



# Intel® Core™ i5-2450M Processor (3M Cache, up to 3.10 GHz)

## Specifications

### - Essentials

Processor Number	i5-2450M
Status	Launched
Launch Date	Q1'12
Lithography	32 nm
Recommended Customer Price	N/A

### - Performance

# of Cores	2
# of Threads	4
Processor Base Frequency	2.50 GHz
Max Turbo Frequency	3.10 GHz
Cache	3 MB SmartCache
Bus Speed	5 GT/s DMI
TDP	35 W



### - Supplemental Information










Embedded Options Available	 No
Conflict Free	Yes
Datasheet	<a href="#">Link</a>

### - Memory Specifications

Max Memory Size (dependent on memory type)	16 GB
Memory Types	DDR3 1066/1333
Max # of Memory Channels	2
Max Memory Bandwidth	21.3 GB/s
ECC Memory Supported ‡	 No

### - Graphics Specifications

Processor Graphics ‡	Intel® HD Graphics 3000
Graphics Base Frequency	650.00 MHz
Graphics Max Dynamic Frequency	1.30 GHz
Graphics Output	eDP/DP/HDMI/SDVO/CRT
Intel® Quick Sync Video	 Yes
Intel® InTru™ 3D Technology	Yes
Intel® Wireless Display	 Yes
Intel® Flexible Display Interface (Intel® FDI)	Yes
Intel® Clear Video HD Technology	Yes
Macrovision* License Required	No

# of Displays Supported ‡		2
Device ID		0x116
- Expansion Options		
PCI Express Revision		2.0
PCI Express Configurations ‡		1x16, 2x8, 1x8 2x4
Max # of PCI Express Lanes		16
- Package Specifications		
Sockets Supported		FCBGA1023, PPGA988
Max CPU Configuration		1
T <sub>JUNCTION</sub>		100 C
Package Size		37.5mmx37.5mm (rPGA988B); 31mm x 24mm (BGA1023)
Low Halogen Options Available		See MDDS
- Advanced Technologies		
Intel® Turbo Boost Technology ‡		2.0
Intel® vPro Technology ‡		No
Intel® Hyper-Threading Technology ‡		Yes
Intel® Virtualization Technology (VT-x) ‡		Yes
Intel® Virtualization Technology for Directed I/O (VT-d) ‡		No
Intel® VT-x with Extended Page Tables (EPT) ‡		Yes
Intel® 64 ‡		Yes
Instruction Set		64-bit
Instruction Set Extensions		AVX
Intel® My WiFi Technology		Yes
4G WiMAX Wireless Technology		Yes
Idle States		Yes
Enhanced Intel SpeedStep® Technology		Yes
Intel® Demand Based Switching		No
Thermal Monitoring Technologies		Yes
Intel® Fast Memory Access		Yes
Intel® Flex Memory Access		Yes
Intel® Identity Protection Technology ‡		Yes
- Intel® Data Protection Technology		
Intel® AES New Instructions		Yes
- Intel® Platform Protection Technology		
Trusted Execution Technology ‡		No
Execute Disable Bit ‡		Yes
Anti-Theft Technology		Yes

Ordering and Spec Information

Trade Compliance Information	Ordering Code	Step	US HTS ECCN	CCATS	RCP	Socket
Spec Code			US HTS			
8542310000-HYBRD						

#### Retired and Discontinued

Spec Code	Ordering Code	Step	ECCN	CCATS	RCP	Socket
Intel® Core™ i5-2450M Processor (3M Cache, up to 3.10 GHz) FC-BGA10C, Tray						
SR04Z	AV8062700995805	J1	5A992	NA	N/A	FCBGA1023
SR06Z	AV8062700995806	J1	5A992C	G077159	N/A	FCBGA1023
Intel® Core™ i5-2450M Processor (3M Cache, up to 3.10 GHz) FC-PGA10, Tray						
SROCH	FF8062700995606	J1	5A992C	G077159	N/A	PPGA988

#### Download Drivers



##### BIOS Implementation Test Suite (BITS)

This download installs version build 2073 of the BIOS Implementation Test Suite (BITS).

**Version:** Build 2073 (Latest)

**Date:** 2/2/2016

**Operating Systems:** OS Independent



##### Intel® Processor Diagnostic Tool

This download installs the Intel® Processor Diagnostic Tool release 3.0.0.25, which is compatible with multiprocessor systems.

**Version:** 3.0.0.25 (Latest)

**Date:** 1/25/2016

**Operating Systems:** Linux\*, Windows 7\*, Windows Server 2008 R2\*, 5 more



##### Intel® HD Graphics Driver for Windows\* 7/8/8.1-32bit

This package installs the Intel® HD Graphics Driver version 15.28.24.4229 (9.17.10.4229) for Windows\* 7, Windows 8, and Windows 8.1, 32-bit.

**Version:** 15.28.24.4229 (Latest)

**Date:** 6/5/2015

**Operating Systems:** Windows 7, 32-bit\*, Windows 8, 32-bit\*, Windows 8.1, 32-bit\*



##### Intel® HD Graphics Driver for Windows\* 7/8-64-bit

Downloads and installs the Intel® HD Graphics Driver versions 15.28.24.4229 and 15.28.24.64.4229 for Windows\* 7 and Windows 8, 64-bit.

**Version:** 15.28.24.64.4229 (Latest)

**Date:** 6/5/2015

**Operating Systems:** Windows 7, 64-bit\*, Windows 8, 64-bit\*



##### Intel® HD Graphics Driver for Windows XP\* 64 (exe)

Installs the Intel® HD Graphics Driver 64 bit version 14.51.11.64.5437 (6.14.10.5437).

**Version:** 14.51.11.64.5437 (Latest)

**Date:** 2/13/2013

**Operating Systems:** Windows XP 64-bit Edition\*



##### Intel® HD Graphics Driver for Windows XP\* (exe)

This download installs the Intel® HD Graphics Driver version 14.51.11.5437 (6.14.10.5437) for Windows XP\*, 32-bit.

**Version:** 14.51.11.5437 (Latest)

**Date:** 2/13/2013

**Operating Systems:** Windows XP 32-bit Edition\*



##### Intel® HD Graphics Driver for Windows Vista\* 64 (exe)

Installs graphics driver version 15.22.54.64.2622 (8.15.10.2622) for Intel integrated graphics.

**Version:** 15.22.54.64.2622 (Latest)

**Date:** 1/21/2012

**Operating Systems:** Windows Vista 64\*



##### Intel® HD Graphics Driver for Windows 7\* & Windows Vista\* (exe)

This download installs version 15.22.54.2622 of the Intel® HD Graphics driver for Windows\* 7 and Windows Vista.

**Version:** 15.22.54.2622 (Latest)

**Date:** 1/21/2012

**Operating Systems:** Windows Vista 32\*



##### Intel® HD Graphics Driver for Windows\* 7/8/8.1-32bit

This download installs version 15.28.23.4101 of the Intel® HD Graphics Driver for Windows\* 7/8/8.1, 32-bit.

**Version:** 15.28.23.4101 (Previously Released)      **Date:** 2/4/2015  
**Operating Systems:** Windows 7, 32-bit\*, Windows 8, 32-bit\*, Windows 8.1, 32-bit\*



### Intel® HD Graphics Driver for Windows\* 7/8-64-bit

This download installs the Intel® HD Graphics Driver version 15.28.23.64.4101 (9.17.10.4101) for Windows\* 7, Windows 8, and Windows 8.1, 32-bit and 64-bit.

**Version:** 15.28.23.64.4101 (Previously Released)      **Date:** 2/4/2015  
**Operating Systems:** Windows 7, 64-bit\*, Windows 8, 64-bit\*



### Linux\* Processor Microcode Data File

The microcode data file contains the latest microcode definitions for all Intel® Processors. Intel periodically releases these microcode updates.

**Version:** 20150121 (Previously Released)      **Date:** 1/21/2015  
**Operating Systems:** Turbolinux\*, Red Hat Desktop 3 Update 4\*, Red Hat Desktop Linux 3\*, 90 more



### Linux\* Processor Microcode Data File

The microcode data file 20150107 for Linux\* contains the latest microcode definitions for all Intel® Processors. Intel periodically releases these microcode updates.

**Version:** 20150107 (Previously Released)      **Date:** 1/7/2015  
**Operating Systems:** Turbolinux\*, Red Hat Desktop 3 Update 4\*, Red Hat Desktop Linux 3\*, 88 more



### Linux\* Processor Microcode Data File

The microcode data file 20140913 for Linux\* contains the latest microcode definitions for all Intel® Processors. Intel periodically releases these microcode updates.

**Version:** 20140913 (Previously Released)      **Date:** 9/15/2014  
**Operating Systems:** Red Hat Desktop 3 Update 4\*, Red Hat Desktop Linux 3\*, Red Hat Enterprise Linux 2.1\*, 81 more



### Linux\* Processor Microcode Data File

The microcode data file 20140624 for Linux\* contains the latest microcode definitions for all Intel® Processors. Intel periodically releases these microcode updates.

**Version:** 20140624 (Previously Released)      **Date:** 6/24/2014  
**Operating Systems:** Linux\*



### Linux\* Processor Microcode Data File

The microcode data file 20140430 for Linux\* contains the latest microcode definitions for all Intel® Processors. Intel periodically releases these microcode updates.

**Version:** 20140430 (Previously Released)      **Date:** 4/30/2014  
**Operating Systems:** Linux\*



### Linux\* Processor Microcode Data File

The microcode data file 20140122 for Linux\* contains the latest microcode definitions for all Intel® Processors. Intel periodically releases these microcode updates.

**Version:** 20140122 (Previously Released)      **Date:** 1/22/2014  
**Operating Systems:** Turbolinux\*, Red Hat Desktop 3 Update 4\*, Red Hat Desktop Linux 3\*, 79 more



### Linux\* Processor Microcode Data File

The microcode data file 20130906 for Linux\* contains the latest microcode definitions for all Intel® Processors. Intel periodically releases these microcode updates.

**Version:** 20130906 (Previously Released)      **Date:** 9/6/2013  
**Operating Systems:** Turbolinux\*, Red Hat Desktop 3 Update 4\*, Red Hat Desktop Linux 3\*, 79 more



### Linux\* Processor Microcode Data File

The microcode data file 20130808 for Linux\* contains the latest microcode definitions for all Intel® Processors. Intel periodically releases these microcode updates.

**Version:** 20130808 (Previously Released)      **Date:** 8/14/2013  
**Operating Systems:** Turbolinux\*, Red Hat Desktop 3 Update 4\*, Red Hat Desktop Linux 3\*, 79 more



### Linux\* Processor Microcode Data File

The microcode data file 20130222 for Linux\* contains the latest microcode definitions for all Intel® Processors. Intel periodically releases these microcode updates.

**Version:** 20130222 (Previously Released)      **Date:** 2/25/2013  
**Operating Systems:** Turbolinux\*, Red Hat Desktop 3 Update 4\*, Red Hat Desktop Linux 3\*, 74 more



## Intel® HD Graphics Driver for Windows XP\* 64 (zip)

Installs graphics driver version 14.51.11.64.5437 (6.14.10.5437) for Intel® HD Graphics. This driver is intended for developers and IT professionals.

**Version:** 14.51.11.64.5437 (Previously Released)

**Date:** 2/13/2013

**Operating Systems:** Windows XP 64-bit Edition\*

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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.

"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, 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.

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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