



HP Intel Core i9-13900 processor 36 MB Smart Cache

Brand : HP

Product code: 7A1Q9AV

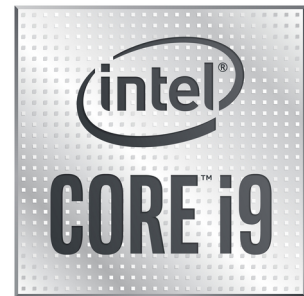
Product name : Intel Core i9-13900

Intel Core i9-13900 Processor 36M Cache, up to 5.60 GHz

[HP Intel Core i9-13900 processor 36 MB Smart Cache:](#)

Options, accessories, services and support for all your HP and Compaq products.

HP Intel Core i9-13900. Processor family: Intel® Core™ i9, Processor socket: LGA 1700, Processor manufacturer: Intel. Memory channels: Dual-channel, Maximum internal memory supported by processor: 192 GB, Memory types supported by processor: DDR4-SDRAM, DDR5-SDRAM. On-board graphics card model: Intel UHD Graphics 770, On-board graphics card outputs supported: Embedded DisplayPort (eDP) 1.4b, DisplayPort 1.4a, HDMI 2.1, On-board graphics card base frequency: 300 MHz. Market segment: Desktop, Use conditions: PC/Client/Tablet, Workstation, PCI Express slots version: 5.0, 4.0. Intel® Turbo Boost Max Technology 3.0 frequency: 5.5 GHz, Intel® Thermal Velocity Boost Frequency: 5.6 GHz



Processor		Features	
Processor manufacturer *	Intel	Export Control Classification Number (ECCN)	5A992C
Processor generation	13th gen Intel® Core™ i9	Commodity Classification Automated Tracking System (CCATS)	740.17B1
Processor model *	i9-13900	Processor special features	
Processor family *	Intel® Core™ i9	Intel® Hyper Threading Technology (Intel® HT Technology)	✓
Processor cores *	24	Intel® Turbo Boost Technology	2.0
Processor socket *	LGA 1700	Intel® Quick Sync Video Technology	✓
Processor threads	32	Intel® Clear Video HD Technology (Intel® CVT HD)	✓
Processor operating modes *	64-bit	Intel® AES New Instructions (Intel® AES-NI)	✓
Performance cores	8	Enhanced Intel SpeedStep Technology	✓
Efficient cores	16	Intel Trusted Execution Technology	✓
Processor boost frequency	5.6 GHz	Intel® Speed Shift Technology	✓
Performance-core boost frequency	5.2 GHz	Intel® Thermal Velocity Boost	✓
Performance-core base frequency	2 GHz	Intel® Adaptive Boost Technology	✓
Efficient-core boost frequency	4.2 GHz	Intel® Turbo Boost Max Technology 3.0 frequency	5.5 GHz
Efficient-core base frequency	1.5 GHz	Intel® Gaussian & Neural Accelerator (Intel® GNA) 3.0	✓
Processor cache	36 MB	Intel® Thermal Velocity Boost Frequency	5.6 GHz
Processor cache type	Smart Cache	Intel® Control-flow Enforcement Technology (CET)	✓
Processor base power	65 W	Intel® Thread Director	✓
Maximum turbo power	219 W	Intel VT-x with Extended Page Tables (EPT)	✓
Bus type	DMI4	Intel® Secure Key	✓
Maximum number of DMI lanes	8	Intel® Active Management Technology (Intel® AMT)	✓
Memory bandwidth supported by processor (max)	89.6 GB/s	Intel Stable Image Platform Program (SIPP)	✓
Processor codename	Raptor Lake	Intel® OS Guard	✓
Processor ARK ID	230499	Intel 64	✓
Memory		Intel Virtualization Technology (VT-x)	✓
Maximum internal memory supported by processor	192 GB		
Memory types supported by processor	DDR4-SDRAM, DDR5-SDRAM		
Memory channels *	Dual-channel		
ECC	✓		
Memory bandwidth (max)	89.6 GB/s		
Graphics			
On-board graphics card *	✓		
Discrete graphics card *	✗		
On-board graphics card model *	Intel UHD Graphics 770		

Graphics		Processor special features	
On-board graphics card outputs supported	Embedded DisplayPort (eDP) 1.4b, DisplayPort 1.4a, HDMI 2.1	Intel Virtualization Technology for Directed I/O (VT-d)	✓
On-board graphics card base frequency	300 MHz	Intel Turbo Boost Max Technology 3.0	✓
On-board graphics card dynamic frequency (max)	1650 MHz	Intel® Boot Guard	✓
Number of displays supported (on-board graphics)	4	Intel® Deep Learning Boost (Intel® DL Boost) on CPU	✓
On-board graphics card DirectX version	12.0	Intel® Volume Management Device (VMD)	✓
On-board graphics card OpenGL version	4.5	Mode-based Execute Control (MBE)	✓
On-board graphics card maximum resolution (DisplayPort)	7680 x 4320 pixels	Intel® vPro™ Platform Eligibility	✓
On-board graphics card maximum resolution (eDP - Integrated Flat Panel)	5120 x 3200 pixels	Intel® Standard Manageability (ISM)	✓
On-board graphics card maximum resolution (HDMI)	4096 x 2160 pixels	Intel® One-Click Recovery	✓
On-board graphics card refresh rate at maximum resolution (DisplayPort)	60 Hz	Intel® Remote Platform Erase (RPE)	✓
On-board graphics card refresh rate at maximum resolution (eDP - Integrated Flat Panel)	120 Hz	Intel® Virtualization Technology with Redirect Protection (VT-rp)	✓
On-board graphics card refresh rate at maximum resolution (HDMI)	60 Hz	Intel vPro® Enterprise Platform Eligibility	✓
On-board graphics card ID	0xA780	Intel® Threat Detection Technology (TDT)	✓
Discrete graphics card model *	Not available	Intel® Hardware Shield Eligibility	✓
Number of execution units	32	Intel® Total Memory Encryption - Multi Key	✓
Multi-Format Codec Engines	2	Intel vPro® Essentials Platform Eligibility	✓
Features		Operational conditions	
Execute Disable Bit	✓	Tjunction	100 °C
Idle States	✓	Technical details	
Thermal Monitoring Technologies	✓	Target market	Gaming, Content Creation
Market segment	Desktop	OpenCL version	3.0
Use conditions	PC/Client/Tablet, Workstation	Launch date	Q1'23
Maximum number of PCI Express lanes	20	Status	Launched
PCI Express slots version	5.0, 4.0	Logistics data	
PCI Express configurations	1x16+1x4, 2x8+1x4	Harmonized System (HS) code	8542310001
Supported instruction sets	SSE4.1, SSE4.2, AVX 2.0	Other features	
Scalability	1S	L2 cache	32768 KB
CPU configuration (max)	1	Maximum internal memory	192 GB
Embedded options available	✓	Graphics output	eDP 1.4b, DP 1.4a, HDMI 2.1
Direct Media Interface (DMI) Revision	4.0		

Disclaimer. The information published here (the "Information") is based on sources that can be considered reliable, typically the manufacturer, but this Information is provided "AS IS" and without guarantee of correctness or completeness. The Information is only indicative and can be changed at any time without notification. No rights can be based on the Information. Suppliers or aggregators of this Information do not accept any liability with regard to the content of (web)pages and other documents, including its Information. The publisher of the Information can not be held liable for the content of 3rd party websites that are linking this Information or are linked to from this Information. You as the User of the Information are solely responsible for the choice and usage of this Information. You are not entitled to transfer, copy or otherwise multiply or distribute the Information. You are obliged to follow the directions of the copyright owner(s) with regard to the use of the Information. Exclusively Dutch law is applicable. With regard to price and stock data on the site, the publisher followed a number of starting points, which are not necessarily relevant for your private or business circumstances. Therefore, the price and stock data are only indicative and are subject to changes. You are personally responsible for the way you use and apply this information. As a user of the Information or sites or documents in which this Information is included, you will adhere to standard fair use including avoidance of spamming, ripping, intellectual-property violations, privacy violations, and any other illegal activity. Automated scraping, data mining, or harvesting for the purpose of training machine learning models, neural networks, or artificial intelligence systems is strictly prohibited without a commercial license.