



## Intel® Core™ i5-3320M Processor (3M Cache, up to 3.30 GHz)

### Specifications







<span>⊖</span> Essentials	
Status	Launched
Launch Date	Q2'12
Processor Number	i5-3320M
# of Cores	2
# of Threads	4
Clock Speed	2.6 GHz
Max Turbo Frequency	3.3 GHz
Intel® Smart Cache	3 MB
DMI	5 GT/s
Instruction Set	64-bit
Instruction Set Extensions	AVX
Embedded Options Available	No
Lithography	22 nm
Max TDP	35 W
Recommended Customer Price	TRAY: \$225.00 BOX : \$227.00
Conflict Free	<input type="button" value="Yes"/>
Datasheet	<a href="#">Link</a>
<span>⊖</span> Memory Specifications	
Max Memory Size (dependent on memory type)	32 GB
Memory Types	DDR3/L/-RS 1333/1600
# of Memory Channels	2
Max Memory Bandwidth	25.6 GB/s
ECC Memory Supported †	No
<span>⊖</span> Graphics Specifications	
Processor Graphics †	Intel® HD Graphics 4000
Graphics Base Frequency	650 MHz
Graphics Max Dynamic Frequency	1.2 GHz
Graphics Output	eDP/DP/HDMI/SDVO/CRT
Intel® Quick Sync Video	<input type="button" value="Yes"/>
Intel® InTru™ 3D Technology	<input type="button" value="Yes"/>
Intel® Insider™	<input type="button" value="Yes"/>
Intel® Wireless Display	<input type="button" value="Yes"/>
Intel® Flexible Display Interface (Intel® FDI)	<input type="button" value="Yes"/>
Intel® Clear Video HD Technology	<input type="button" value="Yes"/>
# of Displays Supported †	3
<span>⊖</span> Expansion Options	
PCI Express Revision	3.0

<a href="#">PCI Express Configurations ‡</a>	1x16, 2x8, 1x8 2x4
<a href="#">Max # of PCI Express Lanes</a>	1


#### ⊖ Package Specifications

<a href="#">Max CPU Configuration</a>	1
<a href="#">T<sub>JUNCTION</sub></a>	105 C
<a href="#">Package Size</a>	37.5 x 37.5mm (rPGA988B); 31.0 x 24.0mm (BGA1023)
<a href="#">Graphics and IMC Lithography</a>	22 nm
<a href="#">Sockets Supported</a>	FCBGA1023, FCPGA988
<a href="#">Low Halogen Options Available</a>	See MDDS


#### ⊖ Advanced Technologies

<a href="#">Intel® Turbo Boost Technology ‡</a>	2.0
<a href="#">Intel® vPro Technology ‡</a>	 <input type="button" value="Yes"/>
<a href="#">Intel® Hyper-Threading Technology ‡</a>	 <input type="button" value="Yes"/>
<a href="#">Intel® Virtualization Technology (VT-x) ‡</a>	<input type="button" value="Yes"/>
<a href="#">Intel® Virtualization Technology for Directed I/O (VT-d) ‡</a>	 <input type="button" value="Yes"/>
<a href="#">Intel® VT-x with Extended Page Tables (EPT) ‡</a>	 <input type="button" value="Yes"/>
<a href="#">Intel® 64 ‡</a>	 <input type="button" value="Yes"/>
<a href="#">Intel® My WiFi Technology</a>	<input type="button" value="Yes"/>
<a href="#">4G WiMAX Wireless Technology</a>	<input type="button" value="Yes"/>
<a href="#">Idle States</a>	<input type="button" value="Yes"/>
<a href="#">Enhanced Intel SpeedStep® Technology</a>	 <input type="button" value="Yes"/>
<a href="#">Intel® Demand Based Switching</a>	 No
<a href="#">Thermal Monitoring Technologies</a>	<input type="button" value="Yes"/>
<a href="#">Intel® Fast Memory Access</a>	<input type="button" value="Yes"/>
<a href="#">Intel® Flex Memory Access</a>	<input type="button" value="Yes"/>
<a href="#">Intel® Identity Protection Technology ‡</a>	<input type="button" value="Yes"/>

#### ⊖ Intel® Data Protection Technology

<a href="#">AES New Instructions</a>	 <input type="button" value="Yes"/>
<a href="#">Secure Key</a>	<input type="button" value="Yes"/>

#### ⊖ Intel® Platform Protection Technology

<a href="#">Trusted Execution Technology ‡</a>	 <input type="button" value="Yes"/>
<a href="#">Execute Disable Bit ‡</a>	<input type="button" value="Yes"/>
<a href="#">Anti-Theft Technology</a>	<input type="button" value="Yes"/>

## Compatible Products

#### ⊖ Chipsets

<a href="#">Compare</a> Select All	Product Name	Status	Embedded Options Available	Max TDP	Recommended Customer Price
	<a href="#">Mobile Intel® QM77 Express Chipset (Intel® BD82QM77 PCH)</a>	Launched	<input type="button" value="Yes"/>	4.1 W	T&R : \$48.00
	<a href="#">Mobile Intel® QS77 Express Chipset (Intel® BD82QS77 PCH)</a>	Launched	No	3.6 W	T&R : \$54.00

Compare Select All	Product Name	Status	Embedded Options Available	Max TDP	Recommended Customer Price
	<a href="#">Mobile Intel® HM77 Express Chipset (Intel® BD82HM77 PCH)</a>	Launched	No	4.1 W	T&R : \$48.00
	<a href="#">Mobile Intel® HM76 Express Chipset (Intel® BD82HM76 PCH)</a>	Launched	<input checked="" type="checkbox"/>	4.1 W	T&R : \$43.00
	<a href="#">Mobile Intel® HM75 Express Chipset (Intel® BD82HM75 PCH)</a>	Launched	No	4.1 W	T&R : \$40.00

## Ordering and Spec Information

### Trade Compliance Information

ECCN	CCATS	US HTS
5A992C	G077159	8542310000-HYBRD

### Ordering and Spec Information

Spec Code	Ordering Code	Step	RCP	Socket
Intel® Core™ i5-3320M Processor (3M Cache, up to 3.30 GHz) FC-BGA12F, Tray				
SR0MY	AV8063801031900	L1	\$225.00	FCBGA1023
Intel® Core™ i5-3320M Processor (3M Cache, up to 3.30 GHz) FC-PGA12F, Tray				
SR0MX	AW8063801031700	L1	\$225.00	FCPGA988

### Retired and Discontinued

Spec Code	Ordering Code	Step	RCP	Socket
Boxed Intel® Core™ i5-3320M Processor (3M Cache, up to 3.30 GHz) FC-PGA12F				
SR0MX	BX80638I53320M	L2	\$227.00	FCPGA988

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"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.

"Conflict free" and "conflict-free" means "DRC conflict free", which is defined by the U.S. Securities and Exchange Commission rules to mean products that do not contain conflict minerals (tin, tantalum, tungsten and/or gold) that directly or indirectly finance or benefit armed groups in the Democratic Republic of the Congo (DRC) or adjoining countries. Intel also uses the term "conflict-free" in a broader sense to refer to suppliers, supply chains, smelters and refiners whose sources of conflict minerals do not finance conflict in the DRC or adjoining countries. Intel processors manufactured before January 1, 2013 are not confirmed conflict free. The conflict free designation refers only to product manufactured after that date. For Intel Boxed Processors, the conflict free designation refers to the processor only, not to any additional included accessories, such as heatsinks/coolers.

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 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. 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.

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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