



CONNECTOR STANDARD FOR OUTLINES OF SOLID STATE AND RELATED PRODUCTS

PS-003

DDR4 260 Pin SODIMM Connector Performance Standard

(Double Data Rate 4)

JEDEC SOLID STATE TECHNOLOGY ASSOCIATION

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DDR4 SODIMM CONNECTOR PERFORMANCE STANDARD

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DDR4 SODIMM CONNECTOR PERFORMANCE STANDARD

(From JEDEC Board Ballot JCB-15-57, formulated under the cognizance of the JC-11.14 Subcommittee on Microelectronic Assemblies.)

1 Scope

This standard defines the form, fit and function of SODIMM DDR4 connectors for modules supporting channels with transfer rates as high as 3.2 GT/S. It contains mechanical, electrical and reliability requirements for a one-piece connector mated to a module with nominal thickness of 1.20 mm. The intent of this document is to provide Performance Standards to enable connector, system designers and manufacturers to build, qualify and use the SODIMM DDR4 connectors in client and server platforms.

1.1 Connector Overview

SODIMM DDR4 connectors are 2 mm longer than the previous generation SODIMM DDR3 due to increase in pin count to 260 pins. The 260 pin, 0.50 mm pitch right angle connector is defined for applications where a 1.20 mm nominal thickness module card enters the connector on an angle and rotates parallel to the system board.

2 References

The following references provide normative requirements as specified in the body of this standard:

JEDEC JEP95, MO-310, *SODIMM DDR4 Module Outline*

JEDEC JEP95, SO-018, *SODIMM DDR4 Socket Outlines*

EIA-364-1000, *Environmental Test Methodology for Assessing the Performance of Electrical Connectors and Sockets used in Controlled Environment*

EIA-364-05, *Contact Insertion, Release and Removal Force Test Procedure for Electrical Connectors*

EIA-364-13, *Mating and Unmating Force Test Procedure for Electrical Connectors and Sockets*

EIA 364-23, *Low Level Contact Resistance Test Procedures for Electrical Connectors and Sockets*

EIA-364-27, *Shock Test Procedure for Electrical Connectors*

EIA-364-28, *Vibration Test Procedure for Electrical Connectors and Sockets*

EIA-364-29, *Contact Retention Test Procedure for Electrical Connectors*

EIA-364-31, *Humidity Test Procedure for Electrical Connectors and Sockets*

EIA-364-32, *Thermal Shock Test Procedure for Electrical Connectors and Sockets*

EIA 364-70, *Temperature Rise Versus Current Test Procedure for Electrical Connectors and Sockets*

Agilent Product Note 8510-8A, Application Note, "Agilent Network Analysis Applying the 8510 TRL Calibration for Non-Coaxial Measurements"

JEDEC JESD22-B102, *Solderability*

JEDEC/ECA JS709A, *Definition of "Low-Halogen" for Electronic Product*

3 Acronyms, Terms, and Definitions

TABLE 3.1 — Acronyms, terms, and definitions

Term	Description
BOL	Beginning of Life
dB	Given in dB-volts, i.e., $20\log_{10}(V_2/V_1)$
DDR	Double Data Rate
DUT	Device under test=
EIA	Electronics Industry Alliance
EOL	End of Life
Horizontal connector	A connector that accepts a module parallel to the system board
JEDEC	JEDEC Solid State Technology Association
System board	PCB on which the SODIMM DDR4 connector is mounted

4 Pin Numbering

This section describes pin numbers in SODIMM DDR4 connectors. The SODIMM DDR4 connector pin list is shown in Table 4.1.

TABLE 4.1 — SODIMM DDR4 Number Sequence

Pin #				Pin #				Pin #			
1	Pin	Pin	2	73	Pin	Pin	74	145	Pin	Pin	146
3	Pin	Pin	4	75	Pin	Pin	76	147	Pin	Pin	148
5	Pin	Pin	6	77	Pin	Pin	78	149	Pin	Pin	150
7	Pin	Pin	8	79	Pin	Pin	80	151	Pin	Pin	152
9	Pin	Pin	10	81	Pin	Pin	82	153	Pin	Pin	154
11	Pin	Pin	12	83	Pin	Pin	84	155	Pin	Pin	156
13	Pin	Pin	14	85	Pin	Pin	86	157	Pin	Pin	158
15	Pin	Pin	16	87	Pin	Pin	88	159	Pin	Pin	160
17	Pin	Pin	18	89	Pin	Pin	90	161	Pin	Pin	162
19	Pin	Pin	20	91	Pin	Pin	92	163	Pin	Pin	164
21	Pin	Pin	22	93	Pin	Pin	94	165	Pin	Pin	166
23	Pin	Pin	24	105	Pin	Pin	106	169	Pin	Pin	170
25	Pin	Pin	26	107	Pin	Pin	108	171	Pin	Pin	172
27	Pin	Pin	28	109	Pin	Pin	110	173	Pin	Pin	174
29	Pin	Pin	30	111	Pin	Pin	112	175	Pin	Pin	176
31	Pin	Pin	32	113	Pin	Pin	114	177	Pin	Pin	178
33	Pin	Pin	34	115	Pin	Pin	116	179	Pin	Pin	180
35	Pin	Pin	36	117	Pin	Pin	118	181	Pin	Pin	182