



# Intel® Pentium® Silver N5000 Processor

4M Cache, up to 2.70 GHz

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Essentials

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Product Collection	Intel® Pentium® Silver Processor Series
Code Name	Products formerly Gemini Lake
Vertical Segment	Mobile
Processor Number	N5000
Status	Launched
Launch Date	Q4'17
Lithography	14 nm

Performance

# of Cores	4
# of Threads	4
Processor Base Frequency	1.10 GHz
Burst Frequency	2.70 GHz
Cache	4 MB
TDP	6 W
Scenario Design Power (SDP)	4.8 W

Supplemental Information









Embedded Options Available	No
Product Brief	<a href="#">View now</a>

Memory Specifications




Max Memory Size (dependent on memory type)	8 GB
Memory Types	DDR4/LPDDR4 upto 2400 MT/s
Max # of Memory Channels	2
ECC Memory Supported ‡	No

Processor Graphics




Processor Graphics ‡	Intel® UHD Graphics 605
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Graphics Base Frequency 	200 MHz
Graphics Max Dynamic Frequency 	750 MHz
Graphics Video Max Memory 	8 GB
Graphics Output 	eDP/DP/HDMI/MIPI-DSI
Execution Units 	18
4K Support 	Yes, at 60Hz
DirectX* Support 	Yes
OpenGL* Support 	Yes
# of Displays Supported ‡	3
Device ID	0x3184



### Expansion Options

PCI Express Revision 	2.0
PCI Express Configurations ‡ 	1x4 + 1x2 or 4x1 or 2x1+1x2 + 1x2
Max # of PCI Express Lanes 	6







### I/O Specifications

# of USB Ports	8
USB Revision 	2.0/3.0
Total # of SATA Ports 	2
Integrated LAN 	No
Integrated Wireless†	Intel® Wireless-AC MAC
General Purpose IO	Yes
UART	Yes
Max # of SATA 6.0 Gb/s Ports	2

### Package Specifications

Sockets Supported 	FCBGA1090
Max CPU Configuration	1
Thermal Solution Specification 	105 deg C
T <sub>JUNCTION</sub> 	105 deg C
Package Size	25mm x 24mm

### Advanced Technologies

Intel® Optane™ Memory Supported ‡ 	No
Intel® Speed Shift Technology 	No
Intel® Turbo Boost Max Technology 3.0 ‡ 	No
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® 64 ‡ ?	Yes
Instruction Set ?	64-bit
Idle States ?	Yes
Enhanced Intel SpeedStep® Technology ?	Yes
Thermal Monitoring Technologies ?	Yes
Intel® Identity Protection Technology ‡ ?	Yes
Intel® Smart Response Technology ?	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
Execute Disable Bit ‡ ?	Yes
Anti-Theft Technology ?	No
Intel® OS Guard	Yes

More support options for Intel® Pentium® Silver N5000 Processor (4M Cache, up to 2.70 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.

‡ 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.

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/](http://www.intel.com/technology/turboboost/) for more information.

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

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.

Intel® Smart Response Technology requires a select Intel® Core™ processor, an enabled chipset, Intel® Rapid Storage Technology software, and a properly configured hybrid drive (HDD + small SSD). Depending on system configuration, your results may vary. Contact your system manufacturer for more information.

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

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.



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