

Product Brief

Intel® Celeron® D Processors

Embedded Computing



Intel® Celeron® D Processors for Embedded Computing

Product Overview

Intel® Celeron® D processors provide exciting technologies at a great value and are ideal for communications and embedded computing designs, including interactive clients and industrial automation applications.

Manufactured on 65-nanometer (nm) process technology, the **Intel® Celeron® D processor 352^A at 3.2 GHz** offers 512 KB of L2 cache with a thermal design power (TDP) of 65 W. The **Intel® Celeron® D processor 341^A at 2.93 GHz** and **Intel® Celeron® processor 335^A at 2.8 GHz** manufactured on 90nm process technology, offer 256 KB of L2 cache. Validated with a variety of Intel® chipsets, they enable a new level of scalable performance.

Intel Celeron D processors 352 and 341, available in LGA-775 package with integrated heat spreader, offer support for 64-bit computing with Intel® 64 architecture (Intel® 64)¹. These processors have been validated with the Intel® 915GV Express and Intel® 945G Express chipsets. In addition, processor 352 extends the selection of Intel® Celeron® processor-based platforms to the new Intel® Q965 Express chipset while processor 341 provides support for Intel® 865G chipset.

The Intel Celeron D processor 335, available in FC-µPGA4 478-pin package with integrated heat spreader, has been validated with the Intel 865G, Intel® 875P, Intel® 852GME, Intel® 845GV and Intel® 845E chipsets.

Product Highlights

- Intel Celeron D processors with 533 MHz front-side bus deliver up to 4.3 GB of data per second into and out of the processor
- Rapid execution engine includes two Arithmetic Logic Units (ALUs) clocked at twice the core processor frequency
- Deep, out-of-order speculative Advanced Dynamic Execution engine



- Enhanced floating-point and multimedia unit expands floating-point registers to a full 128-bit and adds an additional register for data movement
 - 144 Streaming SIMD Extensions 2 (SSE2) instructions
 - 13 Streaming SIMD Extensions 3 (SSE3) instructions
- Data Prefetch Logic functionality anticipates data needed by an application and pre-loads it into the Advanced Transfer Cache (ATC), further increasing processor and application performance
- Intel Celeron D processors 335 and 341 with 256 KB of Level 2 ATC and the Intel Celeron D processor 352 with 512 KB of L2 cache deliver a high data throughput channel between Level 2 cache and processor core
- Execute Disable Bit can prevent certain classes of malicious “buffer overflow” attacks when combined with a supporting operating system (with Intel Celeron D processors 341 and 352)
- 64-bit computing using Intel 64 (with Intel Celeron D processors 341 and 352)
- Fully compatible with existing Intel® architecture-based software
- Embedded lifecycle support
- Along with a strong ecosystem of hardware and software vendors, including members of the Intel® Communications Alliance (intel.com/go/ica), Intel helps cost-effectively meet development challenges and speed time-to-market

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Product Number	Processor	Core Speed Number	Front-Side Bus Speed	L2 Cache	Thermal Design Power	Voltage ²	Tcase ³ (Max)	Package	Process Technology
HH80552RE088512	352 ^A	3.2 GHz	533 MHz	512 KB	65.0 W	1.25-1.325 V	69.2° C	LGA-775	65nm
HH80547RE077CN	341 ^A	2.93 GHz	533 MHz	256 KB	84.0 W	1.25-1.4 V	67.7° C	LGA-775	90nm
NE80546RE072256	335 ^A	2.8 GHz	533 MHz	256 KB	73.0 W	1.25-1.4 V	67° C	FC-µPGA4 478-pin	90nm

¹ Intel® 64 requires a computer system with a processor, chipset, BIOS, operating system, device drivers and applications enabled for Intel 64. Processor will not operate (including 32-bit operation) without an Intel 64-enabled BIOS. Performance will vary depending on your hardware and software configurations. See <http://developer.intel.com/technology/intel64/index.htm> for more information including details on which processors support Intel 64 or consult with your system vendor for more information.

² Variable VID voltage. The Intel® Celeron® processor ships with different voltage settings. For detailed product specifications, please refer to the Intel Web site.

³ Tcase specification is based on Intel thermal profile. See processor data sheet for details.

^A Intel processor numbers are not a measure of performance. Processor numbers differentiate features within each processor family, not across different processor families. See http://www.intel.com/products/processor_number for details.

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)
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