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☒ Yes ☐ No

## Essen

## Memory Specifications

## Graphics Specifications

## Expansion Options

## Package Specifications

## Advanced Technologies


## Intel® Data Protection Technology

## Intel® Platform Protection Technology


## COMPATIBLE PRODUCTS

## PRODUCT IMAGES



## ORDERING / SSPECS / STEPPINGS

|                            |   |
|----------------------------|---|
| Status                     | Launched  |
| Launch Date                | Q2'12   |
| Processor Number           | i7-3615QE   |
| # of Cores                 | 4   |
| # of Threads               | 8   |
| Clock Speed                | 2.3 GHz   |
| Max Turbo Frequency        | 3.3 GHz   |
| Intel® Smart Cache         | 6 MB  |
| DMI                        | 5 GT/s  |
| Instruction Set            | 64-bit  |
| Instruction Set Extensions | AVX   |
| Embedded Options Available |  Yes |
| Lithography                | 22 nm   |
| Max TDP                    | 45 W  |
| Recommended Customer Price | TRAY: \$393.00  |

## Memory Specifications

|  |  |
|--|--|
| Max Memory Size (dependent on memory type) | 16 GB  |
| Memory Types                               | DDR3-1067/1333/1600; DDR3L-1067/1333/1600  |
| # of Memory Channels                       | 2  |
| Max Memory Bandwidth                       | 25.6 GB/s  |
| ECC Memory Supported ‡                     |  <b>Yes</b> |

## Graphics Specifications

|  |   |
|--|---|
| Processor Graphics +                           | Intel® HD Graphics 4000   |
| Graphics Base Frequency                        | 650 MHz   |
| Graphics Max Dynamic Frequency                 | 1 GHz   |
| Graphics Output                                | eDP/DP/HDMI/SDVO/CRT  |
| Intel® Quick Sync Video                        |  Yes |
| Intel® InTru™ 3D Technology                    | Yes   |
| Intel® Insider™                                | No  |
| Intel® Wireless Display                        |  No  |
| Intel® Flexible Display Interface (Intel® FDI) | Yes   |
| Intel® Clear Video HD Technology               | Yes   |
| # of Displays Supported +                      | 3   |

## Expansion Options

|                              |                  |
|------------------------------|------------------|
| PCI Express Revision         | 3.0              |
| PCI Express Configurations ‡ | 1x16 2x8 1x8 2x4 |
| Max # of PCI Express Lanes   | 16               |

## Package Specifications

|                               |                       |
|-------------------------------|-----------------------|
| Max CPU Configuration         | 1                     |
| T <sub>J</sub> JUNCTION       | 105                   |
| Package Size                  | 31mm x 24mm (BGA1023) |
| Graphics and IMC Lithography  | 22nm                  |
| Sockets Supported             | FCBGA1023             |
| Low Halogen Options Available | See MDDS              |

## Advanced Technologies

|  |   |
|--|---|
| Intel® Turbo Boost Technology‡                             | 2.0   |
| Intel® vPro Technology ‡                                   |  Yes |
| Intel® Hyper-Threading Technology ‡                        |  Yes |
| Intel® Virtualization Technology (VT-x) ‡                  |  Yes |
| Intel® Virtualization Technology for Directed I/O (VT-d) ‡ |  Yes |

## RELATED PRODUCTS

- 3rd Generation Intel® Core™ i7 Processors
- Intel® Core™ i7-3600 Mobile Processor Series
- Products formerly Ivy Bridge







- [Visit the Embedded Design Center >](#)


## QUICK LINKS


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## PCN/MDDS Information

SR0NC  
919818: PCN | MDDS

|   |   |
|---|---|
| Intel® VT-x with Extended Page Tables (EPT) ‡ |  Yes   |
| Intel® 64 ‡                                   |  Yes |
| Intel® My WiFi Technology                     | Yes   |
| 4G WiMAX Wireless Technology                  | No  |
| 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 |   |
|-----------------------------------|---|
| AES New Instructions              |  Yes |

| Intel® Platform Protection Technology |   |
|---------------------------------------|---|
| Trusted Execution Technology ‡        |  Yes |
| Execute Disable Bit ‡                 | Yes   |
| Anti-Theft Technology                 | No  |

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"Announced" SKUs are not yet available. Please refer to the Launch Date for market availability.

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.

For benchmarking data see <http://www.intel.com/performance>.

System and Maximum TDP is based on worst case scenarios. Actual TDP may be lower if not all I/Os for chipsets are used.

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.

‡ 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.


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.

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.

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.

Processors that support 64-bit computing on Intel® architecture require an Intel 64 architecture-enabled BIOS.

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.

 Send us your feedback!