

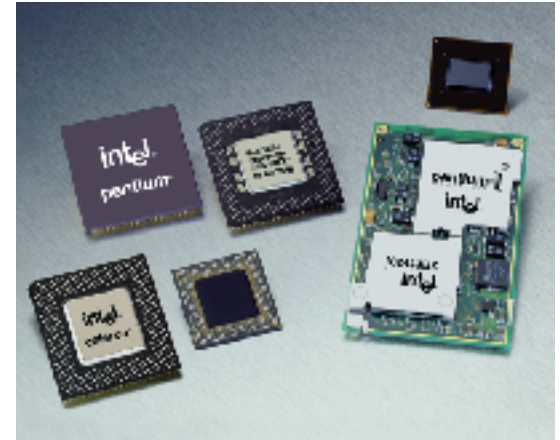
Intel® Pentium®, Pentium II, and Celeron™ Processor Families for Applied Computing

Product Highlights

- Wide range of price performance and packaging solutions
- Superscalar architecture
- Separate code and data caches
- Branch prediction features
- High-performance floating-point unit
- Enhanced 64-bit data bus
- Data integrity features
- Performance monitoring and execution features
- 66 MHz bus speeds
- 4 Mbyte memory page size feature
- PCIset support
- Low-power options
- Embedded life cycle support
- Technical marketing support
- PC compatibility
- Legacy of development and application software

Overview

The Pentium®, Pentium II-Low power and Celeron™ processor families are ideal solutions for high-performance Applied Computing applications. This Intel® Architecture family of processors includes a wide range of performance and packaging solutions. While incorporating new features and improvements made possible by advances in semiconductor technology, the Pentium, Pentium II-Low power and Celeron processors are software compatible with previous members of the Intel microprocessor family. In particular, their history in desktop computing has resulted in a legacy of development and application software transferable to dedicated applications. In conjunction with existing PC hardware and off-the-shelf development packages, these processors have become the foundation of the ultimate solution for many non-PC applications.



Product Family Description

The Intel architecture now powers a broad spectrum of Applied Computing applications. These connected, high-performance systems designed for dedicated applications enhance business information systems through the Internet and the use of Intel architecture. Examples of these applications include transaction terminals (such as point-of-sale and retail kiosks), industrial automation and advanced communication equipment. By continually raising the bar to new levels of performance, Intel Architecture offers key competitive advantages for high-end Applied Computing applications. The Pentium, Pentium II-Low power and Celeron processors enable product developers to step up to new levels of performance.

PENTIUM II PROCESSORS—LOW POWER

PRODUCT	SPEED (MHz)	L2 CACHE	EXTERNAL BUS	BUS CORE RATIO	TDP (TYPICAL)	VOLTAGE (CORE / I/O)	TCASE	PACKAGE
KC80524KX266256	266	256K	66	1/4	7.0W	1.6V/2.5V	0-100	615 BALL BGA
KC80524KX333256	333	256K	66	1/5	8.8W	1.6V/2.5V	0-100	615 BALL BGA

Intel's Pentium II processors-Low Power at speeds of 266 and 333 MHz bring higher performance and more efficient power consumption to Applied Computing applications. These processors incorporate state-of-the-art technologies, such as Intel's 0.25 micron manufacturing process for improved productivity. In addition, these processors have 256K on-die L2 cache, further enhancing performance. The Pentium II processor-Low Power is available in a surface mount BGA package. This package is 31 x 34 mm and only 2.4 mm tall, allowing for compact designs.

PENTIUM II PROCESSORS—LOW POWER MODULES

PRODUCT	SPEED (MHz)	L2 CACHE	L2 CACHE ON BOARD OR DIE	BUS CORE RATIO	Max MODULE POWER	VOLTAGE
MPM25P2266A/B	266	512K	Board	1/4	13.4 WATTS	1.6V/2.5V
MPM25PDA333A/B	333	256K	Die	1/5	12.0 WATTS	1.6V/2.5V

The Pentium II processor-Low Power modules are available at 266 MHz with 512K SRAM L2 cache on board and 333 MHz with 256K L2 cache on die. These Low Power modules incorporate state-of-the-art technologies, like Intel's 0.25 micron manufacturing process and Dual Independent Bus (DIB) architecture, for performance-hungry applications.

These Low Power modules combine the Pentium II processor-Low Power, northbridge of the 440BX chipset, either 512K Level 2 cache on board (for module operating at 266 MHz) or 256K Level 2 cache on die (for module operating at 333 MHz) and voltage regulation. All these elements are integrated in a convenient unit, resulting in a compact form yielding a high level of performance. Physically the module is 2-1/2" X 4", double sided.

INTEL® CELERON™ PROCESSORS

PRODUCT	SPEED (MHz)	EXTERNAL BUS	BUS CORE RATIO	ACTIVE POWER DISSIPATION (MAX)	VOLTAGE (CORE/ I/O)	TCASE	PACKAGE
FV80524RX300128	300A	66	2/9	17.5W	2.0V	0-85°C	370 PIN PPGA
FV80524RX366128	366	66	2/11	21.4W	2.0V	0-85°C	370 PIN PPGA
FV80524RX433128	433	66	2/13	24W	2.0V	0-85°C	370 PIN PPGA

The Celeron processor family includes the 300A, 366 and 433 MHz processor speeds. The Celeron processor provides high performance in a socketable 370-pin PPGA package for value conscious developers. In addition to featuring the dynamic execution of the P6 micro-architecture the Celeron processor further enhances performance by integrating 128K full speed, on-die, L2 cache.

LOW-POWER PENTIUM® PROCESSORS WITH MMX™ TECHNOLOGY

PRODUCT	SPEED (MHz)	EXTERNAL BUS FREQUENCY (MHz)	BUS CORE RATIO	ACTIVE POWER DISSIPATION (TYPICAL*)	VOLTAGE (CORE / I/O)	TCASE	PACKAGE
FV, 80503CSM66166	166 +MMX™ Technology	66	2/5	2.9 WATTS	1.9/2.5V	0-85°C	296 PINS PPGA
FV, 80503CSM66266	266 +MMX™ Technology	66	1/4	4.5 WATTS	1.9/2.5V	0-85°C	296 PINS PPGA
GC, 80503CSM66166	166 +MMX™ Technology	66	2/5	2.3 WATTS	1.8/2.5V	0-95°C	352 BALL HL-PBGA
GC, 80503CSM66266	266 +MMX™ Technology	66	1/4	4.5 WATTS	2.0/2.5V	0-95°C	352 BALL HL-PBGA
GC, 80503CS166EXT	166 +MMX™ Technology	66	2/5	2.3 WATTS	1.8/2.5V	-40-115°C	352 BALL HL-PBGA

The Low-power Pentium processor with MMX™ technology is available at both 166 and 266 MHz. Based on Intel's 0.25 micron process, these processors produce less power at higher speeds than other Pentium processors with MMX technology based on the 0.35 micron technology process. That translates into an outstanding performance/power processor for many computing market segments.

The Low-power Pentium processors with MMX technology are available in two packaging options: a 296-lead PPGA (Socket7), and a small surface mount 352-ball HL-PBGA (high-thermal, low-profile, plastic ball grid array). The HL-PBGA package has been developed by Intel specifically for non-PC applications. The HL-PBGA package is not only small, 35 x 35 mm, but it is also extremely thin at only 1.45 mm high!

The Low-power Pentium processor with MMX technology at 166 MHz in the HL-PBGA package is available with 430TX chipset at a Tcase of -40° to 115° C. This combination is available to meet the stringent requirements of many Applied Computing applications.

PENTIUM® PROCESSORS

PRODUCT	SPEED (MHz)	EXTERNAL BUS FREQUENCY (MHz)	BUS/ CORE RATIO	ACTIVE POWER DISSIPATION (TYPICAL*)	VOLTAGE (CORE / I/O)	TCASE	PACKAGE
A, 8050266100	100	66 OR 50	2/3 OR 1/2	3.9 WATTS	3.3V	0-70°C	296 PINS SPGA
A, 8050266133	133	66	1/2	4.3 WATTS	3.3V	0-70°C	296 PINS SPGA
A, 80502CSLM66133	133 + VRT	66	1/2	3.4 WATTS	3.1V/3.3V	0-85°C	296 PINS SPGA
A, 8050266166	166	66	2/5	5.4 WATTS	3.3V	0-70°C	296 PINS SPGA
FV, 8050366200	200 +MMX™ Technology	66	1/3	7.3 WATTS	2.8V/3.3V	0-70°C	296 PINS PPGA
FV, 8050366233	233 +MMX™ Technology	66	1/4	7.9 WATTS	2.8V/3.3V	0-70°C	296 PINS PPGA

The Pentium processor family available for embedded lifecycle support includes the following Pentium processor products and packages: 100, 133, 133+VRT and 166 MHz in SPGA and 200, 233 MHz with MMX technology in PPGA. Voltage Reduction Technology (VRT) is available in the SPGA 133 MHz resulting in lower power consumption. The Pentium processor with MMX technology is designed to enhance multimedia applications, and to run software 10-20% faster than non-MMX technology Pentium processors at the same frequency.

INTEL PCISSETS LINECARD

NAME	PRODUCT	COMPONENTS	FEATURES
Intel 430HX PCIsset	FW, 824391TX SB, 82371SB	1 X TXC 324 BGA 1 X PIIIX3 208 QFP	<ul style="list-style-type: none"> - Uncompromised memory timings - PCI 2.1 - Cache performance without the cache - Concurrent PCI for better multimedia - USB for ease of use - ECC, Parity for application critical envir. - BGA packaging for fewer failure points
Intel 430TX PCIsset	FW, 82439TX FW, 82371EB	1 X MTXC 324 BGA 1 X PII4XE 324 BGA	<ul style="list-style-type: none"> - Optimized for Pentium® processor with MMX™ technology - Dynamic Power Management Architecture - SDRAM Support - USB Support - Concurrent PCI - Ultra DMA hard drive protocol
Intel 440BX PCIsset	FW, 82443BX FW, 82371EB	1 X 492 BGA 1 X PII4XE 324 BGA	<ul style="list-style-type: none"> - AGPset enables "best of class" multimedia - First chip set to support mobile Intel Pentium II processor - Supports both 100 MHz or 66 MHz system and memory bus designs - ACPI-compliant power management - ECC, Parity for application critical environments

The Intel processors for Applied Computing are supported by a family of chipsets. The Pentium and Pentium processors with MMX technology are supported by the Intel 430HX and Intel 430TX chipsets. The Pentium II-Low power and Celeron processors are supported by the Intel 440BX chipset. These chipsets are highly integrated, 2-chip BGA solutions. The Intel 430TX and Intel 440BX chipsets close the power consumption gap and enable new applications by delivering mobile-style power management and the highest performance. Intel's manufacturing capability helps ensure that these chipsets will meet customers' quality and availability requirements.

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