Intel Core i7-12700K processor 25 MB Smart Cache

Brand : Intel

Product family: Core

Product code: CM8071504553828

Product name : Intel® Core™ i7-12700K Processor (25M Cache, up to 5.00 GHz)

Intel® Core™ i7-12700K Processor (25M Cache, up to 5.00 GHz)
Intel Core i7-12700K. Processor family: Intel® Core™ i7, Processor socket: LGA 1700, Processor manufacturer: Intel. Memory channels: Dual-channel, Maximum internal memory supported by processor: 128 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 GHz

Processor

Processor manufacturer *	Intel
Processor generation	12th gen Intel® Core™ i7
Processor model *	i7-12700K
Processor family *	Intel® Core™ i7
Processor cores *	12
Processor socket *	LGA 1700
Component for	PC
Processor threads	20
Processor operating modes *	64-bit
Performance cores	8
Efficient cores	4
Processor boost frequency	5 GHz
Performance-core boost frequency	4.9 GHz
Performance-core base frequency	3.6 GHz
Efficient-core boost frequency	3.8 GHz
Efficient-core base frequency	2.7 GHz
Processor cache	25 MB
Processor cache type	Smart Cache
Box *	✘
Processor base power	125 W
Maximum turbo power	190 W
Bus type	DMI4
Maximum number of DMI lanes	8
Memory bandwidth supported by processor (max)	76.8 GB/s
Processor codename	Alder Lake
Processor ARK ID	134594

Memory

Maximum internal memory supported by processor	128 GB
Memory types supported by processor	DDR4-SDRAM, DDR5-SDRAM
Memory channels *	Dual-channel
ECC	✔
Memory bandwidth (max)	76.8 GB/s

Graphics

On-board graphics card *	✔
Discrete graphics card *	✘
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

Features

Thermal solution specification	PCG 2020A
Direct Media Interface (DMI) Revision	4.0
Export Control Classification Number (ECCN)	5A992CN3
Commodity Classification Automated Tracking System (CCATS)	G167599

Processor special features

Intel® Hyper Threading Technology (Intel® HT Technology)	✔
Intel® Turbo Boost Technology	2.0
Intel® Quick Sync Video Technology	✔
Intel® Clear Video HD Technology (Intel® CVT HD)	✔
Intel® AES New Instructions (Intel® AES-NI)	✔
Enhanced Intel SpeedStep Technology	✔
Intel Trusted Execution Technology	✔
Intel® Speed Shift Technology	✔
Intel® Turbo Boost Max Technology 3.0 frequency	5 GHz
Intel® Total Memory Encryption	✔
Intel® Gaussian & Neural Accelerator (Intel® GNA) 3.0	✔
Intel® Control-flow Enforcement Technology (CET)	✔
Intel® Thread Director	✔
Intel VT-x with Extended Page Tables (EPT)	✔
Intel® Secure Key	✔
Intel® Active Management Technology (Intel® AMT)	✔
Intel Stable Image Platform Program (SIPP)	✔
Intel® OS Guard	✔
Intel 64	✔
Intel Virtualization Technology (VT-x)	✔
Intel Virtualization Technology for Directed I/O (VT-d)	✔
Intel Turbo Boost Max Technology 3.0	✔
Intel® Optane™ Memory Ready	✔

Graphics

On-board graphics card base frequency	300 MHz
On-board graphics card dynamic frequency (max)	1500 MHz
Number of displays supported (on-board graphics)	4
On-board graphics card DirectX version	12.0
On-board graphics card OpenGL version	4.5
On-board graphics card maximum resolution (DisplayPort)	7680 x 4320 pixels
On-board graphics card maximum resolution (eDP - Integrated Flat Panel)	5120 x 3200 pixels
On-board graphics card maximum resolution (HDMI)	4096 x 2160 pixels
On-board graphics card refresh rate at maximum resolution (DisplayPort)	60 Hz
On-board graphics card refresh rate at maximum resolution (eDP - Integrated Flat Panel)	120 Hz
On-board graphics card refresh rate at maximum resolution (HDMI)	60 Hz
On-board graphics card ID	0x4680
Discrete graphics card model *	Not available
Number of execution units	32
Multi-Format Codec Engines	2

Features

Execute Disable Bit	✔
Idle States	✔
Thermal Monitoring Technologies	✔
Market segment	Desktop
Use conditions	PC/Client/Tablet, Workstation
Maximum number of PCI Express lanes	20
PCI Express slots version	5.0, 4.0
PCI Express configurations	1x16+1x4, 2x8+1x4
Supported instruction sets	SSE4.1, SSE4.2, AVX 2.0
Scalability	1S
CPU configuration (max)	1
Embedded options available	✘

Processor special features

Intel® Boot Guard	✔
Intel® Deep Learning Boost (Intel® DL Boost)	✔
Intel® Volume Management Device (VMD)	✔
Mode-based Execute Control (MBE)	✔
Intel® vPro™ Platform Eligibility	✔
Intel® Standard Manageability (ISM)	✔
Intel® One-Click Recovery	✔
Intel® Virtualization Technology with Redirect Protection (VT-rp)	✔
Intel vPro® Enterprise Platform Eligibility	✔
Intel® Threat Detection Technology (TDT)	✔
Intel® Hardware Shield Eligibility	✔
Intel® Total Memory Encryption - Multi Key	✔

Operational conditions

Tjunction	100 °C

Technical details

Target market	Gaming, Content Creation
OpenCL version	2.1
Launch date	Q4'21
Status	Launched

Logistics data

Harmonized System (HS) code	85423119

Packaging data

Package type	Retail box

Weight & dimensions

Processor package size	45 x 37.5 mm

Other features

Maximum internal memory	128 GB
Graphics output	eDP 1.4b, DP 1.4a, HDMI 2.1

5054444437309

8592978349677

5415247287490