

Intel Core i5-650 processor 3.2 GHz 4 MB Smart Cache

Brand : Intel

Product family: Core

Product code:
CM80616003174AH

Product name : i5-650



Intel® Core™ i5-650 Processor
(4M Cache, 3.20 GHz)

Intel Core i5-650. Processor family: Intel® Core™ i5, Processor socket: LGA 1156 (Socket H), Processor lithography: 32 nm. Memory channels: Dual-channel, Maximum internal memory supported by processor: 16 GB, Memory types supported by processor: DDR3-SDRAM. On-board graphics card model: Intel® HD Graphics, On-board graphics card base frequency: 733 MHz. Market segment: Desktop, PCI Express configurations: 1x16, 2x8, Number of Processing Die Transistors: 382 M. Package width: 81 mm, Package depth: 114 mm, Package height: 102 mm

Processor

Processor manufacturer *	Intel
Processor generation	Intel® Core™ i5
Processor model *	i5-650
Processor base frequency *	3.2 GHz
Processor family *	Intel® Core™ i5
Processor cores *	2
Processor socket *	LGA 1156 (Socket H)
Processor lithography *	32 nm
Processor series	Intel Core i5-600 Desktop Series
Processor threads	4
System bus rate	2.5 GT/s
Processor operating modes *	64-bit
Processor boost frequency	3.46 GHz
Processor cache	4 MB
Processor cache type	Smart Cache
Thermal Design Power (TDP)	73 W
Box *	✗
Cooler included *	✗
VID Voltage Range	0.65 - 1.4 V
Generation	6th Generation
Stepping	C2
Bus type	DMI
CPU multiplier (bus/core ratio)	24
Memory bandwidth supported by processor (max)	21 GB/s
Processor codename	Clarkdale
Processor code	SLBLK
Processor ARK ID	43546

Memory

Maximum internal memory supported by processor	16 GB
Memory types supported by processor	DDR3-SDRAM
Memory channels *	Dual-channel

Graphics

On-board graphics card *	✓
On-board graphics card model *	Intel® HD Graphics
On-board graphics card base frequency	733 MHz
Number of displays supported (on-board graphics)	2

Features

Physical Address Extension (PAE)	36 bit
PCI Express CEM revision	2.0
Export Control Classification Number (ECCN)	5A992C
Commodity Classification Automated Tracking System (CCATS)	G077159

Processor special features

Intel® Hyper Threading Technology (Intel® HT Technology)	✓
Intel® Turbo Boost Technology	1.0
Intel FDI Technology	✓
Intel® Clear Video HD Technology (Intel® CVT HD)	✓
Intel Dual Display Capable Technology	✓
Intel® AES New Instructions (Intel® AES-NI)	✓
Enhanced Intel SpeedStep Technology	✓
Intel Trusted Execution Technology	✓
Intel Enhanced Halt State	✓
Intel VT-x with Extended Page Tables (EPT)	✓
Intel Demand Based Switching	✗
Intel 64	✓
Intel Virtualization Technology (VT-x)	✓
Intel Virtualization Technology for Directed I/O (VT-d)	✓
Conflict-Free processor	✗
Intel® vPro™ Platform Eligibility	✓

Operational conditions

Maximum operating temperature	72.6 °C
Tcase	72.6 °C

Technical details

Bus bandwidth	2.5
Bus type units	GT/s
Launch date	Q1'10
Processor cache	4096 KB
Product type	Processor
Status	Discontinued

Features		Technical details	
Execute Disable Bit	✓	Maximum memory	16.38 GB
Idle States	✓	Processor brand name	Intel Core i5 vPro
Thermal Monitoring Technologies	✗	Supported memory types	DDR3-SDRAM
Market segment	Desktop	Last change	63903513
Maximum number of PCI Express lanes	16	Product family	Previous Generation Intel Core i5 Processor
PCI Express slots version	2.0	Bus speed	2.5 GT/s
PCI Express configurations	1x16, 2x8	Logistics data	
Number of Processing Die Transistors	382 M	Harmonized System (HS) code	8542310001
Processing Die size	81 mm ²	Packaging data	
Number of Graphics & IMC Die Transistors	177 M	Package width	81 mm
Graphics & IMC Die Size	114 mm ²	Package depth	114 mm
Supported instruction sets	SSE4.2	Package height	102 mm
CPU configuration (max)	1	Package weight	338 g
Embedded options available	✗	Package type	Retail box
Graphics & IMC lithography	45 nm	Weight & dimensions	
		Processor package size	37.5 x 37.5 mm
		Other features	
		Maximum internal memory	16.38 GB
		Maximum internal memory	16777 MB



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