



# Intel® Core™ i5-8250U Processor

6M Cache, up to 3.40 GHz

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## Essentials

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Product Collection	8th Generation Intel® Core™ i5 Processors
Code Name	Products formerly Kaby Lake R
Vertical Segment	Mobile
Processor Number	i5-8250U
Status	Launched
Launch Date	Q3'17
Lithography	14 nm
Recommended Customer Price	\$297.00

## Performance

# of Cores	4
# of Threads	8

Processor Base Frequency	1.60 GHz
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Max Turbo Frequency	3.40 GHz
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Cache	6 MB SmartCache
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Bus Speed	4 GT/s OPI
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TDP	15 W
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Configurable TDP-up Frequency	1.80 GHz
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Configurable TDP-up	25 W
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Configurable TDP-down Frequency	800 MHz
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Configurable TDP-down	10 W
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## Supplemental Information

Embedded Options Available	No
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Datasheet	<a href="#">View now</a>
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## Memory Specifications

Max Memory Size (dependent on memory type)	32 GB
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Memory Types	DDR4-2400, LPDDR3-2133
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Max # of Memory Channels	2
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Max Memory Bandwidth	34.1 GB/s
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ECC Memory Supported <sup>‡</sup>	No
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Processor Graphics

Processor Graphics ‡	Intel® UHD Graphics 620
Graphics Base Frequency	300 MHz
Graphics Max Dynamic Frequency	1.10 GHz
Graphics Video Max Memory	32 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
DirectX* Support	12
OpenGL* Support	4.4
Intel® Quick Sync Video	Yes
Intel® Clear Video HD Technology	Yes
Intel® Clear Video Technology	Yes
# of Displays Supported ‡	3
Device ID	0x5917

Expansion Options

PCI Express Revision	3.0
PCI Express Configurations <sup>‡</sup>	1x4, 2x2, 1x2+2x1 and 4x1
Max # of PCI Express Lanes	12
<b>Package Specifications</b>	
Sockets Supported	FC-BGA1356
Max CPU Configuration	1
T <sub>JUNCTION</sub>	100°C
Package Size	42mm X 24mm
<b>Advanced Technologies</b>	
Intel® Optane™ Memory Supported <sup>‡</sup>	Yes
Intel® Speed Shift Technology	Yes
Intel® Turbo Boost Technology <sup>‡</sup>	2.0
Intel® vPro™ Platform Eligibility <sup>‡</sup>	No
Intel® Hyper-Threading Technology <sup>‡</sup>	Yes
Intel® Virtualization Technology (VT-x) <sup>‡</sup>	Yes
Intel® Virtualization Technology for Directed I/O (VT-d) <sup>‡</sup>	Yes
Intel® VT-x with Extended Page Tables (EPT) <sup>‡</sup>	Yes
Intel® TSX-NI	No

Intel® 64 <sup>‡</sup>	Yes
Instruction Set	64-bit
Instruction Set Extensions	Intel® SSE4.1, Intel® SSE4.2, Intel® AVX2
Intel® My WiFi Technology	Yes
Idle States	Yes
Enhanced Intel SpeedStep® Technology	Yes
Thermal Monitoring Technologies	Yes
Intel® Flex Memory Access	Yes
Intel® Identity Protection Technology <sup>‡</sup>	Yes
Intel® Smart Response Technology	Yes
<b>Security &amp; Reliability</b>	
Intel® AES New Instructions	Yes
Secure Key	Yes
Intel® Software Guard Extensions (Intel® SGX)	Yes with Intel® ME
Intel® OS Guard	Yes
Intel® Trusted Execution Technology <sup>‡</sup>	No
Execute Disable Bit <sup>‡</sup>	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.

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/](http://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.

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.