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Common DIMM Memory Form Factors

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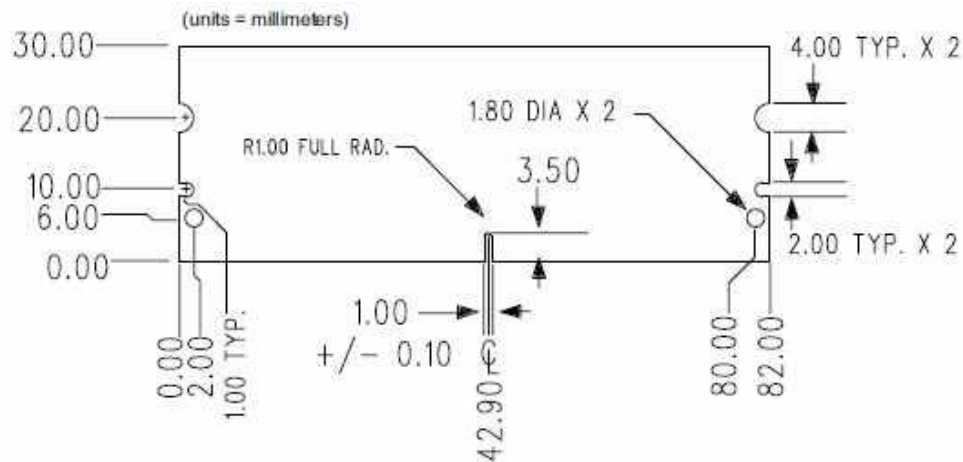
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Tester FAQs

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The easiest way to categorize memory module is by **form factor**. The form factor of any memory module describes its size and pin configuration. Most PC systems have memory sockets (slots) which can accept only one type of form factor. Some computer systems are designed with more than one type of memory socket, allowing a choice between two or more form factors.

For example, the MO for DDR3 standard-length modules is MO-269.



Some Common Memory Module PCB Physical Sizes

2

FBDIMM [133.35mm x 30mm x 5.1mm **L x H x W**]

FBDIMM = Fully Buffered DIMM

No of Pins - 240-pin DIMM DDR2 Modules

Mini-DIMM [82mm x 30mm x 3.8mm **L x H x W**]

Mini-Dual In-Line Memory Module

No of Pins =244-pin DIMM DDR2 Modules

Mini-RDIMM [82mm x 30mm x 3.8mm **L x H x W**]

mini Registered DIMM

No of Pins =244-pin DIMM DDR2 Modules

RDIMM [133.35mm x 30mm x 4mm **L x H x W**]

Registered DIMM

No of Pins =240-pin DIMM DDR2 Modules

SODIMM [67.6mm x 30mm x 3.8mm **L x H x W**]

Small Outline DIMM

No of Pins = 200-pin DIMM DDR2 Modules

SOCDIMM [67.6mm x 30mm x 3.8mm **L x H x W**]

Small Outline Clocked DIMM

No of Pins = 200-pin DIMM DDR2 Modules

SORDIMM [67.6mm x 30mm x 3.8mm **L x H x W**]

Small-Outline Registered DIMMs

No of Pins 200-pin DIMM DDR2 Modules

UDIMM [133.35mm x 30mm x 4.0mm **L x H x W**]

Unbuffered DIMM

No of Pins 240-pin DIMM DDR2 Modules

VLP Mini-RDIMM [82.1mm x 18mm x 3.8mm **L x H x W**]

Very Low Profile memory Mini-RDIMM

No of Pins = 244-pin DIMM DDR2 Modules

VLP-RDIMM [133.35mm x 18mm x 4.0mm **L x H x W**]

Very Low Profile memory-RDIMM

No of Pins =240-pin DIMM DDR2 Modules

VLP SORDIMM [67.6mm x 18mm x 3.8mm **L x H x W**]

Very Low Profile Small-Outline Registered DIMM

No of Pins =200-pin DIMM DDR2 Modules

Common Standard-Length Modules

The standard-length module is the most commonly used module form factor. With a typical length of 133.35mm, these DIMM memory modules will accommodate the highest number of DRAM components.

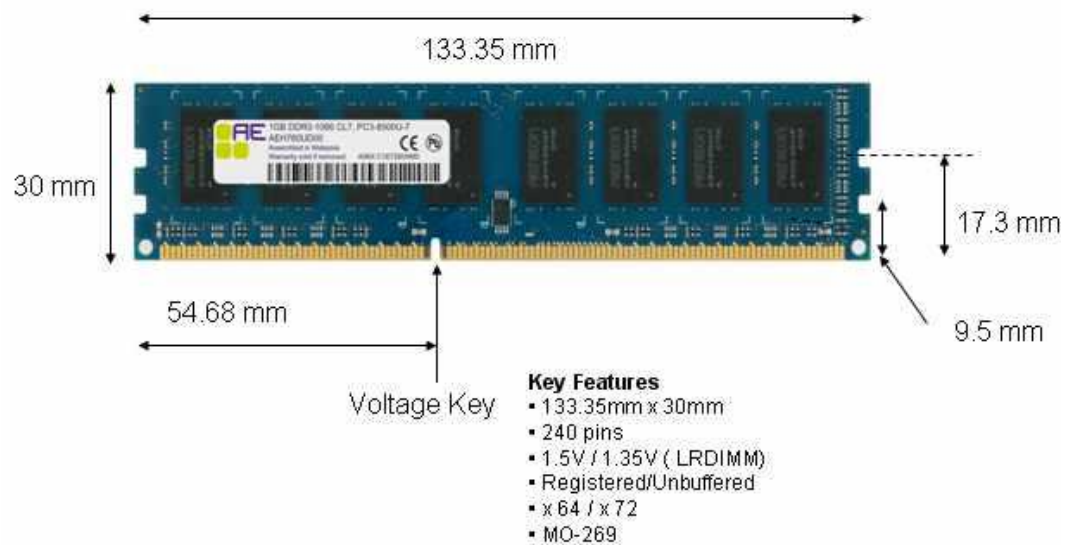
Most standard-length modules are 30mm high and used in various applications where real estate is not an issue. Desktop, servers, and workstations are not usually constrained by vertical height restrictions and thus, the 30mm height is easy to accommodate without restricting other mechanical obstructions.

To prevent DIMM modules from being installed in the non- supported systems, the voltage alignment key notch is used in different location for each technology to differentiate the various type of memory technology.

Standard DIMM Form Factors.

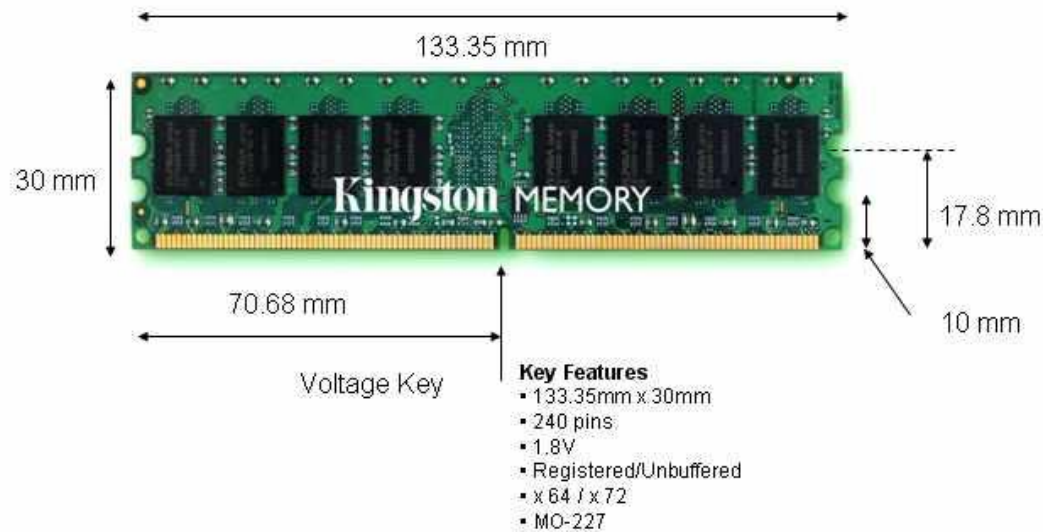
DDR3 - 240 pin Unbuffered / Registered DIMM

DDR3 DIMM – 240pin



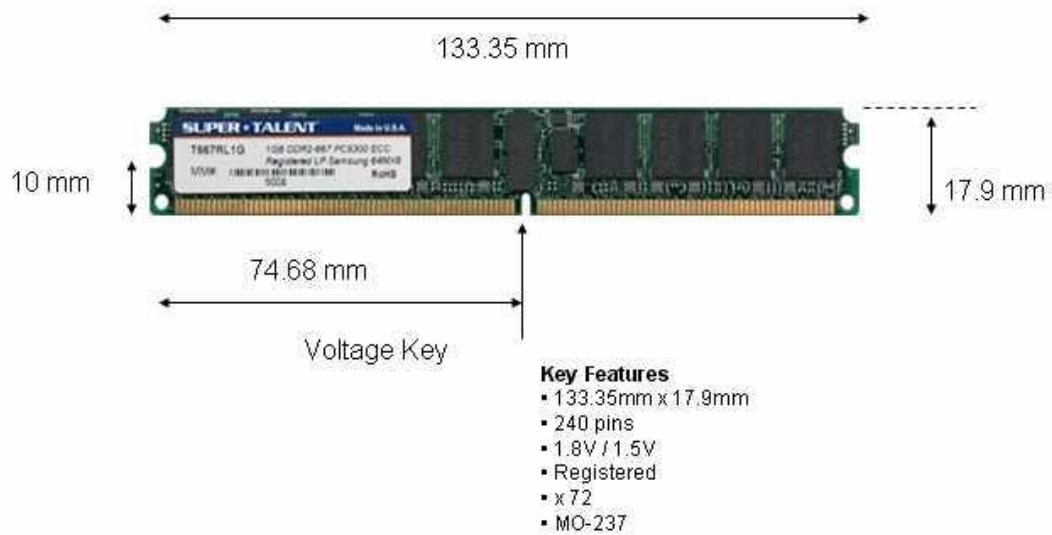
DDR2 - 240 pin Unbuffered / Registered DIMM

DDR2 DIMM – 240pin



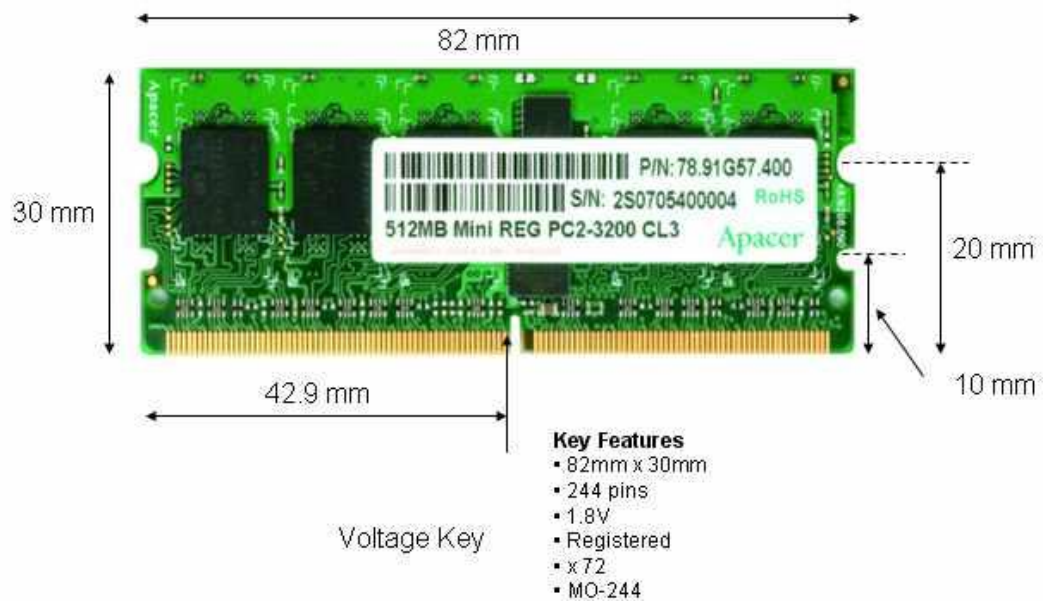
DDR2 - 240 pin VLP DIMM

DDR2 VLP-DIMM – 240pin



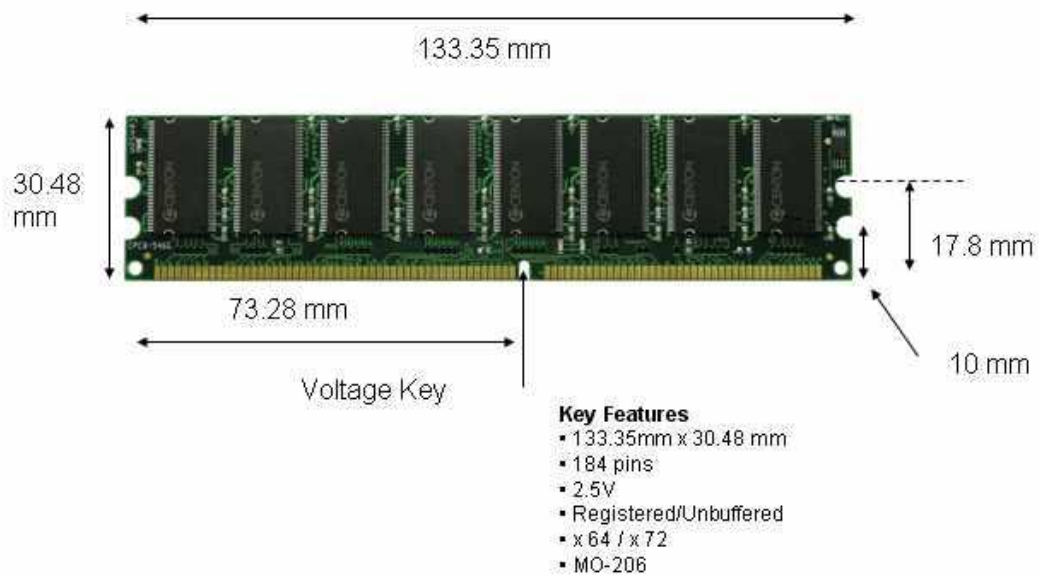
DDR2 244pin Mini Registered DIMM

DDR2 Mini-DIMM – 244pin



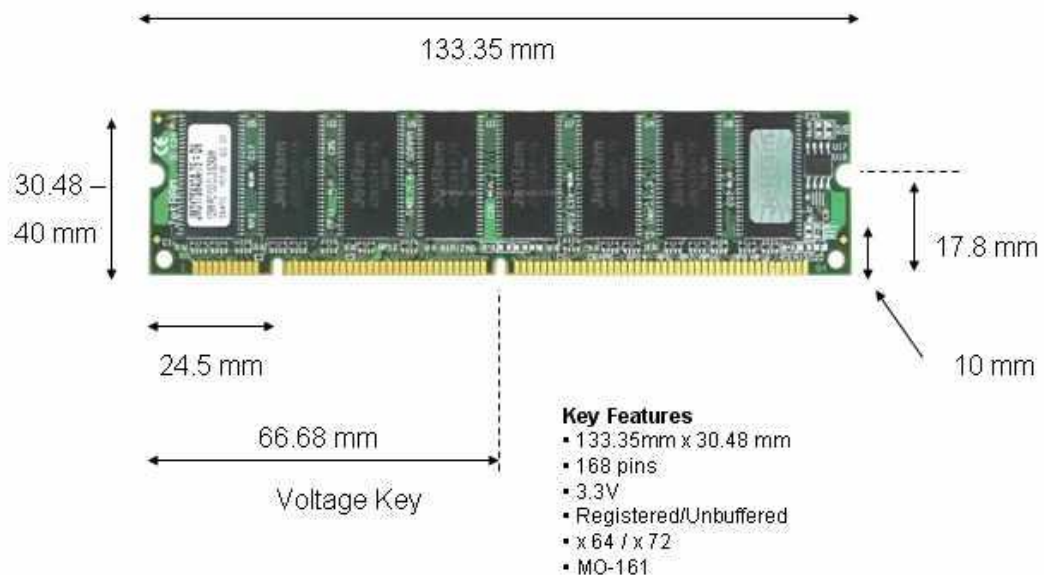
DDR - 184 pin Unbuffered / Registered DIMM

DDR DIMM – 184pin



SDRAM - 168pin Unbuffered / Registered DIMM

SDRAM DIMM – 168pin

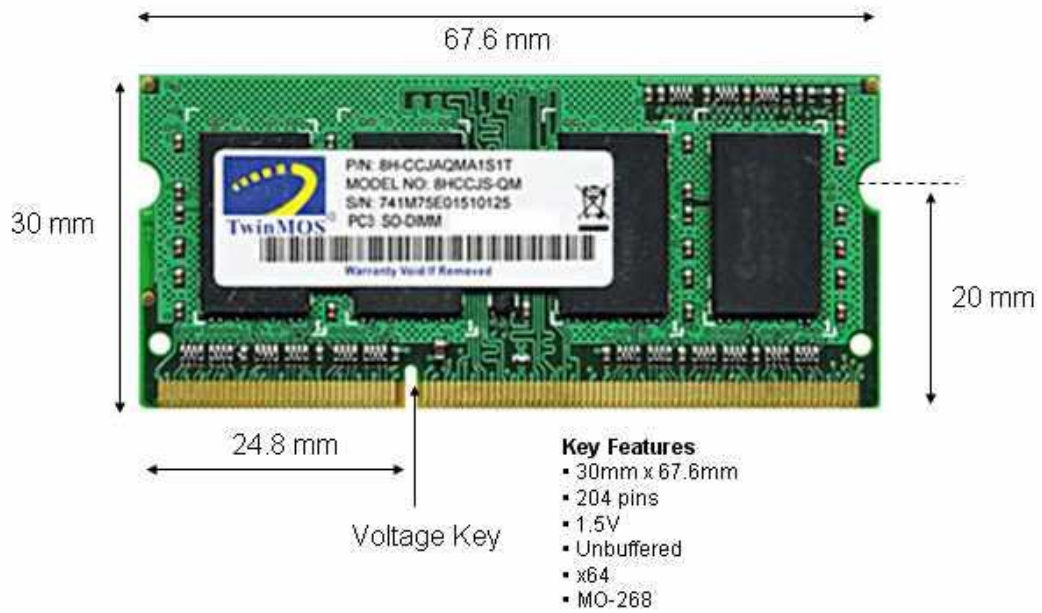


Standard SODIMM Form Factors.

SODIMMs were designed to fit into notebook PCs and other small systems. Note that the SODIMM's size can restrict the maximum density of the module compared to full-length modules.

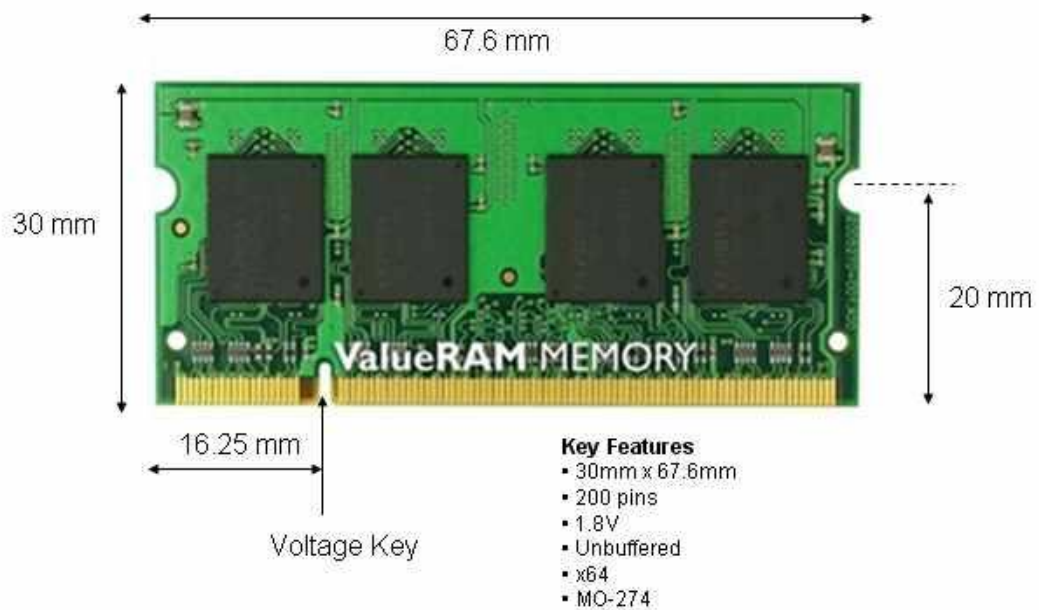
DDR3 204pin SODIMM

DDR3 SODIMM – 204pin



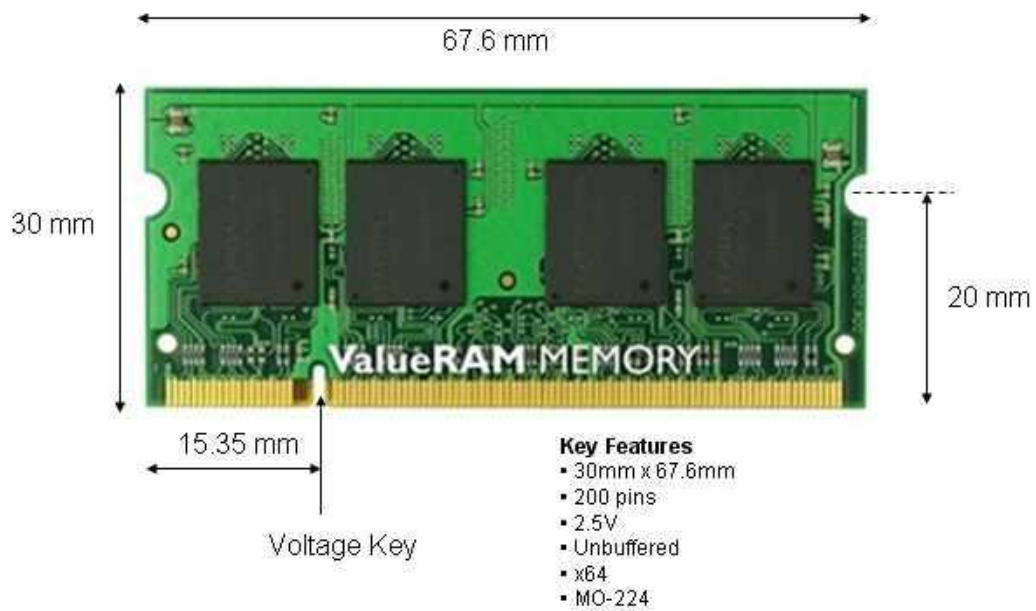
DDR2 200pin SODIMM

DDR2 SODIMM – 200pin



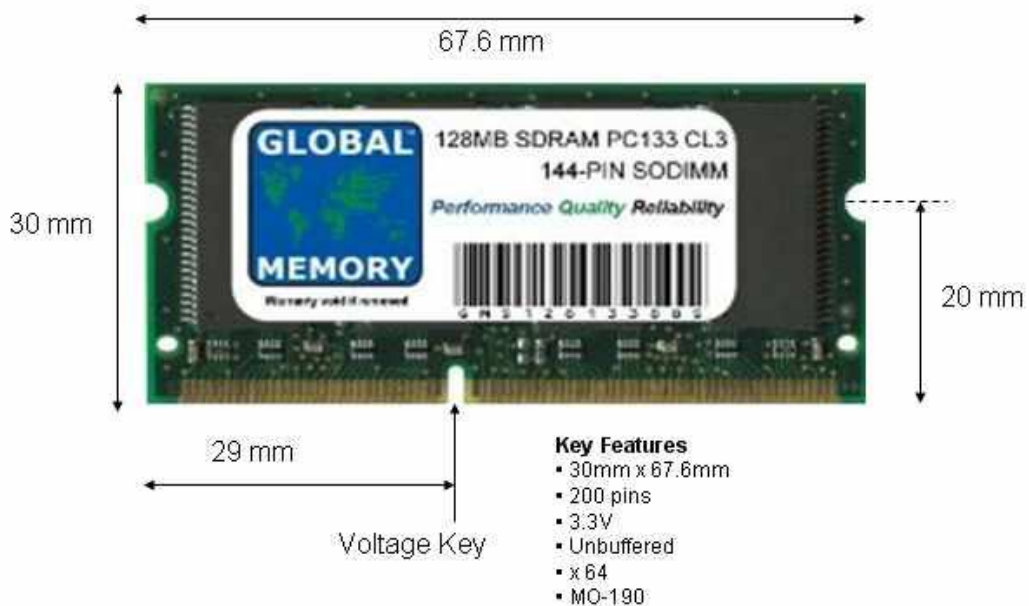
DDR 200pin SODIMM

DDR SODIMM – 200pin



SDRAM 144pin SODIMM

SDRAM SODIMM – 144pin



In conclusion , Jeduc will continue to define and approved various new form factors and its unlikely the memory form factors will continue to increase or decrease in size. Based on the last few memory technology migrations, the standard DIMM length of 133.35 mm will continue to stay for a long period, meanwhile the form factors for SODIMM length will remain at 67.6mm. One thing for sure , the number of pin counts may increased however the dimension of the memory module form factor will remain unchanged.



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