Intel® Pentium® Desktop Processor

Product Overview

If you are looking for an ideal basic desktop system, then one built with an Intel® Pentium® processor is the right choice. Reliable and energy efficient with solid performance, the Intel Pentium processor continues to offer great capabilities at an economical price.

Technology

The introduction of the next-generation 32nm Hi-k manufacturing process technology brings improvements to the Intel Pentium processor over the previous generation Core™ microarchitecture. Intel® Smart Cache has been enhanced with the addition of shared L3 cache, and Intel® HD Graphics and the memory controller have been integrated into the processor, providing higher memory bandwidth. The Intel Pentium processor, along with the Intel® 5 Series Express Chipset, delivers a more energy-efficient system.

Also available are the previous-generation Intel Pentium processors using the first-generation 45nm Hi-k manufacturing process technology. These dual-core Intel Pentium processors are ideal for more traditional basic desktop systems with the power to run applications simultaneously and efficiently.

Comparison Table

	INTEL® PENTIUM® G6XXX SERIES	INTEL® PENTIUM® E6XXX SERIES	INTEL® PENTIUM® E5XXX SERIES
Manufacturing Process	32nm	45nm	45nm
Socket	LGA1156	LGA775	LGA775
Intel® Smart Cache	3 MB L3 shared	2 MB L2 shared	2 MB L2 shared
System Bus	N/A	1066 MHz	800 MHz
Integrated Memory Controller	Yes	No	No
Number of Memory Channels	2 (DDR3 1066 MHz)	N/A	N/A
Intel® HD Graphics	Yes	No	No
Intel® Virtualization Technology (Intel® VT-x)[1]	Yes	Yes	Yes
Intel® Express Chipset	Intel® 5 Series	Intel® 4 Series Intel® 3 Series	Intel® 4 Series Intel® 3 Series

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For more information on the Intel® Pentium® processor, visit **www.intel.com/products/desktop/processors/pentium/index.htm**

Features and Benefits of the Intel® Pentium® Processor

Feature	Benefit
Dual-Core Processing	Runs two independent processor cores in one physical package at the same frequency.
Intel® Smart Cache	The shared cache is dynamically allocated to each processor core, based on workload. This efficient, dual-core-optimized implementation increases the probability that each core can access data from the fast cache, significantly reducing latency to frequently used data and improving performance.
Integrated Memory Controller[2]	An integrated memory controller offers stunning memory read/write performance through efficient prefetching algorithms, lower latency, and higher memory bandwidth.
Intel® HD Graphics[2]	Enhanced video and 3D engine delivers smooth HD video playback and mainstream 3D gaming without the need for add-in video cards or decoders. Provides a suite of video processing, 3D, and software technologies designed to improve image quality and performance, including hardware-accelerated decode for Blu-ray* playback, sharpening and denoise filters, vibrant color controls, and 3D support for Microsoft* DirectX* 10 and OpenGL* 2.1. Supports a wide range of display connectivity options, including HDMI* and DisplayPort*.
Intel® Virtualization Technology (Intel® VT-x)[1]	Intel® VT allows one hardware platform to function as multiple "virtual" platforms. For businesses, Intel VT offers improved manageability, limiting downtime and maintaining worker productivity by isolating computing activities into separate partitions.
Intel®-Designed Thermal Solution for Boxed Processors	Includes a four-pin connector for fan speed control to help minimize the acoustic noise levels generated from running the fan at higher speeds for thermal performance[3]. Fan speed control technology is based on actual processor temperature and power usage.

[1] Intel® Virtualization Technology requires a computer system with a processor, chipset, BIOS, enabling software and/or operating system, device drivers, and applications designed for this feature. Performance will vary depending on your configuration. Contact your vendor for more information.

[2] Supported by the Intel® Pentium® G6XXX series only.

[3] The acoustic benefits of the four-pin header are reliant on a properly designed motherboard. Contact your board manufacturer for compatibility.

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