



Intel® Core™ i7-8700 Processor

12M Cache, up to 4.60 GHz

Add to Compare

Specifications

Essentials

- Performance
- Supplemental Information
- Memory Specifications
- Processor Graphics
- Expansion Options
- Package Specifications
- Advanced Technologies
- Security & Reliability

Ordering and Compliance

Product Images

Compatible Products

Downloads and Software

Essentials

Export specifications

Product Collection	8th Generation Intel® Core™ i7 Processors
Code Name	Products formerly Coffee Lake
Vertical Segment	Desktop
Processor Number	i7-8700
Status	Launched
Launch Date ?	Q4'17
Lithography ?	14 nm
Recommended Customer Price ?	-
Use Conditions ?	PC/Client/Tablet

Performance

# of Cores ?	6
# of Threads ?	12
Processor Base Frequency ?	3.20 GHz
Max Turbo Frequency ?	4.60 GHz
Cache ?	12 MB SmartCache
Bus Speed ?	8 GT/s DMI3
TDP ?	65 W

Supplemental Information

Embedded Options Available ?	Yes
Datasheet	View now

Memory Specifications

Max Memory Size (dependent on memory type) ?	64 GB
Memory Types ?	DDR4-2666
Max # of Memory Channels ?	2
Max Memory Bandwidth ?	41.6 GB/s
ECC Memory Supported ‡ ?	No

Processor Graphics

Processor Graphics ‡ ?	Intel® UHD Graphics 630
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Graphics Base Frequency ?	350 MHz
Graphics Max Dynamic Frequency ?	1.20 GHz
Graphics Video Max Memory ?	64 GB
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
DirectX* Support ?	12
OpenGL* Support ?	4.5
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	0x3E92

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 _{JUNCTION} ?	100°C
Package Size	37.5mm x 37.5mm
Low Halogen Options Available	See MDDS

Advanced Technologies

Intel® Optane™ Memory Supported ‡ ?	Yes
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 ?

Intel® SSE4.1, Intel® SSE4.2, Intel® 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
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® Core™ i7-8700 Processor (12M Cache, up to 4.60 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.

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.

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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