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Intel Atom® Processor E3845

2M Cache, 1.91 GHz

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Essentials

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Product Collection	Intel® Atom™ Processor E Series
Code Name	Products formerly Bay Trail
Vertical Segment	Embedded
Processor Number	E3845
Status	Launched
Launch Date ❓	Q4'13
Lithography ❓	22 nm
Recommended Customer Price ❓	
Use Conditions ❓	Automotive, Industrial Commercial Temp, Industrial Extended Temp, Embedded Broad Market Commercial Temp

Performance

# of Cores ❓	4
# of Threads ❓	4
Processor Base Frequency ❓	1.91 GHz
Cache ❓	2 MB L2
TDP ❓	10 W

Supplemental Information

Embedded Options Available ❓	Yes
Datasheet	View now

Memory Specifications

Max Memory Size (dependent on memory type) ❓	8 GB
Memory Types ❓	DDR3L 1333
Max # of Memory Channels ❓	2
ECC Memory Supported ‡ ❓	Yes

Processor Graphics

Processor Graphics ‡ ❓	Intel® HD Graphics for Intel Atom® Processor Z3700 Series
Graphics Base Frequency ❓	542 MHz
Graphics Burst Frequency	792 MHz

Intel® Quick Sync Video ?	Yes
# of Displays Supported ‡	2

Expansion Options

PCI Express Revision ?	2.0
PCI Express Configurations ‡ ?	x4, x2, x1
Max # of PCI Express Lanes ?	4

I/O Specifications

USB Revision ?	2.0, 3.0
Total # of SATA Ports ?	2
Integrated LAN ?	No
Integrated IDE ?	No
UART	Yes

Package Specifications

Sockets Supported ?	FCBGA1170
$T_{JUNCTION}$?	-40°C to 110°C
Package Size	25mm x 27mm

Advanced Technologies

Intel® vPro™ Platform Eligibility ‡ ?	No
Intel® Hyper-Threading Technology ‡ ?	No
Intel® Virtualization Technology (VT-x) ‡ ?	Yes
Intel® Virtualization Technology for Directed I/O (VT-d) ‡ ?	No
Intel® VT-x with Extended Page Tables (EPT) ‡ ?	Yes
Intel® 64 ‡ ?	Yes
Instruction Set ?	64-bit
Enhanced Intel SpeedStep® Technology ?	Yes
Intel® HD Audio Technology ?	Yes

Security & Reliability

Intel® AES New Instructions ?	Yes
Intel® Trusted Execution Technology ‡ ?	No
Execute Disable Bit ‡ ?	Yes

More support options for Intel Atom® Processor E3845 (2M Cache, 1.91 GHz)

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Refer to Datasheet for formal definitions of product properties and features.

"Announced" SKUs are not yet available. Please refer to the Launch Date for market availability.

Some products can support AES New Instructions with a Processor Configuration update, in particular, i7-2630QM/i7-2635QM, i7-2670QM/i7-2675QM, i5-2430M/i5-2435M, i5-2410M/i5-2415M. Please contact OEM for the BIOS that includes the latest Processor configuration update.

‡ This feature may not be available on all computing systems. Please check with the system vendor to determine if your system delivers this feature, or reference the system specifications (motherboard, processor, chipset, power supply, HDD, graphics controller, memory, BIOS, drivers, virtual machine monitor-VMM, platform software, and/or operating system) for feature compatibility. Functionality, performance, and other benefits of this feature may vary depending on system configuration.

See http://www.intel.com/content/www/us/en/architecture-and-technology/hyper-threading/hyper-threading-technology.html?wapkw=hyper+threading for more information including details on which processors support Intel® HT Technology.

Max Turbo Frequency refers to the maximum single-core processor frequency that can be achieved with Intel® Turbo Boost Technology. See www.intel.com/technology/turboboost/ for more information.

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System and Maximum TDP is based on worst case scenarios. Actual TDP may be lower if not all I/Os for chipsets are used.

For benchmarking data see http://www.intel.com/performance.

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/content/www/us/en/processors/processor-numbers.html for details.

Processors that support 64-bit computing on Intel® architecture require an Intel 64 architecture-enabled BIOS.

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