



Meeting JEDEC specifications, these high-speed DDR4 DIMM sockets offer greater PCB real-estate and cost savings with excellent assembly processing compatibility

Meeting JEDEC specifications, Molex's Vertical SMT and Through hole DDR4 DIMM sockets support *UDIMMs, RDIMMs and LRDIMM memory applications over a wide range of high-speed data, computing, telecommunication and networking servers with data speed of 3.2 billion transfers per second – twice that of DDR3 – and higher energy savings with lower 1.2V operating voltage (compared with 1.5V for DDR3).

With Molex's DDR4 DIMM sockets, more PCB real estate and cost savings can be achieved. Both series 78726 and 78730 sockets feature reduced connector footprint of 6.50mm (max.) (W) by 162mm (L) for maximum space-savings. The soldertails of the (series 78730) SMT socket are flush with the edges of the connector (that is, no protrusion of soldertails beyond the width of the connector at the base) for minimized bending damages due either to human or machine error.

Other hallmarks of Molex's DDR4 sockets include: high dimensional stability and excellent compatibility in Halogen-free and lead-free technologies. The use of moisture-resistant, high-temperature housing material – regardless of termination styles - minimizes blistering on the connector during high, IR-reflow processing temperatures. Reduced yield losses with the use of Molex DDR4 sockets add to greater customer cost savings and delivery speed.

Ergonomically designed socket latches enhance usability with robust protection against high rip-out force and vibration-resistance. Dual-side lead-ins on the socket facilitate smooth module insertion while stand-offs at the base of the socket makes solder-joint inspection, measurement and rework easy.

Molex offers 0.76 and 0.38 micron Gold (Au)-plated DDR4 DIMM sockets in a combination of several housing and latch colors, PC tail lengths and PCB thicknesses. All sockets are shipped in tray packaging.

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

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
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

DDR4 DIMM Sockets, Halogen-free

78726 Vertical, Through hole

78730 Vertical, SMT



Halogen-free DDR4 DIMM Sockets, SMT (top) and Through hole (bottom) versions

Specifications

DDR4 DIMM Sockets, Halogen-free

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
 (with Latches): 12.96 kgf
 Module Rip-out Force (min.):
 9.10 kgf
 Module Unmating Force
 (of 1.33mm thick blade from
 socket): 2.02 kgf
 Terminal Retention Force (min.):
 : 0.30 kgf (contact)
 : 1.33 kgf (forklock)
 Latch Actuation Force:
 4.50 kgf per latch
 Durability (min.): 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 table below
 Solder Tail Area —
 2.54µm (100µ") Tin (Sn)
 Underplating —
 1.27µm (50µ") Nickel (Ni)
 PCB Thickness:
 Refer to table below
 (for through hole version only)
 Operating Temperature:
 -55 to +85°C

Product Features

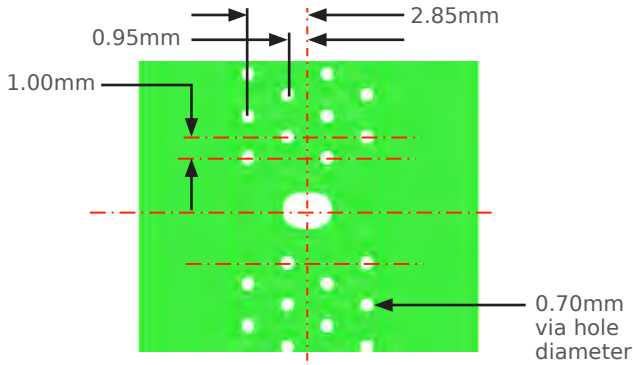
Key differences between DDR3 and DDR4 DIMM Sockets

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

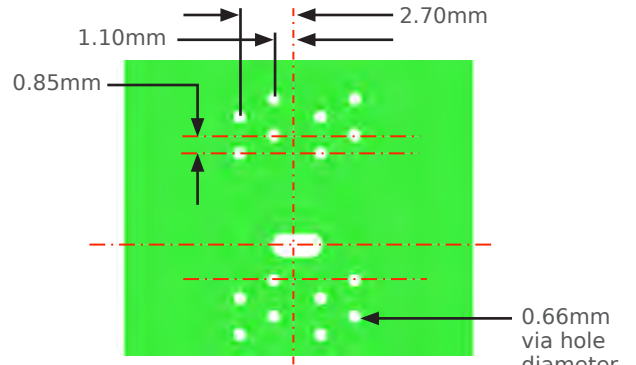
Product Features

DDR4 DIMM Sockets, Halogen-free

Through Hole Pitch Sizes



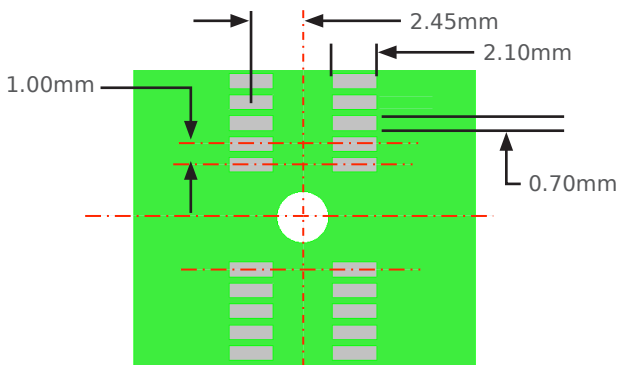
DDR3 pitch size



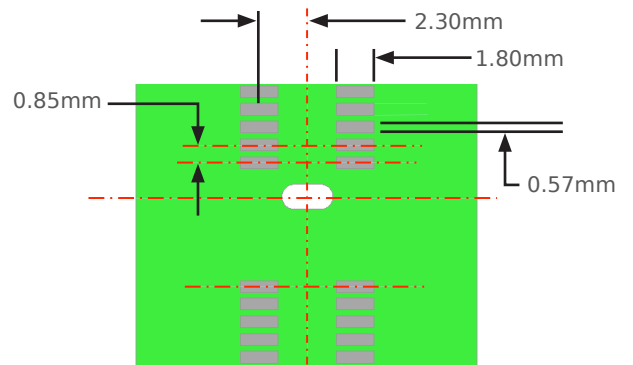
DDR4 pitch size

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

SMT Footprint

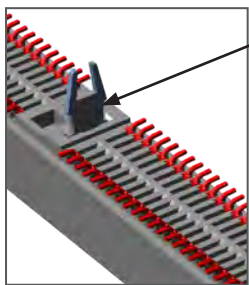


DDR3 pitch size



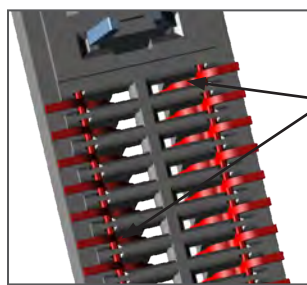
DDR4 pitch size

Socket Housing



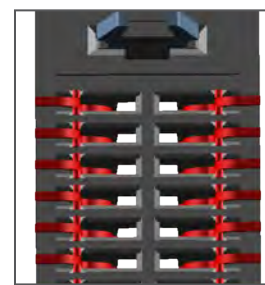
One of 3 socket forklocks for robust PCB retention

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

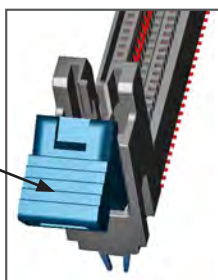


Flush solder tail design minimizes accidental damage to terminal due to bending

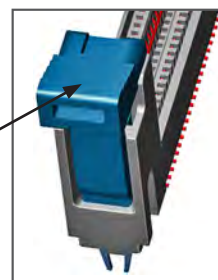
Solder tails of the SMT DDR4 DIMM socket are flush with the connector edge (width) on both sides

Ergonomically designed latches

Stepped housing design improves thumb-grip for easy opening of latch



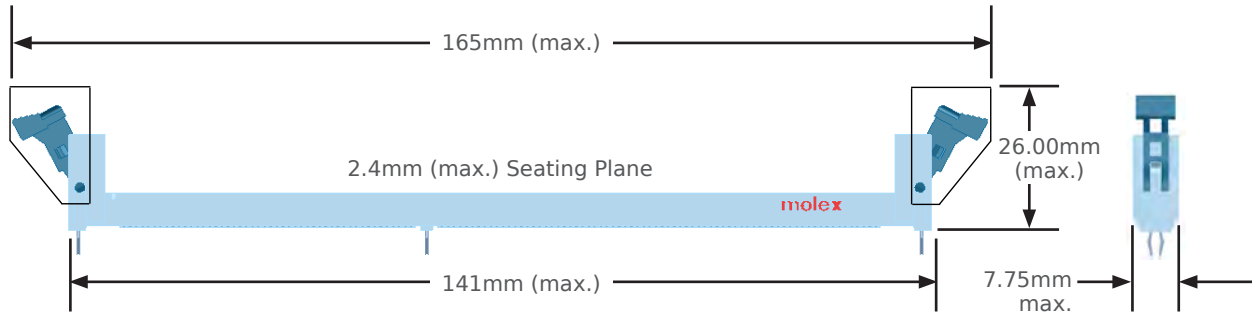
Though compact, each latch delivers an actuation force of up to 4.50 kgf



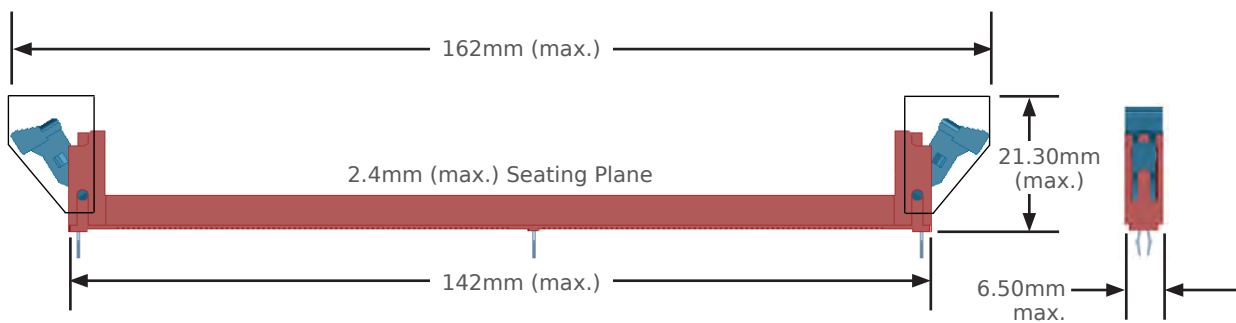
Ergonomically designed latches of the DDR4 DIMM Sockets in open (left) and closed (right) positions

Product Features

Differences in socket dimensions



DDR3 DIMM Socket

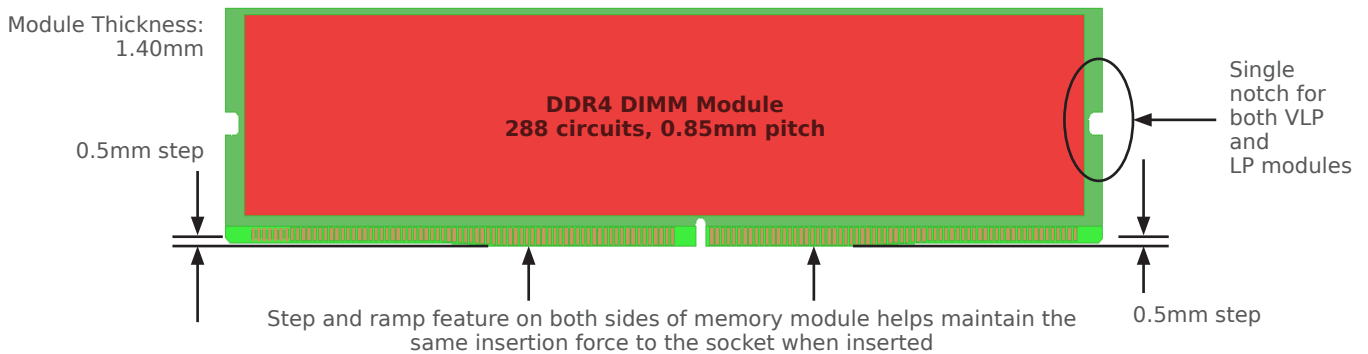
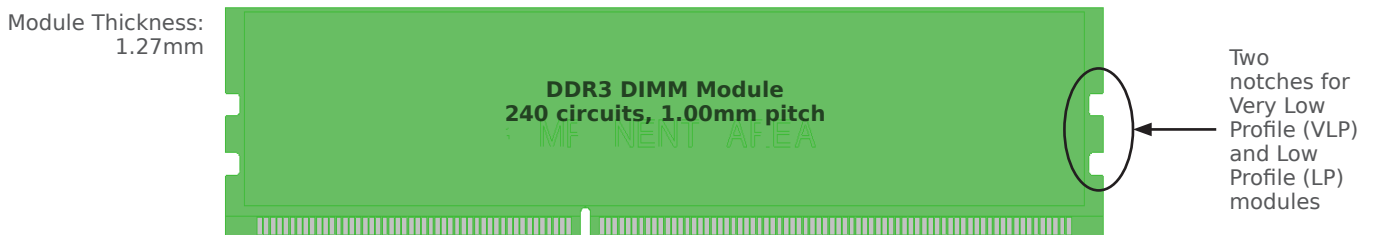


DDR4 DIMM Socket

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

Product Features

Differences in DDR3 and DDR4 memory modules



Differences between DDR3 and DDR4 Memory Modules

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						1.57
78726-1011	Blue	Blue	2.36			
78726-1030			3.00			
78726-1044			1.57			
78726-1022		Off-white	Off-white			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			3.00			
78726-1014		Off-white	Off-white	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		



Applications

Data/Computing

- High-end computing
- Personal computers

Telecommunications/Networking

- Infrastructure
- Networking



Servers



Networking systems

**DDR4 DIMM
Sockets,
Halogen-free**



Data centers