

AMD Phenom II X6 1090T specifications

General information

Type	CPU / Microprocessor
Market segment	Desktop
Family	AMD Phenom II X6
Model number ?	1090T
CPU part numbers	HDT90ZFBK6DGR is an OEM/tray microprocessor <ul style="list-style-type: none">HDT90ZFBGRBOX is a boxed microprocessor with fan and heatsink
Stepping codes	ACBBE CB CCBBE CB
Frequency ?	3200 MHz
Maximum turbo frequency	3600 MHz (3 cores or less)
Bus speed ?	667 MHz Memory controller One 2000 MHz 16-bit HyperTransport link (4 GT/s)
Clock multiplier ?	16
Package	938-pin organic micro-PGA
Socket	Socket AM3
Weight	1.3oz / 38.1g (CPU) 11b 1.1oz / 484.2g (box)
Fan/heatsink	AV-Z7UH40Q001-5009
Introduction date	April 27, 2010
Price at introduction	\$295
Architecture / Microarchitecture	
Microarchitecture	K10
Platform	Leo
Processor core ?	Thuban
Core stepping ?	PH-E0
CPUID	100FA0
Manufacturing process	0.045 micron silicon-on-insulator (SOI) technology
Die	346mm ²
Data width	64 bit
The number of CPU cores	6
The number of threads	6
Floating Point Unit	Integrated
Level 1 cache size ?	6 x 64 KB 2-way set associative instruction caches 6 x 64 KB 2-way set associative data caches
Level 2 cache size ?	6 x 512 KB 16-way set associative exclusive caches
Level 3 cache size	Shared 6 MB 48-way set associative cache
Cache latency ^[1]	3 (L1 cache) 14 (L2 cache) 53 (L3 cache)
Multiprocessing	Uniprocessor
Extensions and Technologies	<ul style="list-style-type: none">MMX instructionsExtensions to MMX3DNow! technologyExtensions to 3DNow!SSE / Streaming SIMD ExtensionsSSE2 / Streaming SIMD Extensions 2SSE3 / Streaming SIMD Extensions 3SSE4a ?AMD64 / AMD 64-bit technology ?EVP / Enhanced Virus Protection ?AMD-V / AMD Virtualization technologyTurbo Core technology
Low power features	<ul style="list-style-type: none">Cool'n'Quiet 3.0

- Core C1 and C1E states
- Package S0, S1, S3, S4 and S5 states

Integrated peripherals / components

Integrated graphics	None
Memory controller	The number of controllers: 1 Memory channels: 2 Channel width (bits): 72 Supported memory: DDR2-1066, DDR3-1333 DIMMs per channel: up to 2 Maximum memory bandwidth (GB/s): 21.3
Other peripherals	HyperTransport 3 technology

Electrical / Thermal parameters

V core ?	1.15V - 1.475V (at rated frequency) 1.25V - 1.475V (Turbo Core mode) 1V - 1.225V (Minimum performance state)
V NorthBridge	1.05V - 1.175V
Maximum operating temperature ?	55°C - 62°C
Thermal Design Power ?	125 Watt

Notes on AMD Phenom II X6 1090T

- The processor has unlocked clock multiplier
- On socket AM2+/AM3 platforms in the minimum performance state the processor runs at 800 MHz core voltage and has TDP 53.1 Watt

[1] - These characteristics were measured on a single CPU, and they can vary slightly for other processors with the same model number