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Intel® Core™ i3-8100 Processor

6M Cache, 3.60 GHz



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Product Collection	8th Generation Intel® Core™ i3 Processors
Code Name	Products formerly Coffee Lake
Vertical Segment	Desktop
Processor Number	i3-8100
Status	Launched
Launch Date	Q4'17
Lithography	14 nm
Use Conditions	Embedded Broad Market Commercial Temp, PC/Client/Tablet
Recommended Customer Price	

Performance Specifications


# of Cores	4
# of Threads	4
Processor Base Frequency	3.60 GHz
Cache	6 MB Intel® Smart Cache
Bus Speed	8 GT/s
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	DDR4-2400
Max # of Memory Channels	2

Max Memory Bandwidth 	37.5 GB/s
ECC Memory Supported ‡ 	Yes




Processor Graphics

Processor Graphics ‡ 	Intel® UHD Graphics 630
Graphics Base Frequency 	350 MHz
Graphics Max Dynamic Frequency 	1.10 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	0x3E91/x92






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

Advanced Technologies

Intel® Optane™ Memory Supported ‡ 	Yes
Intel® Turbo Boost Technology ‡ 	No
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) ‡ ?	Yes
Intel® VT-x with Extended Page Tables (EPT) ‡ ?	Yes
Intel® Transactional Synchronization Extensions ?	No
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) ?	No

Security & Reliability

Intel® AES New Instructions ?	Yes
Secure Key ?	Yes
Intel® Software Guard Extensions (Intel® SGX) ?	Yes with Intel® ME
Intel® Memory Protection Extensions (Intel® MPX) ?	Yes
Intel® OS Guard	Yes
Intel® Trusted Execution Technology ‡ ?	No
Execute Disable Bit ‡ ?	Yes
Intel® Boot Guard ?	Yes

More support options for Intel® Core™ i3-8100 Processor (6M Cache, 3.60 GHz)



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Replacement



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

‡ 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.

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

“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.

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.

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.

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

Check <http://ipt.intel.com/> for systems that support Intel® Identity Protection Technology (Intel® IPT).

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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