Intel Core i7-12700F processor 25 MB Smart Cache

Brand : Intel

Product family: Core

Product code:
CM8071504555020

Product name : i7-12700F

Intel® Core™ i7-12700F Processor (25M Cache, up to 4.90 GHz) FC-LGA16A, Tray
Intel Core i7-12700F. 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. Market segment: Desktop, Use conditions: PC/Client/Tablet, PCI Express slots version: 5.0, 4.0. Intel® Turbo Boost Max Technology 3.0 frequency: 4.9 GHz. Package type: Retail box

Processor

Processor manufacturer *	Intel
Processor generation	12th gen Intel® Core™ i7
Processor model *	i7-12700F
Processor family *	Intel® Core™ i7
Processor cores *	12
Processor socket *	LGA 1700
Processor threads	20
Processor operating modes *	64-bit
Performance cores	8
Efficient cores	4
Processor boost frequency	4.9 GHz
Performance-core boost frequency	4.8 GHz
Performance-core base frequency	2.1 GHz
Efficient-core boost frequency	3.6 GHz
Efficient-core base frequency	1.6 GHz
Processor cache	25 MB
Processor cache type	Smart Cache
Box *	✘
Processor base power	65 W
Maximum turbo power	180 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	134592

Memory

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

Graphics

On-board graphics card *	✘
Discrete graphics card *	✘
On-board graphics card model *	Not available
Discrete graphics card model *	Not available

Features

Execute Disable Bit	✔
Idle States	✔
Thermal Monitoring Technologies	✔
Market segment	Desktop

Features

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® AES New Instructions (Intel® AES-NI)	✔
Enhanced Intel SpeedStep Technology	✔
Intel® Speed Shift Technology	✔
Intel® Turbo Boost Max Technology 3.0 frequency	4.9 GHz
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® 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	✔
Intel® Boot Guard	✔
Intel® Deep Learning Boost (Intel® DL Boost)	✔
Intel® Volume Management Device (VMD)	✔
Mode-based Execute Control (MBE)	✔
Intel® Standard Manageability (ISM)	✔

Operational conditions

Tjunction	100 °C

Logistics data

Harmonized System (HS) code	85423119

Features

Use conditions	PC/Client/Tablet
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	✘

Packaging data

Package type	Retail box

Technical details

Target market	Gaming, Content Creation
Launch date	Q1'22
Status	Launched

Weight & dimensions

Processor package size	45 x 37.5 mm

Other features

Maximum internal memory	128 GB

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