

Search specifications



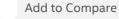


## Intel<sup>®</sup> Core<sup>™</sup> i7-8700 Processor

"rocessor Graphics ‡ ?

12M Cache, up to 4.60 GHz

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Intel® UHD Graphics 630

### Specifications

#### Essentials

Performance

Supplemental Information

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**Processor Graphics** 

**Expansion Options** 

Package Specifications

Advanced Technologies

Security & Reliability

# Ordering and Compliance

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### **Compatible Products**

Downloads and Software

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

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 <sup>‡</sup>	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 <sub>JUNCTION</sub> ?	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

More support options for Intel® Core™ i7-8700 Processor (12M Cache, up to 4.60 GHz)





Downloads and Software



**Support Community** 



Warranty and Replacement



### Need more help?

Contact support



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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, i7-2630QM/i7-2635QM, i5-2430M/i5-2435M, i5-2430M/i5-2435M. 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 <a href="http://www.intel.com/content/www/us/en/processors/processor-numbers.html">http://www.intel.com/content/www/us/en/processors/processor-numbers.html</a> for details.

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



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