

Intel® Core™ i9-13900KF Processor

[intel ark.intel.com/content/www/us/en/ark/products/230497/intel-core-i913900kf-processor-36m-cache-up-to-5-80-ghz.html](https://ark.intel.com/content/www/us/en/ark/products/230497/intel-core-i913900kf-processor-36m-cache-up-to-5-80-ghz.html)

36M Cache, up to 5.80 GHz



Essentials

- Product Collection 13th Generation Intel® Core™ i9 Processors
- Processor Number i9-13900KF

CPU Specifications

- Total Cores 24
- # of Performance-cores 8
- # of Efficient-cores 16
- Total Threads 32
- Max Turbo Frequency 5.80 GHz
- Intel® Thermal Velocity Boost Frequency 5.80 GHz
- Intel® Turbo Boost Max Technology 3.0 Frequency [‡] 5.70 GHz
- Performance-core Max Turbo Frequency 5.40 GHz
- Efficient-core Max Turbo Frequency 4.30 GHz
- Performance-core Base Frequency 3.00 GHz
- Efficient-core Base Frequency 2.20 GHz
- Cache 36 MB Intel® Smart Cache
- Total L2 Cache 32 MB
- Processor Base Power 125 W
- Maximum Turbo Power 253 W

Memory Specifications

- Max Memory Size (dependent on memory type) 128 GB
- Memory Types Up to DDR5 5600 MT/s
Up to DDR4 3200 MT/s
- Max # of Memory Channels 2
- Max Memory Bandwidth 89.6 GB/s

Expansion Options

- Direct Media Interface (DMI) Revision 4.0
- Max # of DMI Lanes 8
- Scalability 1S Only
- PCI Express Revision 5.0 and 4.0
- PCI Express Configurations [‡] Up to 1x16+4, 2x8+4
- Max # of PCI Express Lanes 20
- Sockets Supported FCLGA1700

Advanced Technologies

- Intel® Gaussian & Neural Accelerator 3.0
- Intel® Thread Director Yes
- Intel® Deep Learning Boost (Intel® DL Boost) Yes
- Intel® Speed Shift Technology Yes
- Intel® Thermal Velocity Boost Yes
- Intel® Turbo Boost Max Technology 3.0 [‡] Yes
- Intel® Turbo Boost Technology [‡] 2.0
- Intel® Hyper-Threading Technology [‡] Yes
- Intel® 64 [‡] Yes
- Instruction Set 64-bit
- Instruction Set Extensions Intel® SSE4.1, Intel® SSE4.2, Intel® AVX2
- Idle States Yes
- Enhanced Intel SpeedStep® Technology Yes
- Thermal Monitoring Technologies Yes
- Intel® Volume Management Device (VMD) Yes

Security & Reliability

- Intel® Standard Manageability (ISM) [‡] Yes
- Intel® Control-Flow Enforcement Technology Yes
- Intel® AES New Instructions Yes
- Secure Key Yes
- Intel® OS Guard Yes
- Execute Disable Bit [‡] Yes
- Intel® Boot Guard Yes
- Mode-based Execute Control (MBEC) Yes
- Intel® Virtualization Technology (VT-x) [‡] Yes
- Intel® Virtualization Technology for Directed I/O (VT-d) [‡] Yes
- Intel® VT-x with Extended Page Tables (EPT) [‡] Yes