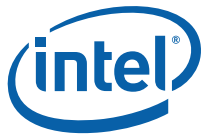


Intel[®] Core[™] i7-660UE, i7-620LE/UE, i7-610E, i5-520E, i3-330E and Intel[®] Celeron[®] Processor P4505, U3405 Series

Datasheet Addendum Specification Update

August 2010



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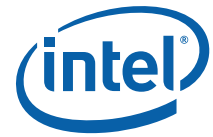
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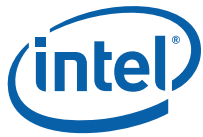
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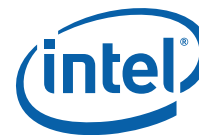
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Revision History

Version	Description	Date
001	Initial Release of this document.	January 2010
002	<ul style="list-style-type: none">Updated Component marking table with a corrected S-Spec value (SLBRZ)	January 2010
003	<ul style="list-style-type: none">Updated document with Intel® Celeron® Processor P4500, P4505 Series information	April 2010
004	<ul style="list-style-type: none">Updated document for the Intel® Core™ i7-660UE, i3-330E and Celeron® Processor U3405Removed all references to Celeron® Processor P4500 since it is a PGA package and does not relate to this document (was included by error in last revision).Updated Component Marking Table with Processor Numbers, new Stepping data and removed redundant data	August 2010



Preface

This document is an update to the specifications contained in the documents listed in the following Affected Documents table. It is a compilation of device and document errata and specification clarifications and changes, and is intended for hardware system manufacturers and for software developers of applications, operating system, and tools.

Information types defined in the Nomenclature section of this document are consolidated into this update document and are no longer published in other documents. This document may also contain information that has not been previously published.

Affected Documents

Document Title	Document Number
Intel® Core™ i7-660UE, i7-620LE/UE, i7-610E, i5-520E, i3-330E and Intel® Celeron® Processor P4505, U3405 Series Datasheet Addendum	323178

Nomenclature

Errata are design defects or errors. Errata may cause the Intel® Core™ i7-660UE, i7-620LE/UE, i7-610E, i5-520E, i3-330E and Intel® Celeron® P4505, U3405 Processor Series behavior to deviate from published specifications. Hardware and software designed to be used with any given stepping must assume that all errata documented for that stepping are present on all devices.

Specification Changes are modifications to the current published specifications. These changes will be incorporated in the next release of the specifications.

Specification Clarifications describe a specification in greater detail or further highlight a specification's impact to a complex design situation. These clarifications will be incorporated in the next release of the specifications.

Documentation Changes include typos, errors, or omissions from the current published specifications. These changes will be incorporated in the next release of the specifications.

Note: Errata remain in the specification update throughout the product's lifecycle, or until a particular stepping is no longer commercially available. Under these circumstances, errata removed from the specification update are archived and available upon request. Specification changes, specification clarifications and documentation changes are removed from the specification update when the appropriate changes are made to the appropriate product specification or user documentation (datasheets, manuals, etc.).





Summary Tables of Change

The following table indicates the Specification Changes, Errata, Specification Clarifications or Documentation Changes, which apply to the listed steppings. Intel intends to fix some of the errata in a future stepping of the component, and to account for the other outstanding issues through documentation or Specification Changes as noted. This table uses the following notations:

Codes Used in Summary Table

Stepping

- X: Erratum, Specification Change or Clarification that applies to this stepping.
- (No mark) or (Blank Box): This erratum is fixed in listed stepping or specification change does not apply to listed stepping.

Status

- Doc: Document change or update that will be implemented.
- Plan Fix: This erratum may be fixed in a future stepping of the product.
- Fixed: This erratum has been previously fixed.
- No Fix: There are no plans to fix this erratum.

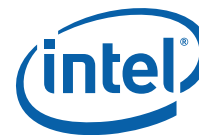
Row

Shaded:	This item is either new or modified from the previous version of the document.
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Number	Steppings			Plans	ERRATA
					There are no Errata in this Specification Update revision.

Number	SPECIFICATION CHANGES
	There are no Specification Changes in this Specification Update revision.

Number	SPECIFICATION CLARIFICATIONS
	There are no Specification Clarifications in this Specification Update revision.



Number	DOCUMENTATION CHANGES
	There are no Documentation Changes in this Specification Update revision.

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Identification Information

Component Identification via Programming Interface

The processor stepping can be identified by the following register contents:

Reserved	Extended Family ¹	Extended Model ²	Reserved	Processor Type ³	Family Code ⁴	Model Number ⁵	Stepping ID ⁶
31:28	27:20	19:16	15:14	13:12	11:8	7:4	3:0
	00000000b	0010b		00b	0110	0101b	xxxxb

Note:

- The Extended Family, Bits [27:20] are used in conjunction with the Family Code, specified in Bits [11:8], to indicate whether the processor belongs to the Intel386™, Intel486™, Pentium®, Pentium 4, or Intel® Core™ processor family.
- The Extended Model, Bits [19:16] in conjunction with the Model Number, specified in Bits [7:4], are used to identify the model of the processor within the processor's family.
- The Processor Type, specified in Bits [13:12] indicates whether the processor is an original OEM processor, or a dual processor (capable of being used in a dual processor system).
- The Family Code corresponds to Bits [11:8] of the EDX register after RESET, Bits [11:8] of the EAX register after the CPUID instruction is executed with a 1 in the EAX register, and the generation field of the Device ID register accessible through Boundary Scan.
- The Model Number corresponds to Bits [7:4] of the EDX register after RESET, Bits [7:4] of the EAX register after the CPUID instruction is executed with a 1 in the EAX register, and the model field of the Device ID register accessible through Boundary Scan.
- The Stepping ID in Bits [3:0] indicates the revision number of that model.

When EAX is initialized to a value of '1', the CPUID instruction returns the *Extended Family, Extended Model, Processor Type, Family Code, Model Number and Stepping ID* value in the EAX register. Note that the EDX processor signature value after reset is equivalent to the processor signature output value in the EAX register.

Cache and TLB descriptor parameters are provided in the EAX, EBX, ECX and EDX registers after the CPUID instruction is executed with a 2 in the EAX register.



Component Marking Information

Intel Core i7-660UE, i7-620LE/UE, i7-610E, i5-520E, i3-330E and Intel Celeron Processor P4505, U3405 Series stepping can be identified by the following component markings:

Figure 1. Intel® Core™ i7-660UE, i7-620LE/UE, i7-610E, i5-520E, i3-330E and Celeron P4505, U3405 Processor Series Top-side Markings (Example)

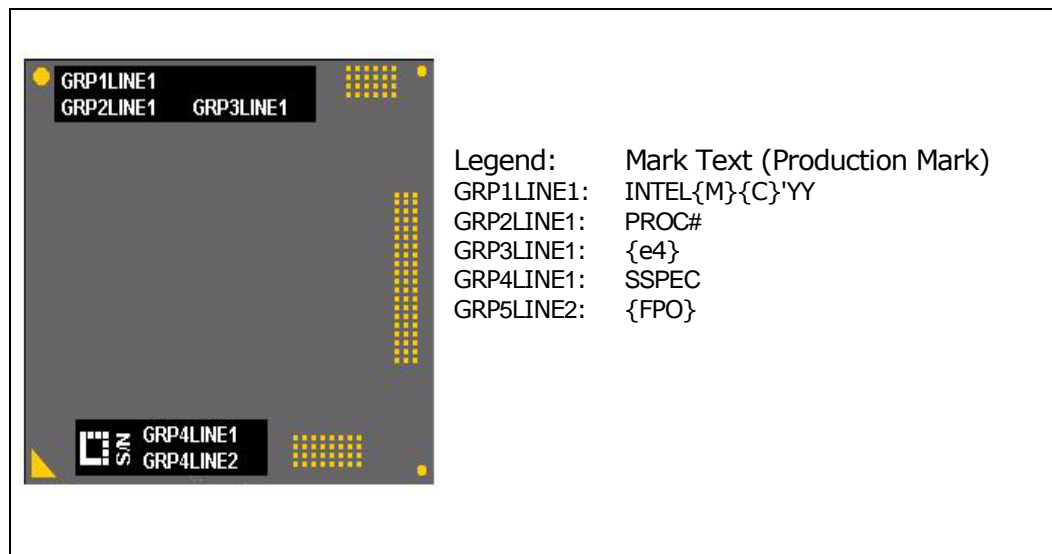


Table 1. Component Marking

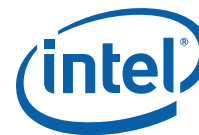
Product Number	SSPEC	Stepping	CPUID	Host Device ID	Host Revision ID	Core Frequency	MCP Thermal Power Limit (W)	Last Level Cache Size (MB)
i7-610E	SLBXX	K0	20655h	0044h	18h	2.53	35	4
i7-620LE	SLBXH	K0	20655h	0044h	18h	2.00	25	4
i7-660UE	SLBWV	K0	20655h	0044h	18h	1.33	18	4
i7-620UE	SLBXJ	K0	20655h	0044h	18h	1.06	18	4
i5-520E	SLBXX	K0	20655h	0044h	18h	2.4	35	3
i3-330E	SLBXW	K0	20655h	0044h	18h	2.13	35	3
P4505	SLBXG	K0	20655h	0044h	18h	1.86	35	2
U3405	SLBWX	K0	20655h	0044h	18h	1.07	18	2
i7-610E	SLBRZ	C2	20652h	0044h	12h	2.53	35	4
i7-620LE	SLBP9	C2	20652h	0044h	12h	2.00	25	4
i7-620UE	SLBPA	C2	20652h	0044h	12h	1.06	18	4
i5-520E	SLBP6	C2	20652h	0044h	12h	2.4	35	3
i3-330E	SLBQC	C2	20652h	0044h	12h	2.13	35	3
P4505	SLBQB	C2	20652h	0044h	12h	1.86	35	2



Errata

There are no Errata in this Specification Update revision.

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Specification Changes

There are no Specification Changes in this Specification Update revision.

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Specification Clarifications

There are no Specification Clarifications in this Specification Update revision.

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Documentation Changes

There are no Documentation Changes in this Specification Update revision.

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