

DDR5 Memory Module Sockets (SMT)

COMPLIES TO NEW INTERFACE STANDARD JEDEC SO-023D AND JEDEC SO-023

The new DDR5 connector with only 287 terminals addresses the resonance from the floating RFU pin 220 which resulted in a margin delta. Both RDIMM and UDIMM versions of the new DDR5 socket are tooled and available.

The 287-terminal DDR5 connectors and 288-pin DDR5 SMT memory module connectors feature:

- Able to withstand high system-level shock and vibration testing module weight
- Easy to insert and extract the module card
- Supports thicker multilevel motherboard
- Optimizes airflow
- Meets environmental requirements



TARGET MARKETS



FEATURES

- Smaller pitch and lower operating voltage
- Supports faster data rates
- Reduced product width
- Lower insertion force
- Different color options for housing and latches
- Narrow latch option

BENEFITS

- Results in less energy consumption
- Faster transition
- Saves board space
- Easier for module card insertion and extraction
- Facilitates quick visual identification from PCB
- Facilitates good airflow

TECHNICAL INFORMATION

MATERIAL

- Contacts: Copper Alloy, Gold flash or 15µin min. of Gold or 30µin min. of gold (Contact area), Tin or Matte Tin plating (Solder Area), Nickel plating over all (Underplate)
- Insulator: High temperature, Thermal plastic (UL94V-0), Color option
- Board lock: Copper Alloy, Tin plating (Solder Area), Nickel plating overall (Underplate)

ELECTRICAL PERFORMANCE

- Voltage Rating: 30VAC(RMS)/DC
- Current Rating: 1.0A/pin max.

MECHANICAL PERFORMANCE

- Insertion Force: 106.8N max.
- Withdrawal Force: 19.77N min.
- Retention Force:
 - Contact: 300gf min. per pin
 - Board lock: 13.3N min.
- Durability: 25 cycles
- Vibration, Mechanical Shock
- Latch Overstress Force: 3.5kg min. force held for 10s with no damage
- Reseating: No damage
- Latch Overstress Force: 3.5kg min. force held for 10s with no damage
- Latch Actuation Force: The force to fully actuate the latch open shall be 4.0kgf max. per latch
- Module Rip Out Force: 9.1kgf min. retention force of the module in connector with no damage
- Retention of Connector to PCB: No lifting of connector from applicable PCB
- Total Insertion Force: 35N max.

ENVIRONMENTAL

- Solderability: 95% min.
- Resistance to Soldering Heat: Visual-no damage or discoloration of connector materials
- Temperature Life, Thermal Shock
- Cycling Temperature and Humidity
- Temperature Rise: 30°C max.
- Mixed Flowing Gas, Thermal Disturbance, Salt Spray

APPROVALS & CERTIFICATION

- UL E232356

SPECIFICATIONS

- Amphenol Product Specification: S-DDR-005
- Amphenol Packaging Specification: PKSDDR5002
- Amphenol Application Specification: S-DDR-006
- JEDEC Module Outlines: MO-329
- JEDEC Socket Outlines: SO-023

PACKAGING

- Tray

TARGET MARKETS/APPLICATIONS



Routers
Switches
Wireless Infrastructure



Desktop PCs
Server and Storage Systems
Super Computers
Workstations



Embedded Systems

▶ DDR5 Memory Module Sockets (SMT)

PART NUMBERS

Description	Type	Part Numbers	Pin counts
DDR5	U DIMM Socket, Standard latch, Surface mount (SMT) termination with board lock	DDR503*	288
DDR5	R/LR DIMM Socket, Standard latch, Surface mount (SMT) termination with board lock	DDR504*	288
DDR5	UDIMM Socket, Narrow latch, Surface mount (SMT) termination with board lock	DDR505*	288
DDR5	R/LR DIMM Socket, Narrow latch, Surface mount (SMT) termination with board lock	DDR506*	288
DDR5	U DIMM Socket, Standard latch, Surface mount (SMT) termination with board lock	DDR513*	287
DDR5	R/LR DIMM Socket, Standard latch, Surface mount (SMT) termination with board lock	DDR514*	287
DDR5	UDIMM Socket, Narrow latch, Surface mount (SMT) termination with board lock	DDR515*	287
DDR5	R/LR DIMM Socket, Narrow latch, Surface mount (SMT) termination with board lock	DDR516*	287

*denotes base part number. Please contact Amphenol for complete part numbers.

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