.0 Product description:

Table 1-Product Number List

Description	Type	Power supply	P/N
DDR SO - DIMM	Standard	2.5V	59354-*52**
		1.8V	10033853-*52**-
	Reverse	2.5V	59355-*52**
		1.8V	10033854-*52**

3.0 MATERIALS AND FINISH

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Table 2-Material List

Component	Material	Finish
Housing	Heat resistant resin	BLACK (UL94V – 0)
Terminal	Copper alloy	1. Au all over Ni under plating in contact area Au all over Ni under plating in solder tail area Or Sn-Pb, Sn to replace Au.
Hold down	Brass	Sn-Pb or Sn all over Ni under plating

4.0 Requirements:

4.1 Rating current:

Power supply	Rating current
2.5V	AC/DC 0.5A MAX. per contact
1.8V	AC/DC 0.5A MAX. per contact

4.2 Rating voltage: AC/DC 50V

4.3 Temperature rise : 30°C MAX

4.4 Operating temperature range : -40°C ~ +85°C

4.5 Storage temperature range : -50°C ~ +100°C

Unless otherwise specified, the performance of connectors given in the attached list shall satisfy the values specified in Table3~6, under the environmental conditions listed below.

Temperature : 15~35°C

Relative humidity : 25~85%

Atmospheric pressure : 86~106Kpa

. Table 3-Electrical Performance

Test Items	Procedures	Requirements
Low Level Contact Resistance	(1).Open circuit voltage:DC 20mV Max. (2).Test current: 1mA.	Contact resistance Initial : 30mΩ Max. After test : Resistance increase 20mΩ Max.
Dielectric Withstanding Voltage	AC.200Vrms for 1 minute. Test between adjacent circuits of unmated connectors.	No creeping discharge No flashover Current leakage : 0.5mA Max
Insulation Resistance	Impressed voltage DC.200V. Test between adjacent circuits of unmated connectors.	Initial : 100MΩ Min. After test : 50MΩ Min.


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Table 4-Mechanical Performance

Test Items	Procedures	Requirements
Vibration (Low frequency)	JIS C 0040 (1).Kind of test : Sweep endurance test (2).Frequency range : 10~55Hz (3).Amplitude , acceleration amplitude : 0.75mm or 100m/s ² (4).Sweep rate : 1 octave / minutes (5).Test time : 20 cycles each axis (total 60 cycles)	(1) During the test, no circuit opening for more than 0.1 μ sec. (2).Free from any defect such as break, deformation, loosening and falling off etc on each portion of the connector.
Physical Shock	JIS C 0041 (1).Accelerated velocity : 500m/s ² (50G) (2).Waveform : Half sine (3).Duration : 11m sec (4).Number of drops : 3 drops each to normal and reverse directions of X,Y and Z axis. (total:18 times)	(1).During the test, no circuit opening for more than 0.1 μ sec. (2).Free from any defect such as break, deformation, loosening and falling off etc. on each portion of the connector.
PC.Board Mating force	Measure the force required to mate connectors. (In this test, the force required to turn PCB before it engages on lacking, is excluded.) · Operation speed : 100mm / minutes	50N (5.1Kgf) Max.
Durability	Repeated insertion and extraction of P.C.B. to and from the connector with the turn to lock it and then unlock it Cycle time : 25cycle	Contact resistance Initial : 30m Ω Max. After test : Resistance increase 20m Ω Max.


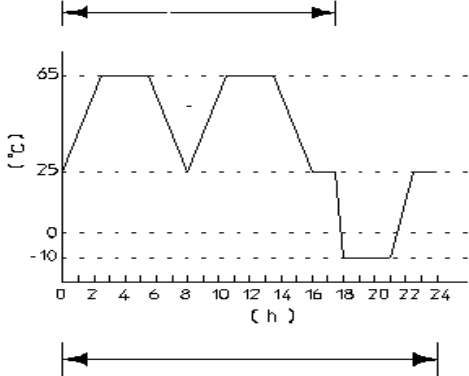

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Table 5-Environmental Performance


Test Items	Procedures	Requirements															
Thermal Shock	<p>JIS C 0025 Mated connector (1).Test time : 10 cycles (2).One cycle is as follows</p> <table border="1" style="margin-left: 40px;"> <thead> <tr> <th>Step</th> <th>Temp.(°C)</th> <th>Time (min.)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>-55±3</td> <td>30</td> </tr> <tr> <td>2</td> <td>25±2</td> <td>2~3</td> </tr> <tr> <td>3</td> <td>85±3</td> <td>30</td> </tr> <tr> <td>4</td> <td>25±2</td> <td>2~3</td> </tr> </tbody> </table>	Step	Temp.(°C)	Time (min.)	1	-55±3	30	2	25±2	2~3	3	85±3	30	4	25±2	2~3	<p>Contact resistance Initial : 30mΩ Max. After test : Resistance increase 20mΩ Max.</p>
Step	Temp.(°C)	Time (min.)															
1	-55±3	30															
2	25±2	2~3															
3	85±3	30															
4	25±2	2~3															
Humidity-Temperature Cycle	<p>JIS C 0028 Mated connector (1).Test time : 5 cycles (2).One cycle is as follows</p> 	<p>Contact resistance Initial : 30mΩ Max. After test : Resistance increase 20mΩ Max.</p>															
Temperature Life	<p>JIS C 0021 Mated connector (1).Temperature : 85±2°C (2).Test time : 96 hours</p>	<p>Contact resistance Initial : 30mΩ Max. After test : Resistance increase 20mΩ Max.</p>															
Salt Spray	<p>JIS C 0023 Mated connector (1).Temperature : 35±2°C (2).Salt concentration : 5% (3).Test time : 48 hours</p>	<p>Contact resistance Initial : 30mΩ Max. After test : Resistance increase 20mΩ Max.</p>															

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SO ₂ Gas	Mated connector (1).SO ₂ Gas : 3ppm (2).Temperature : 35±2°C , 75%RH (3).Test time : 96 hours	Contact resistance Initial : 30m Ω Max. After test : Resistance increase 20m Ω Max.
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Table 6-Other Performance


Resistance to Reflow Soldering heat	Solder by setting reflow bath to the following condition. Preheating : 100~150°C , 60 sec.Max. Soldering : 210°C MIN. , 30 sec.Max. Note : Temperature must be measured at contact terminal portion and peak temperature on the upper surface of P.C.B. must be less than 255°C (260 degree +/-5 degree for 10+/-2 sec for Lead-Free application)	Free from any damage on performance and contact performance after soldering.
Solderability	JIS C 0050 Preheating : 150±10°C , 60~120 sec Soldering : 215±5°C MIN. , 10±1 sec (LF Soldering: 260+/-5°C MIN., 10+/-2 sec) Solder paste to be used is JIS Z 3282 H60A or H63A. Soldering particle is more than 200 mesh. And flux is inactive rosin family flux	Wet solder coverage: 95% MIN.

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5.0 Test Sequence

Table 7-Test Sequence

	Test Items	Test Group													
		1	2	3	4	5	6	7	8	9	10	11	12	13	
1	Contact Resistance			① ③	① ③		① ③	① ③	① ③	① ③	① ③	① ③			
2	Dielectric Withstanding Voltage	①													
3	Insulation Resistance		①												
4	Vibration			②											
5	Physical Shock				②										
6	P.C.Board Mating Force					①									
7	Durability						②								
8	Thermal shock							②							
9	Humidity-Temperature Cycling								②						
10	Temperature Life									②					
11	Salt Spray										②				
12	SO ₂ Gas											②			
13	Resistance to Reflow Soldering heat												①		
14	Solderability													①	

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REVISION RECORD

REV	PAGE	DESCRIPTION	EC #	DATE
L	All	Update FCI Logo	DG08-0333	11/28/08
M	All	Change from Confidential to Unrestricted	N10-0088	Apr 13 th , 2010

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