

Intel® Atom™ Processor E640  
(512K Cache, 1.00 GHz)

Specifications

Essentials

Performance

Memory Specifications

Graphics Specifications

Expansion Options

Package Specifications

Advanced Technologies


Intel® Platform Protection Technology

Compatible Products

Ordering / sSpecs / Steppings

Specifications


Essentials

Status	Launched
Launch Date	Q3'10
Processor Number	E640
L2 Cache	512 KB
PCI Express*	2500 MHz
FSB Parity	No
Instruction Set	32-bit
Embedded Options Available	 Yes
Lithography	45 nm
VID Voltage Range	VCC (0.75 - 0.9V), VNN (0.75 - 1.1V)
Recommended Customer Price	TRAY: \$29.00
Datasheet	<a href="#">Link</a>

Performance

# of Cores	1
# of Threads	2
Processor Base Frequency	1 GHz
TDP	3.6 W

Memory Specifications

Max Memory Size (dependent on memory type)	2 GB
Memory Types	DDR2 800
Max # of Memory Channels	1
ECC Memory Supported ‡	 No

Graphics Specifications

Processor Graphics ‡	Integrated
Graphics Base Frequency	320 MHz






Expansion Options

PCI Express Revision	1.0a
PCI Express Configurations ‡	x1, root complex only
Max # of PCI Express Lanes	4


Package Specifications

TJUNCTION	90°C
Package Size	22mmx22mm
Sockets Supported	FCBGA676
Low Halogen Options Available	See MDDS

Advanced Technologies

Intel® Turbo Boost Technology ‡	No
Intel® Hyper-Threading Technology ‡	 Yes
Intel® Virtualization Technology (VT-x) ‡	Yes
Intel® Virtualization Technology for Directed I/O (VT-d) ‡	 No
Intel® 64 ‡	 No
Idle States	Yes
Enhanced Intel SpeedStep® Technology	 Yes
Intel® Demand Based Switching	 No
Thermal Monitoring Technologies	Yes

Intel® Platform Protection Technology

Trusted Execution Technology ‡	 No
Execute Disable Bit ‡	Yes


Compare

Related Products

Intel® Atom™ Processor

Intel® Atom™ Processor E600 Series

Products formerly Tunnel Creek



Visit the Embedded Design Center >

Quick Links

Export Full Specifications >

Search Distributors >

Software Downloads >

Support Overview >

Search all of intel.com >

PCN/MDDS Information

SLJ33

913761: PCN | MDDS

SLH55

905528: PCN | MDDS

All information provided is subject to change at any time, without notice. Intel may make changes to manufacturing life cycle, specifications, and product descriptions at any time, without notice. The information herein is provided "as-is" and Intel does not make any representations or warranties whatsoever regarding accuracy of the information, nor on the product features, availability, functionality, or compatibility of the products listed. Please contact system vendor for more information on specific products or systems.

"Intel classifications" consist of Export Control Classification Numbers (ECCN) and Harmonized Tariff Schedule (HTS) numbers. Any use made of Intel classifications are without recourse to Intel and shall not be construed as a representation or warranty regarding the proper ECCN or HTS. Your company may be the exporter of record, and as such, your company is responsible for determining the correct classification of any item at the time of export.

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 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 J5-709 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.



## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [Microprocessors - MPU category](#):*

*Click to view products by [Intel manufacturer](#):*

Other Similar products are found below :

[MC68302EH20C](#) [MC7457RX1000LC](#) [MC7457RX1267LC](#) [MC7457VG1267LC](#) [A2C00010998 A](#) [A2C52004004](#) [R5F117BCGNA#20](#)  
[R5F52106BDLA#U0](#) [ADJ3400IAA5DOE](#) [MPC8245TVV266D](#) [MPC8245TZU300D](#) [MPC8260ACVVMHBB](#) [MPC8323ECVRAFDCA](#)  
[MPC8323VRADDCA](#) [MPC8536ECVJAVLA](#) [BOXNUC5PGYH0AJ](#) [20-668-0024](#) [P1010NSN5DFB](#) [P2010NSN2MHC](#) [P2020NXE2HHC](#)  
[P5020NSE7QMB](#) [P5020NSE7TNB](#) [P5020NSE7VNB](#) [LS1020ASN7KQB](#) [LS1020AXN7HNB](#) [LS1020AXN7KQB](#) [A2C00010729 A](#)  
[A2C00039344](#) [T1022NSE7MQB](#) [T1022NXN7PQB](#) [T1023NSE7MQA](#) [T1024NXE7PQA](#) [T1042NSE7MQB](#) [T1042NSN7MQB](#)  
[T1042NXN7WQB](#) [T2080NSE8TTB](#) [T2080NSN8PTB](#) [T2080NXE8TTB](#) [T2081NXN8TTB](#) [R5F101AFASP#V0](#) [MC68302CEH20C](#)  
[MPC8260ACVVMIBB](#) [MPC8280CZUUPEA](#) [MPC8313ECVRAFFC](#) [MPC8313ECVRAGDC](#) [MPC8313EVRADDC](#) [MPC8313EVRAFFC](#)  
[MPC8313VRADDC](#) [MPC8314CVRAGDA](#) [MPC8314VRAGDA](#)