



Available in Press-fit, SMT and Through-hole mounting, DDR4 DIMM sockets offer significant assembly-processing compatibility and cost savings in high-speed server memory applications

Meeting JEDEC specifications, Molex’s Vertical Press-fit, SMT and Through hole DDR4 DIMM sockets support *UDIMMs, RDIMMs and LRDIMM memory applications for data, computing, telecommunication and networking servers with higher data speed and lower operating voltage than DDR3.

The new Press-fit DDR4 DIMM socket offers benefits of lower cost of operation (clean, solderless process); elimination of added heat-cycle that can cause stress to the PCB or degrade electronic components; ease-of-application and connection-failure traceability, rework and termination quality inspection; repair capability and more.

Other termination styles suit specific applications that give greater PCB real estate cost savings. These include Series 78726 Through hole and 78730 SMT sockets with a highly compact socket footprint.

Molex’s DDR4 sockets feature high dimensional stability and excellent compatibility in halogen-free and lead-free technologies. The use of less moisture-sensitive, high-temperature housing material minimizes blistering on the connector during high, IR-reflow processing temperatures for non press-fit sockets. Reduced yield losses with the use of Molex DDR4 sockets add to greater customer cost savings.

For more information, visit our website at: www.molex.com/link/ddr4.html.

DDR4 DIMM Sockets, Halogen-free

78726 Vertical, Through hole

78730 Vertical, SMT

78731 Vertical, Press-fit



Halogen-free DDR4 DIMM Sockets in Press-fit (top), SMT (center) and Through hole (bottom) configurations

Features and Benefits

Reduced connector footprint of 6.50mm (max.) (W) by 162mm (L)	Provides increased PCB space and cost savings
Robust and more ergonomic latch design	Improves rip-out force and vibration resistance; makes socket easy to use
Profiled contact terminals	Eliminate stress caused to housing during terminal insertion and prevents housing warpage; anti-stubbing
Moisture-resistant, high-temperature housing material	Gives added dimensional stability to connector with reduced yield loss and increased cost-savings. Able to withstand infrared (IR), lead-free and wave soldering temperatures
High connector durability	Supports up to 25 mating cycles
Step-and-ramp feature (on connector housing and memory module)	Reduces insertion force of module without engaging all gold fingers at the same time during module insertion

* UDIMMs: Unbuffered DIMMs offer the fastest memory speeds, lowest latencies, and (relatively) low power consumption but are limited in capacity though.
RDIMM: Registered DIMMs, with their registers, are able to buffer the Address and Command signals between the DRAMs and the memory controller thus increasing the amount of memory that a server can support, however, with increased power consumption and memory latency.
LRDIMM: Load Reduced DIMMs use a buffer to reduce memory loading to a single load on all DDR signals, allowing for greater density but at the highest power usage

Specifications

Reference Information

Packaging: Tray
 UL File No.: TBA
 CSA File No.: TBA
 Use With:
 JEDEC MO-310A memory modules
 Designed In: Millimeter
 RoHS: Yes
 Halogen Free: Yes
 Glow Wire Compliant: No

Electrical

Voltage (max.): 29V AC (RMS)/DC
 Current (max.): 0.75A per pin
 Low Level Contact
 Resistance (max.): 10 milliohms
 Dielectric Withstanding
 Voltage: 500V AC
 Insulation Resistance
 (min.): 1 megohm

Mechanical

Module Insertion Force: 106.8N max
 Module Rip-out Force: 9.10 kgf min.
 Compliant-pin Insertion Force to PCB:
 4.50kgf max.
 Compliant-pin Retention Force to PCB:
 0.30kg min.
 Module Unmating Force: 2.02 kgf min.
 Terminal Retention Force:
 0.30 kgf (contact)
 13.3N (forklock)
 Latch Actuation Force:
 3.50 kgf max per latch
 Durability: 25 cycles

Physical

Housing: Halogen-free, high-temperature Nylon, glass-filled, UL94V-0 (both socket and latch)
 Contact: Copper Alloy
 Plating:
 Contact Area
 — Refer to tables below
 Solder Tail Area
 — Refer to tables below
 Underplating
 — Refer to tables below
 PCB Thickness: Refer to table below (for through hole and Press-fit versions only)
 Operating Temperature: -55 to +85°C

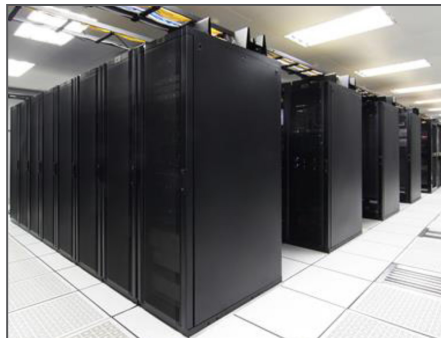
Applications

Data/Computing

- High-end computing
- Personal computers

Telecommunications/Networking

- Infrastructure
- Networking



Servers



Networking systems

Product Features

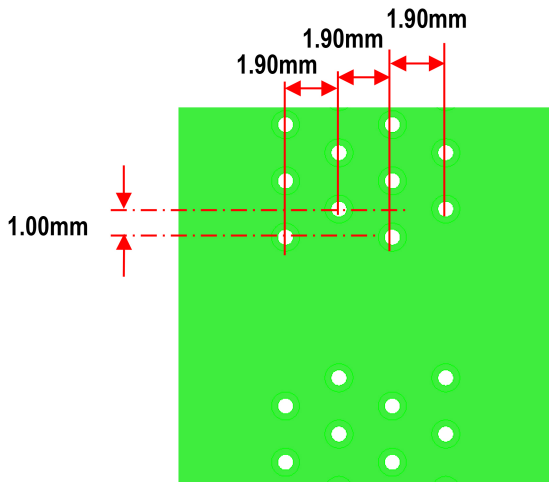
Key differences between DDR3 and DDR4 DIMM Sockets

Features	DDR3 DIMM Sockets	DDR4 DIMM Sockets
Pitch	1.00mm	0.85mm
Module Thickness	1.27mm	1.40mm
Circuits	240	288
Key from Module Center	12.00mm	5.15mm
Voltage	1.5V	1.2V
Electrical Performance	800 – 1600Mbps	1600 – 3200Mbps

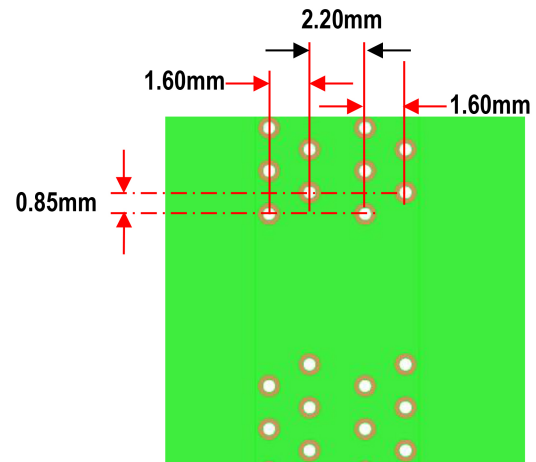
Product Features

**DDR4 DIMM
Sockets,
Halogen-free**

Press-Fit Pitch Sizes



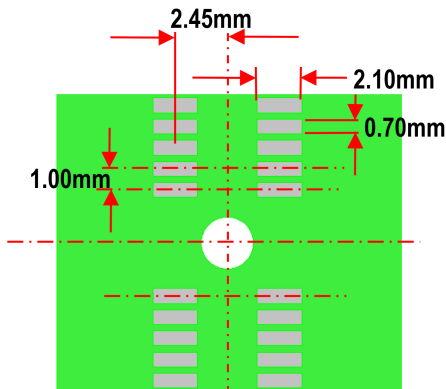
DDR3 pitch size



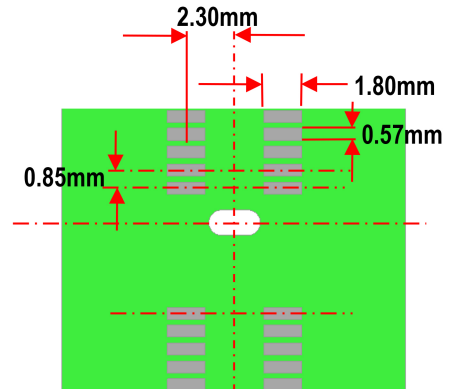
DDR4 Pitch size

DDR4 uses a smaller pitch and via hole diameter than DDR3 Press-fit versions

SMT Footprint



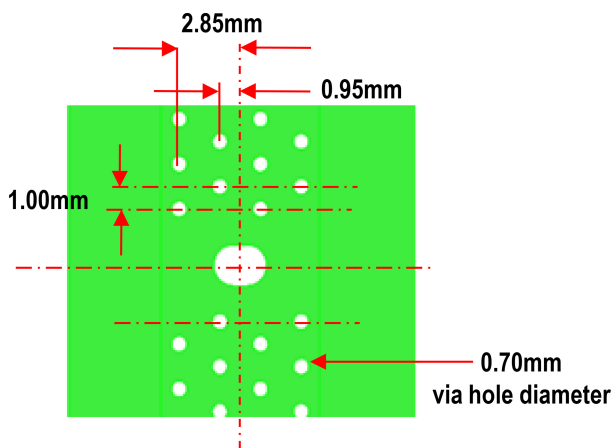
DDR3 pitch size



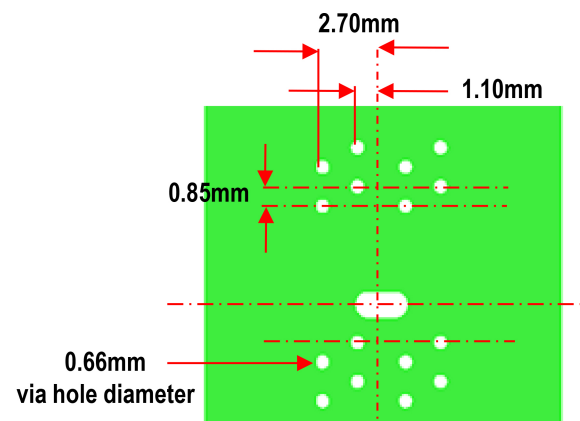
DDR4 Pitch size

DDR4 uses a smaller pitch and footprint size than DDR3 SMT versions

Through Hole Pitch Sizes



DDR3 pitch size

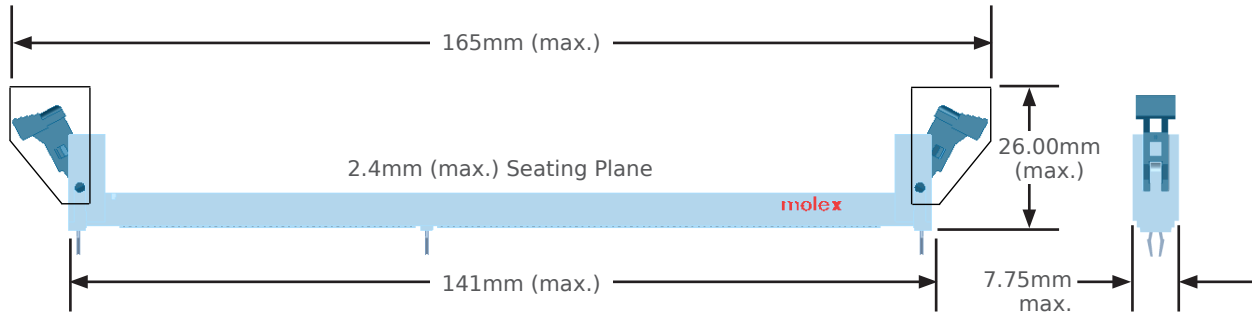


DDR4 Pitch size

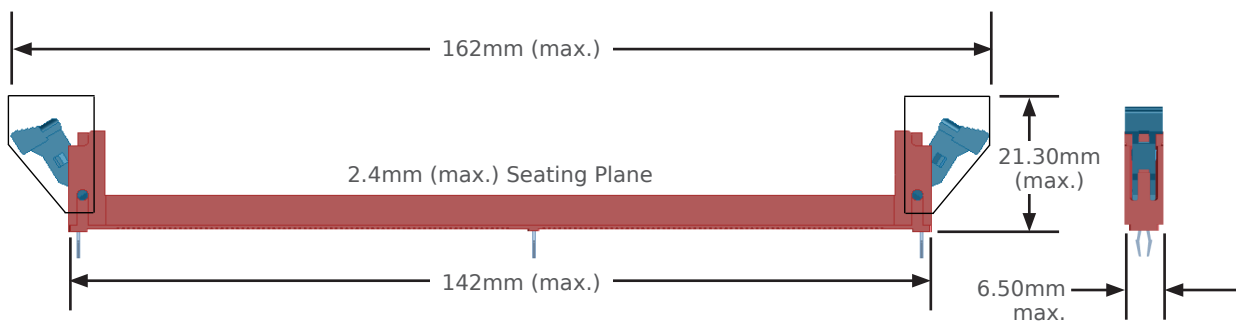
DDR4 uses a smaller pitch and via hole diameter than DDR3 Through hole versions

Product Features

Differences in socket dimensions



DDR3 DIMM Socket

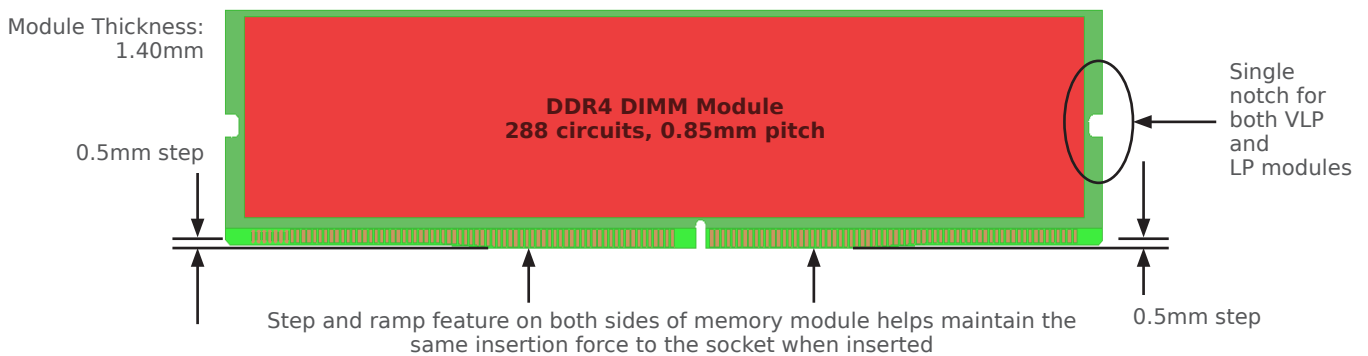
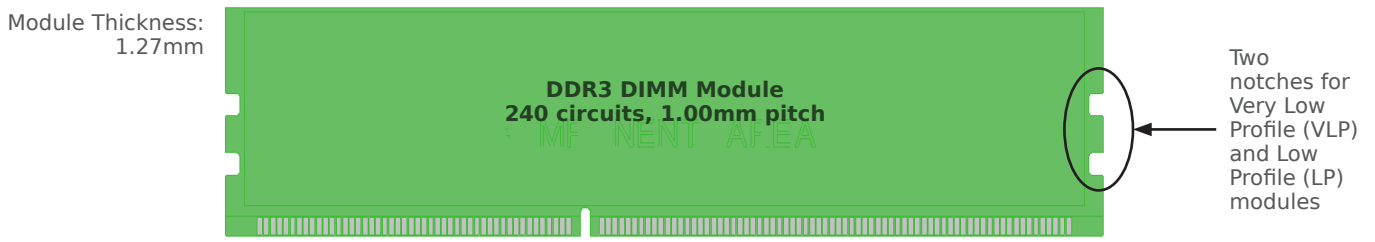


DDR4 DIMM Socket

DDR4 has a narrower connector width and mounted height than DDR3 versions

Product Features

DDR3 and DDR4 memory modules differences

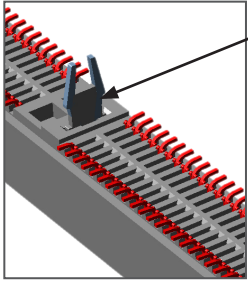


DDR3 and DDR4 Memory Module Differences

Product Features

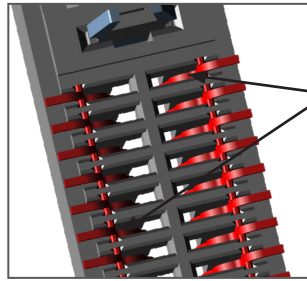
Socket Housing

DDR4 DIMM Sockets, Halogen-free



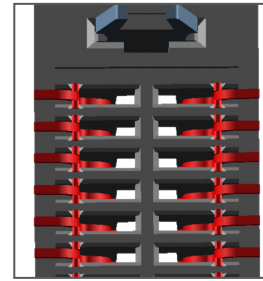
One of 3 socket forklocks for robust PCB retention

Underside of SMT version DDR4 DIMM Socket showing housing and solder tail design



Recessed terminal design of the socket reduces exposure of terminal from physical damage

Recessed solder tail terminals of the SMT DDR4 DIMM Socket

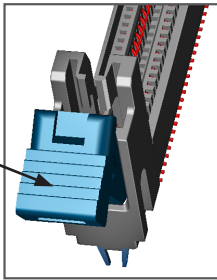


Flush solder tail design minimizes accidental damage to terminal due to bending

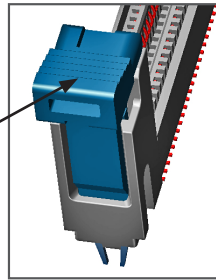
Solder tails of the SMT DDR4 DIMM socket are flush with the connector edge (width) on both sides

Ergonomically designed latches

Stepped latch design improves thumb-grip for easy latch opening



Though compact, each latch delivers an actuation force of up to 3.50 kgf



Ergonomically designed latches of the DDR4 DIMM Sockets in open (left) and closed (right) positions

Through Hole Versions

Order No.	Housing Color	Latch Color	Recommended PCB Thickness (mm)	Plating	Product Specification	
78726-1002	Black	Black	1.57	0.76µm (30µ") Gold (Au) on contact; 2.54µm (100µ") Tin (Sn) on soldertails; 1.27µm (50µ") Nickel (Ni) underplate	PS-78726-001	
78726-1003			2.36			
78726-1026			3.00			
78726-1040		Off-white	Off-white			1.57
78726-1004						1.57
78726-1005						2.36
78726-1027						3.00
78726-1006	Off-white	Black	1.57			
78726-1007			2.36			
78726-1028			3.00			
78726-1008		Off-white	Off-white			1.57
78726-1009						2.36
78726-1029						3.00
78726-1010						Blue
78726-1011	2.36					
78726-1030	3.00					
78726-1044	Off-white	Off-white	1.57			
78726-1022			1.57			
78726-1023			2.36			
78726-1031			3.00			
78726-1045	Black	Black	1.57			0.38µm (15µ") Gold (Au) on contact; 2.54µm (100µ") Tin (Sn) on soldertails; 1.27µm (50µ") Nickel (Ni) underplate
78726-1012			1.57			
78726-1013			2.36			
78726-1032		Off-white	Off-white	3.00		
78726-1014				1.57		
78726-1015				2.36		
78726-1033				3.00		
78726-1016	Off-white	Black	1.57			
78726-1017			2.36			
78726-1034			3.00			
78726-1048		Off-white	Off-white	1.57		
78726-1018				1.57		
78726-1019				2.36		
78726-1035				3.00		
78726-1020	Blue	Blue	1.57			
78726-1021			2.36			
78726-1036			3.00			
78726-1024		Off-white	Off-white	1.57		
78726-1025				2.36		
78726-1037				3.00		

SMT Versions

Order No.	Housing Color	Latch Color	Plating	Product Specification
78730-1002	Black	Black	0.76µm (30µ") Gold (Au) on contact; 2.54µm (100µ") Tin (Sn) on soldertails; 1.27µm (50µ") Nickel (Ni) underplate	PS-78730-001
78730-1003		Off-white		
78730-1004	Off-white	Black		
78730-1005		Off-white		

Press-Fit Version

Order No.	Housing Color	Latch Color	Recommended PCB Thickness (mm)	Plating	Product Specification
78731-1002	Black	Black	2.40	0.76µm (30µ") Gold (Au) on contact; 0.38 to 1.52µm (15-60µ") Tin (Sn) on soldertails; 1.27µm (50µ") Nickel (Ni) underplate	PS-78731-001