Intel® Core™ i7-6700 Processor

8M Cache, up to 4.00 GHz

Export specifications

Essentials

Product Collection	6th Generation Intel® Core™ i7 Processors
Code Name	Products formerly Skylake
Vertical Segment	Desktop
Processor Number	i7-6700
Status	Launched
Launch Date ?	Q3'15
Lithography ?	14 nm
Included Items	Thermal Solution - E97379
Recommended Customer Price ?	$303.00 - $312.00

Performance

# of Cores ?	4
# of Threads ?	8
Processor Base Frequency ?	3.40 GHz
Max Turbo Frequency ?	4.00 GHz
Cache ?	8 MB SmartCache
Bus Speed ?	8 GT/s DMI3
TDP ?	65 W

Supplemental Information

Embedded Options Available ?	Yes
Conflict Free ?	Yes
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 ‡ ?	No

Graphics Specifications

Processor Graphics ‡ ?	Intel® HD Graphics 530
Graphics Base Frequency ?	350 MHz
Graphics Max Dynamic Frequency ?	1.15 GHz
Graphics Video Max Memory ?	64 GB
Graphics Output ?	eDP/DP/HDMI/DVI
4K Support ?	Yes, at 60Hz
Max Resolution (HDMI 1.4)‡ ?	4096x2304@24Hz
Max Resolution (DP)‡ ?	4096x2304@60Hz
Max Resolution (eDP – Integrated Flat Panel)‡ ?	4096x2304@60Hz
Max Resolution (VGA)‡ ?	N/A
DirectX* Support ?	12
OpenGL* Support ?	4.4
Intel® Quick Sync Video ?	Yes
Intel® InTru™ 3D Technology ?	Yes
Intel® Clear Video HD Technology ?	Yes
Intel® Clear Video Technology ?	Yes
# of Displays Supported ‡	3
Device ID	0x1912

Expansion Options

Scalability	1S Only
PCI Express Revision ?	3.0
PCI Express Configurations ‡ ?	Up to 1x16, 2x8, 1x8+2x4

Max # of PCI Express Lanes ?	16

Package Specifications

Sockets Supported ?	FCLGA1151
Max CPU Configuration	1
Thermal Solution Specification ?	PCG 2015C (65W)
T$_{CASE}$?	71°C
Package Size	37.5mm x 37.5mm
Low Halogen Options Available	See MDDS

Advanced Technologies

Intel® Optane™ Memory Supported ‡ ?	No
Intel® Turbo Boost Technology ‡ ?	2.0
Intel® vPro™ Technology ‡ ?	Yes
Intel® Hyper-Threading Technology ‡ ?	Yes
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 ?	SSE4.1/4.2, AVX2
Idle States ?	Yes
Enhanced Intel SpeedStep® Technology ?	Yes
Thermal Monitoring Technologies ?	Yes
Intel® Identity Protection Technology ‡ ?	Yes
Intel® Stable Image Platform Program (SIPP) ?	Yes

Security & Reliability

Intel® AES New Instructions ?	Yes
Secure Key ?	Yes
Intel® Software Guard Extensions (Intel® SGX) ?	Yes

Specifications

Essentials

Performance

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Advanced Technologies

Security & Reliability

Ordering and Compliance

Benchmarks

Compatible Products

Downloads and Software

Intel® Memory Protection Extensions (Intel® MPX) ?	Yes
Intel® OS Guard	Yes
Intel® Trusted Execution Technology ‡ ?	Yes
Execute Disable Bit ‡ ?	Yes
Intel® Boot Guard ?	Yes

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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.

"Conflict free" and "conflict-free" means "DRC conflict free", which is defined by the U.S. Securities and Exchange Commission rules to mean products that do not contain conflict minerals (tin, tantalum, tungsten and/or gold) that directly or indirectly finance or benefit armed groups in the Democratic Republic of the Congo (DRC) or adjoining countries. Intel also uses the term "conflict-free" in a broader sense to refer to suppliers, supply chains, smelters and refiners whose sources of conflict minerals do not finance conflict in the DRC or adjoining countries. Intel processors manufactured before January 1, 2013 are not confirmed conflict free. The conflict free designation refers only to product manufactured after that date. For Intel Boxed Processors, the conflict free designation refers to the processor only, not to any additional included accessories, such as heatsinks/coolers.

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.

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