Intel® Xeon® Processor E3-1220 v5

8M Cache, 3.00 GHz

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Product Collection	Intel® Xeon® Processor E3 v5 Family
Code Name	Products formerly Skylake
Vertical Segment	Server
Processor Number	E3-1220V5
Status	Launched
Launch Date	Q4'15
Lithography	14 nm
Recommended Customer Price	-

Performance

# of Cores	4
# of Threads	4
Processor Base Frequency	3.00 GHz
Max Turbo Frequency	3.50 GHz
Cache	8 MB SmartCache
Bus Speed	8 GT/s DMI3
TDP	80 W
VID Voltage Range	0.55V-1.52V

Supplemental Information

Embedded Options Available	No
Datasheet	View now

Memory Specifications

Max Memory Size (dependent on memory type)	64 GB
Memory Types	DDR4-1866/2133, DDR3L-1333/1600 @ 1.35V
Max # of Memory Channels	2
Max Memory Bandwidth	34.1 GB/s
ECC Memory Supported ‡	Yes

Processor Graphics

Graphics Output	N/A

4K Support	No
Max Resolution (HDMI 1.4)‡	N/A
Max Resolution (DP)‡	N/A
Max Resolution (eDP - Integrated Flat Panel)‡	N/A
Max Resolution (VGA)‡	N/A
DirectX* Support	N/A
OpenGL* Support	N/A
Intel® Quick Sync Video	No
Intel® InTru™ 3D Technology	No
Intel® Clear Video HD Technology	No
Intel® Clear Video Technology	No
# of Displays Supported ‡	0

Expansion Options

Scalability	1S Only
PCI Express Revision	3.0
PCI Express Configurations ‡	1x16, 2x8, 1x8+2x4
Max # of PCI Express Lanes	16

Package Specifications

Sockets Supported	FCLGA1151
Max CPU Configuration	1
Package Size	37.5mm x 37.5mm
Low Halogen Options Available	See MDDS

Advanced Technologies

Intel® Turbo Boost Technology ‡	2.0
Intel® vPro™ Platform Eligibility ‡	Yes
Intel® Hyper-Threading Technology ‡	No
Intel® Virtualization Technology (VT-x) ‡	Yes
Intel® Virtualization Technology for Directed I/O (VT-d) ‡	Yes
Intel® VT-x with Extended Page Tables (EPT) ‡	Yes
Intel® TSX-NI	Yes
Intel® 64 ‡	Yes
Instruction Set	64-bit
Instruction Set Extensions	Intel® SSE4.1, Intel® SSE4.2, Intel® AVX2
Idle States	Yes
Enhanced Intel SpeedStep® Technology	Yes
Thermal Monitoring Technologies	Yes

Security & Reliability

Intel® AES New Instructions	Yes
Secure Key	Yes
Intel® Software Guard Extensions (Intel® SGX)	Yes
Intel® Memory Protection Extensions (Intel® MPX)	Yes
Intel® OS Guard	Yes
Intel® Trusted Execution Technology ‡	Yes
Execute Disable Bit ‡	Yes
Intel® Boot Guard	Yes

More support options for Intel® Xeon® Processor E3-1220 v5 (8M Cache, 3.00 GHz)

Product Support

Downloads and Software

Support Community

Warranty and Replacement

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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.

The Recommended Customer Price ("RCP") is pricing guidance for Intel products. Prices are for direct Intel customers, typically represent 1,000-unit purchase quantities, and are subject to change without notice. Taxes and shipping, etc. not included. Prices may vary for other package types and shipment quantities, and special promotional arrangements may apply. If sold in bulk, price represents individual unit. Listing of these RCP does not constitute a formal pricing offer from Intel. Please work with your appropriate Intel representative to obtain a formal price quotation.

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

Low Halogen: Applies only to brominated and chlorinated flame retardants (BFRs/CFRs) and PVC in the final product. Intel components as well as purchased components on the finished assembly meet JS-709 requirements, and the PCB / substrate meet IEC 61249-2-21 requirements. The replacement of halogenated flame retardants and/or PVC may not be better for the environment.

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.