Intel® Atom™ Processor E3805 (1M Cache, 1.33 GHz)

Specifications

- Essentials

Status	Launched
Launch Date	Q4'14
Processor Number	E3805
L2 Cache	1 MB
Instruction Set	64-bit
Embedded Options Available	Yes
Lithography	22 nm
Recommended Customer Price	TRAY: $31.00
Datasheet	Link

- Performance

# of Cores	2
# of Threads	2
Processor Base Frequency	1.33 GHz
TDP	3 W

- Memory Specifications

Max Memory Size (dependent on memory type)	8 GB
Memory Types	DDR3L 1067
Max # of Memory Channels	1
ECC Memory Supported ‡	Yes

- Graphics Specifications

Processor Graphics ‡	None
Intel® Quick Sync Video	No
Intel® Wireless Display	No
Intel® Insider™	No

- Expansion Options

PCI Express Revision	2.0
PCI Express Configurations ‡	x4, x2, x1
Max # of PCI Express Lanes	4

- I/O Specifications

USB Revision	2.0, 3.0
Total # of SATA Ports	2
Integrated LAN	No
Integrated IDE	No
UART	Yes

- Package Specifications

$T_{JUNCTION}$	-40°C to 110°C
Package Size	25mm x 27mm
Sockets Supported	FCBGA1170
Low Halogen Options Available	See MDDS

- Advanced Technologies

Intel® vPro Technology ‡	No
Intel® Hyper-Threading Technology ‡	No
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
Enhanced Intel SpeedStep® Technology	Yes
Intel® HD Audio Technology	Yes

- Intel® Data Protection Technology

Intel® AES New Instructions	Yes

- Intel® Platform Protection Technology

Trusted Execution Technology ‡	No
Execute Disable Bit ‡	Yes

Ordering and Spec Information

Trade Compliance Information

ECCN	CCATS	US HTS
5A992CN3	G143235	8542310000-HYBRD

Ordering and Spec Information

Spec Code	Ordering Code	Step	RCP
Intel® Atom™ Processor E3805 (1M Cache, 1.33 GHz) FC-BGA13F, Tray			
SR20Y	FH8065301989700	D0	$31.00

Download Drivers

BIOS Implementation Test Suite (BITS)
BITS provides a bootable pre-OS environment for testing BIOSes and in particular their initialization of Intel® Processors, hardware, and technologies
Version: Build 2070 (Latest) **Date:** 1/7/2016
Operating Systems: OS Independent

Intel® Embedded Drivers for Microsoft Windows* 10 IoT Core (32-bit)
Intel® Embedded Drivers for Microsoft Windows* 10 IoT Core (32-bit)
Version: 1 (Latest) **Date:** 12/23/2015
Operating Systems: Windows® 10, 32-bit

Intel® Processor Identification Utility - Windows* Version
The Intel® Processor Identification Utility is provided by Intel to identify characteristics of a processor inside a system.
Version: 5.40 (Latest) **Date:** 12/23/2015
Operating Systems: Windows 2000*, Windows 7*, Windows 8*, 8 more

Intel® HD Graphics Driver v36.19.0 (Gold) for Windows* 10 IoT Core
Install Package: Intel® HD Graphics Driver v36.19.0 (Gold) for Windows* 10 IoT Core
Version: v36.19.0 (Gold) (Latest) **Date:** 12/18/2015
Operating Systems: Windows® 10, 32-bit, Windows® 10, 64-bit

Intel Embedded Drivers for Windows* 7 (32-bit & 64-bit)
Install Package: Intel® Embedded Drivers for Windows* 7 (32-bit & 64-bit)
Version: 3 (Latest) **Date:** 11/23/2015
Operating Systems: Windows 7, 32-bit*, Windows 7, 64-bit*

Intel® Embedded Drivers for Microsoft Windows* 8 (32-bit & 64-bit) OS
Drivers: Installs drivers for embedded Windows* 8 (32-bit & 64-bit) OS for the Intel® Atom™ E3800 Product Family & related processors.(v.1, Oct. 2015)
Version: 1 (Latest) **Date:** 10/16/2015
Operating Systems: Windows 8*, Windows 8, 32-bit*, Windows 8, 64-bit*

BKC (Best Known Configuration) for Fedora* 18 MR2 (Maintenance Release 2)
This is the Best Known Configuration for Linux* MR2 integration into Fedora* 18 for Intel® Atom™ Processor E3800 product family.
Version: 1 (Latest) **Date:** 9/15/2015
Operating Systems: Linux*

Intel® Processor Identification Utility - Bootable Version
The Intel® Processor Identification Utility is provided by Intel to identify characteristics of a processor inside a system.
Version: 5.30 (Latest) **Date:** 9/11/2015
Operating Systems: OS Independent

Intel® Processor Diagnostic Tool (64-bit)
The Intel® Processor Diagnostic Tool is compatible with multiprocessor systems.
Version: 2.20.0.0.W.MP-1 (Latest) **Date:** 8/7/2015
Operating Systems: Windows 7*, Windows 8*, Windows 8.1*, 4 more

Intel® Embedded Media and Graphics Driver (Intel® EMGD)
For embedded Intel® Atom™ Processor-based systems
Version: 1.15-1.18 (Latest) **Date:** 5/7/2015
Operating Systems: OS Independent

Intel® IoT Gateways Software Development Kit SK50: Getting Started Guide Commands
Getting Started guide commands for installation of the Intel® IoT Gateways Software Development Kit SK50.
Version: 1 (Latest) **Date:** 4/30/2015

Operating Systems: Linux*

Intel® Processor Diagnostic Tool (32-bit)
The Intel® Processor Diagnostic Tool is compatible with multiprocessor systems.
Version: 2.11.0.0.W-2 (Latest) **Date:** 4/29/2015
Operating Systems: Windows 7*, Windows 8*, Windows 8.1*, 5 more

Intel® IoT Gateways Development Kit DK300 Series: Getting Started Guide Commands
Getting Started guide commands for installation of the Intel® IoT Gateways Development Kit DK300 Series.
Version: 2 (Latest) **Date:** 2/6/2015
Operating Systems: Linux*

Intel® IoT Gateways Development Kit DK300 Series: Get Started Guide Commands
Getting Started guide commands for installation of the Intel® IoT Gateways Development Kit DK300 Series.
Version: 1 (Latest) **Date:** 2/6/2015
Operating Systems: Linux*

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 (Latest) **Date:** 1/27/2015
Operating Systems: Caldera Linux*, Chromium OS*, Debian 3.1 Linux*, 91 more

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: 20150107 (Latest) **Date:** 1/13/2015
Operating Systems: Caldera Linux*, Chromium OS*, Debian 3.1 Linux*, 89 more

Intel® IoT Gateways Development Kit DK200 Series: Getting Started Guide Commands
Getting Started guide commands for installation of the Intel® IoT Gateways Development Kit DK200 Series.
Version: 1 (Latest) **Date:** 12/15/2014
Operating Systems: Linux*

Intel® IoT Gateways Development Kit DK100 Series: Getting Started Guide Commands
Getting Started guide commands for installation of the Intel® IoT Gateways Development Kit DK100 Series.
Version: 1 (Latest) **Date:** 12/13/2014
Operating Systems: Linux*

Intel® IoT Gateways Development Kit DK50 Series: Getting Started Guide Commands
Getting Started guide commands for installation of the Intel® IoT Gateways Development Kit DK50 Series.
Version: 1 (Latest) **Date:** 12/13/2014
Operating Systems: Linux*

Intel embedded drivers for Windows* 8.1 (64-bit)
Install Package: Intel embedded drivers for Windows* 8.1 (64-bit)
Version: 1 (Latest) **Date:** 9/26/2014
Operating Systems: Windows 8.1, 64-bit*

‡ 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/ 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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