



Intel® Pentium® M Processors on 90nm Process with 2 MB L2 Cache

Product Overview

Intel® Pentium® M processors on 90nm process utilize a new microarchitecture to meet the current and future demands of high-performance, low-power embedded computing, making them ideal for medium-to-large enterprise communications, transaction terminal, interactive client, and industrial automation applications. While incorporating advanced processor technology, they remain software-compatible with previous members of the Intel® micro-processor family.

Intel Pentium M processors on 90nm process are available in both standard and low-voltage versions, providing a variety of performance and power options.

They are validated with the Intel® E7501 chipset, the Intel® 855GME chipset, the Intel® E7520 chipset, the Intel® E7320 chipset, and the Mobile Intel® 915GM Express chipset. Each chipset, when paired with the Intel Pentium M processor on 90nm process, helps create a unique platform that addresses a variety of customer requirements.

Product Highlights

- Performance and power options:
 - Intel® Pentium® M processor 760^A at 2.0 GHz core speed and 533 MHz front-side bus (FSB) speed
 - Intel® Pentium® M processor 745^A at 1.8 GHz core speed and 400 MHz FSB speed
 - Intel® Pentium® M processor Low Voltage 738^A at 1.4 GHz core speed and 400 MHz FSB speed
- Support across several chipsets:
 - Intel E7520 and Mobile Intel 915GM Express chipsets support Intel Pentium M processors 760, 745, and 738
 - Intel E7501, Intel 855GME, and Intel E7320 chipsets support Intel Pentium M processors 745 and 738



- A new microarchitecture designed from the ground up:
 - Dedicated hardware stack manager employs sophisticated hardware control for improved stack management
 - Micro-ops fusion for improved instruction execution
 - Advanced branch prediction capability
 - 2 MB Level 2 Advanced Transfer Cache (ATC) delivers a high data throughput channel between the Level 2 cache and the processor core
- Second-generation Streaming SIMD Extensions (Streaming SIMD Extensions 2) capability adds 144 new instructions, including 128-bit SIMD integer arithmetic and 128-bit SIMD double-precision floating-point operation
- Manufactured on state-of-the-art 90nm process technology
- Support for uni-processor designs
- Fully compatible with existing Intel® architecture-based software
- 478 μ FC-PGA and 479 μ FC-BGA packages
- Embedded life cycle support



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Features

Efficient execution <ul style="list-style-type: none"> Advanced branch prediction Power optimized processor system bus Micro-ops fusion Hardware stack manager 	<ul style="list-style-type: none"> Fast program execution Low exception handling overhead Excellent packet manipulation: load, store Low context switching latency
Power-optimized circuitry <ul style="list-style-type: none"> Cache and processor bus power management Enhanced Intel SpeedStep® technology 	<ul style="list-style-type: none"> Low average power consumption Multiple frequency/voltage operating points
Data supply <ul style="list-style-type: none"> Large L1/L2 caches 	<ul style="list-style-type: none"> Fast large-table look-ups: routing tables
High I/O bandwidth <ul style="list-style-type: none"> Intel® E7520, Intel® E7320, and Mobile Intel® 915GM Express chipsets support PCI Express* technology 	<ul style="list-style-type: none"> High packet throughput and processing
Graphics support <ul style="list-style-type: none"> Mobile Intel 915GM Express and Intel® 855GME chipsets provide support via Intel® Extreme Graphics 2 Technology 	<ul style="list-style-type: none"> Cutting-edge graphics performance while reducing system cost

Benefits

Intel® Pentium® M Processors on 90nm Process

Product Number	Core Speed	Front-Side Bus Speed	L2 Cache	Thermal Design Power	VID	Tjunction	Package
Intel® Pentium® M processor 760^A							
RH80536GE0412M	2.0 GHz	533 MHz	2 MB	27 watts	1.260V-1.356V	0-100° C	478 µFC-PGA
RJ80536GE0412M	2.0 GHz	533 MHz	2 MB	27 watts	1.260V-1.356V	0-100° C	479 µFC-BGA
Intel® Pentium® M processor 745^A							
RH80536GC0332M	1.8 GHz	400 MHz	2 MB	21 watts	1.276V-1.340V	0-100° C	478 µFC-PGA
RJ80536GC0332M	1.8 GHz	400 MHz	2 MB	21 watts	1.276V-1.340V	0-100° C	479 µFC-BGA
Intel® Pentium® M processor Low Voltage 738^A							
RJ80536LC0172M	1.4 GHz	400 MHz	2 MB	10 watts	1.116V	0-100° C	479 µFC-BGA

Intel Access

Embedded Intel® Architecture Home Page:	intel.com/design/intarch
Developer's Site:	developer.intel.com
Intel in Communications:	intel.com/communications
General Information Hotline:	(800) 628-8686 or (916) 356-3104 5 a.m. to 5 p.m. PST
Intel® Literature Center:	(800) 548-4725 7 a.m. to 7 p.m. CST (U.S. and Canada)
	International locations please contact your local sales office.

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