



PRODUCT SPECIFICATION

DDR / DDR2 SODIMM, 200 Circuits, 0.6mm Pitch, 5.2mm Height, Reverse Orientation

1.0 SCOPE

This Product Specification covers the 0.6 mm centerline (pitch) gold plated DDR/DDR2 SODIMM edge card connector for 1.00 +/- 0.10 mm memory modules.

2.0 PRODUCT DESCRIPTION

2.1 PRODUCT NAME AND SERIES NUMBER(S)

Part Number:

78309 – 1130, 78309-1730

78309 – 2230, 78309-2730

Product Name:

DDR SODIMM, 200 Circuits, 5.2mm Ht, Reverse (2.5V)

DDR2 SODIMM, 200 Circuits, 5.2mm Ht, Reverse (1.8V)

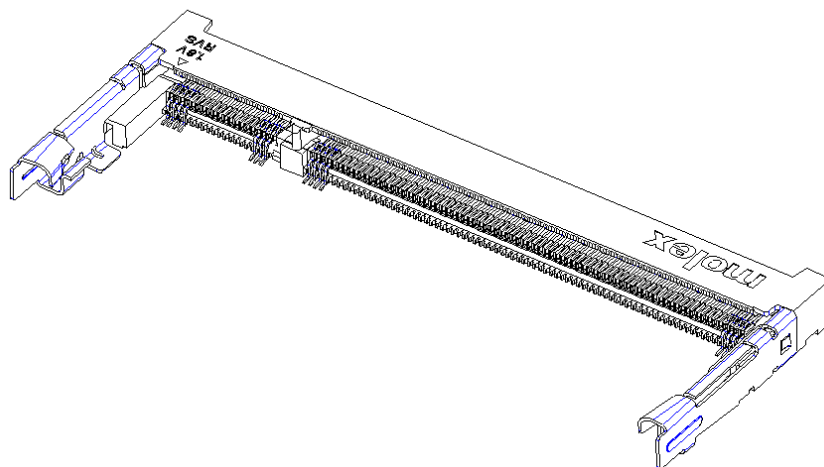
2.2 DIMENSIONS, MATERIALS, PLATINGS AND MARKINGS

See the appropriate Sales Drawing for information on dimensions, materials, plating and markings, recommended module outlines and foot prints.

2.3 SAFETY AGENCY APPROVALS

UL FILE: TBA

CSA FILE: TBA



TENTATIVE RELEASE: THIS SPECIFICATION IS BASED ON DESIGN OBJECTIVES AND IS STRICTLY TENTATIVE. PRELIMINARY TEST DATA MAY EXIST, BUT THIS SPECIFICATION IS SUBJECTED TO CHANGE BASED ON THE RESULTS OF ADDITIONAL TESTING AND EVALUATION.

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3.0 APPLICABLE DOCUMENTS AND SPECIFICATIONS

The following documents are part of this specification between the requirements of this specified herewith. In the event of conflict between the requirements of this specification and the product drawings, the product drawings shall take precedence. In the event of conflict between the requirements of this specification and reference documents, this specification shall take precedence.

4.0 RATINGS

4.1 VOLTAGE

25 Volts AC (rms)

4.2 CURRENT

Power Supply	Rating Current
2.5 V	0.3 A / pin
1.8 V	0.5 A / pin

4.3 OPERATING TEMPERATURE : - 55°C to +85°C

4.4 NON-OPERATING TEMPERATURE: - 55°C to +85°C

4.5 FIELD LIFE AND TEMPERATURE:

Field Life: 5 Years

Field Temperature: 65°C

5.0 PERFORMANCE

5.1 ELECTRICAL REQUIREMENTS

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
1	Contact Resistance (Low Level)	Subject mated contacts assembled in housing to closed circuit current of 100mA (Max) at open circuit voltage of 20 mV voltage (Max). EIA-364-23	30 mΩ Max [initial]
2	Dielectric withstanding voltage	Apply 500VAC for one minute between adjacent contacts of unmated connector. EIA-364-20	No break down
3	Insulation Resistance	Measured by applying 500 VDC between adjacent contacts of unmated connector. EIA-364-21	250MΩ MIN

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5.2 MECHANICAL REQUIREMENTS

4	Module Insertion Force	Insert Module at the rate of 25 mm ± 6mm per minute. Measure the force required to mate (In this test the force required to turn PCB before it engages on locking is excluded)	50 N Max.
5	Terminal Retention Force	Apply axial pull out force on the terminal assembled in the housing at a rate of 25 ± 3mm / min. EIA-364-29	2 N Min.
6	Durability (Preconditioning 5X)	Repeated insertion and extraction of PCB to and from the connector with the turn to lock it and then unlock it up to 5 cycles at the rate of 10 cycles per min prior to Environmental Tests.	Contact resistance: ΔR = 20mΩ Max
7	Durability (Preconditioning 20X)	Repeated insertion and extraction of PCB to and from the connector with the turn to lock it and then unlock it up to 20 cycles at the rate of 10 cycles per min prior to Environmental Tests.	Contact resistance: ΔR = 20mΩ Max
8	Durability	Repeated insertion and extraction of PCB to and from the connector with the turn to lock it and then unlock it. 25 cycles.	Contact resistance: ΔR = 20mΩ Max
9	Random Vibration	EIA-364-28. Module weight 10 ± 5g. Duration: 10 minutes per axis for all 3 axes on all samples. Frequency Range : 5Hz to 500Hz, 5Hz to 20Hz (slope): (0.01g ² /Hz)@5Hz, (0.02g ² /Hz)@20Hz: 20Hz to 500Hz(flat); (0.02g ² /Hz)@20Hz: Input acceleration is 3.13g RMS; Random control limit tolerance +/-3dB.	No physical damage Contact Resistance ΔR = 20mΩ Max

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10	Mechanical Shock	EIA-364-27 Module Card weight 10g ± 5g. Profile: ½ sine shock of 50g ± 10% Duration 11ms Quantity: 3drops in each of six directions. Total 18 drops per connector.	No physical damage Contact Resistance ΔR = 20mΩ Max
11	Reseating	Manually mate and unmate the connector with PCB for 3 cycles.	No damage
12	Latch Retention Force	Axial pull out force of the latch assembled in the housing at a rate of 25 +/-3mm / min.	6N Min

5.3 ENVIRONMENTAL REQUIREMENTS

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
13	Thermal Shock	Mate connectors; expose to 10 cycles of: <u>Temperature °C</u> <u>Duration (Minutes)</u> -55 +0/-3 30 +25 +10/-5 5 MAXIMUM +85 +3/-0 30 +25 +10/-5 5 MAXIMUM EIA-364-32 – Condition 1	Contact Resistance: ΔR = 20 mΩ Max. Appearance: No Damage
14	Temperature Life (Preconditioning)	Mate connectors; expose to: 72 hours at 105 ± 3°C Per EIA-364-17	Contact Resistance: ΔR = 20 mΩ Max. Appearance: No Damage
15	Temperature Life	Mate connectors; expose to: 120 hours at 105 ± 3°C Per EIA-364-17	Contact Resistance: ΔR = 20 mΩ Max. Appearance: No Damage
16	Solderability	Steam age for 8 hour +/- 15 min. Solder 5 ± 0.5 seconds. Solder temperature: 260 ± 5 °C. Non-activated flux.	Solder coverage: 95% MINIMUM

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17	Temperature Rise	Mate the connector. Connect 10 contacts in series on the same side of connector. Measure the temperature rise at the maximum rated current of 0.6A.	Maximum Temperature Rise: 30 °C above ambient.
18	Cyclic Temperature & Humidity	Cycle the connector between 25°C ± 3°C at 80% ± 3% RH and 65°C ± 3°C at 50% ± 3% RH. Ramp times should be 0.5 hour and dwell times should be 1 hour. Dwell times start when the temperature and humidity have stabilized within the specified levels. Perform 24 such cycles. {Note: Remove surface moisture and air dry for 1 hour prior to measurements.} EIA-364-31	Contact Resistance : ΔR = 20mΩ Max Appearance: No Damage
19	Mixed Flowing Gas	EIA-364-65, class IIA, expose unmated connector for 5 days in MFG chamber. Expose mated (to same test module mated during temp life preconditioning) connector for 2 days in MFG chamber.	Contact Resistance: ΔR = 20 mΩ Max.
20	Thermal Disturbance	Cycle the connector between 15°C±3°C and 85°C±3°C, as measured on the part. Ramps should be a minimum of 2°C per minute, and dwell times should insure that contacts reach temperature extreme for a minimum of 5minutes. No humidity control. 10 cycles total.	Contact Resistance: ΔR = 20 mΩ Max

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6.0 TEST SEQUENCE

TEST DESCRIPTION/ SEQUENCE	1	2	3	4	5	6	7	8	9	10
Contact Resistance	1,4,6	1,4,6	1,3,5,7	1,4,7,9,11		1,3				
Durability (preconditioning 5X)	2	2		2						
Durability (preconditioning 20X)			2							
Durability						2				
Insulation Resistance					1,5					
Dielectric Withstand Voltage					2,6					
Temperature Life (preconditioning)				3						
Temperature Life	3									
Thermal Shock		3			3					
Thermal Disturbance				8						
Cyclic Temperature & Humidity		5			4					
Mixed Flowing Gas (Unmated condition)				5						
Mixed Flowing Gas (Mated condition)				6						
Mechanical Shock			6							
Random Vibration			4							
Reseating	5			10						
Temperature Rise										1
Solderability								1		
Module Insertion Force							1			
Latch Retention Force									1	
Terminal Retention									2	
Sample Size per Test Group	5	5	5	5	5	5	5	5	5	5

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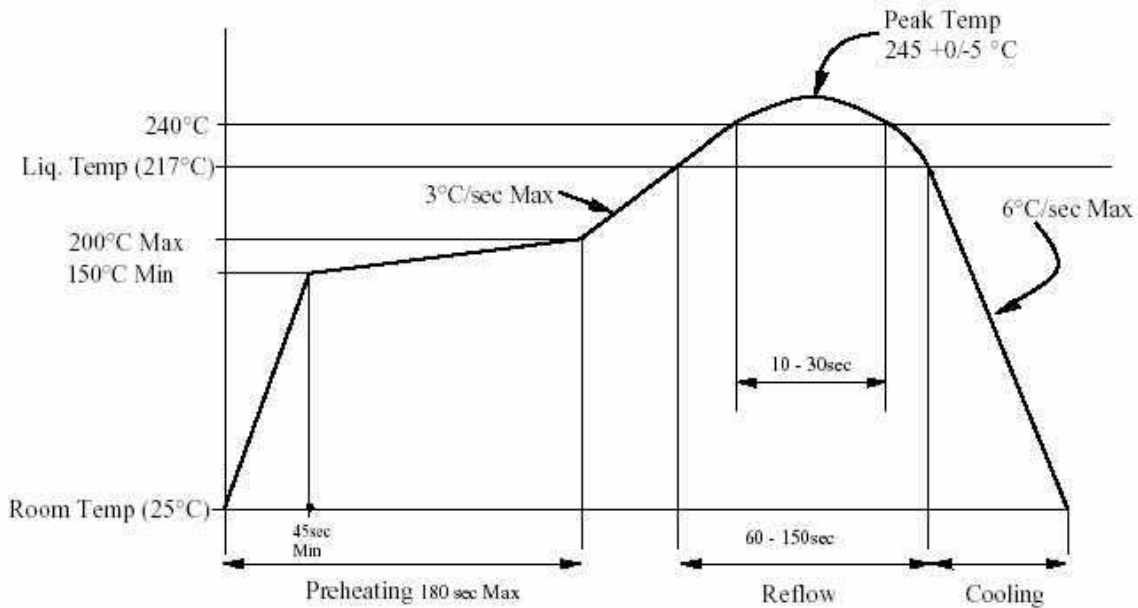
7.0 PACKAGING

Parts shall be packed in trays / tape & reel and protected against damage during handling, transportation and storage.

8.0 OTHER INFORMATIONS

8.1. Recommended Reflow Pre-Solder Process and Profile.

Actual reflow profile also depends on equipment, solder paste, PCB thickness, and other components on the board. Please consult your solder paste & reflow equipment manufacturer for their recommendations to adopt a suitable process.



LEAD-FREE PROFILE FOR PEAK REFLOW - 245°C

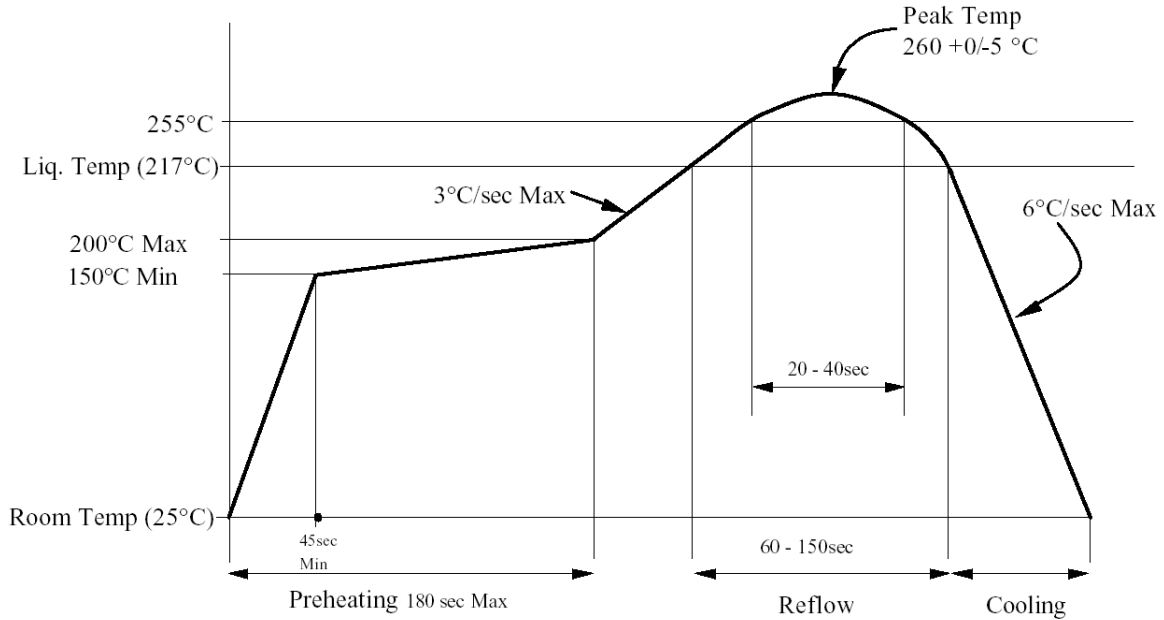
Notes:

1. Reflow solder Preheat at 3°C/s to 150°C.
2. Reflow at 240°C for 30s per figure.
3. Peak temperature to be at 245 ± 0/-5°C.

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LEAD-FREE PROFILE FOR PEAK REFLOW - 260°C

Notes:

1. Reflow solder Preheat at 3°C/s to 150°C.
2. Reflow at 255°C for 30s per figure.
3. Peak temperature to be at 260 +0/-5°C.

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