

## Intel Core i7-12700KF processor 25 MB Smart Cache

**Brand :** Intel

**Product family:** Core

**Product code:**  
CM8071504553829

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



Intel® Core™ i7-12700KF Processor (25M Cache, up to 5.00 GHz)

Intel Core i7-12700KF. 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: 5 GHz. Package type: Retail box

Processor		Features	
Processor manufacturer *	Intel	Direct Media Interface (DMI) Revision	4.0
Processor generation	12th gen Intel® Core™ i7	Export Control Classification Number (ECCN)	5A992CN3
Processor model *	i7-12700KF	Commodity Classification Automated Tracking System (CCATS)	G167599
Processor family *	Intel® Core™ i7	<b>Processor special features</b>	
Processor cores *	12	Intel® Hyper Threading Technology (Intel® HT Technology)	✓
Processor socket *	LGA 1700	Intel® Turbo Boost Technology	2.0
Component for	PC	Intel® AES New Instructions (Intel® AES-NI)	✓
Processor threads	20	Enhanced Intel SpeedStep Technology	✓
Processor operating modes *	64-bit	Intel® Speed Shift Technology	✓
Performance cores	8	Intel® Turbo Boost Max Technology 3.0 frequency	5 GHz
Efficient cores	4	Intel® Gaussian & Neural Accelerator (Intel® GNA) 3.0	✓
Processor boost frequency	5 GHz	Intel® Control-flow Enforcement Technology (CET)	✓
Performance-core boost frequency	4.9 GHz	Intel® Thread Director	✓
Performance-core base frequency	3.6 GHz	Intel VT-x with Extended Page Tables (EPT)	✓
Efficient-core boost frequency	3.8 GHz	Intel® Secure Key	✓
Efficient-core base frequency	2.7 GHz	Intel® OS Guard	✓
Processor cache	25 MB	Intel 64	✓
Processor cache type	Smart Cache	Intel Virtualization Technology (VT-x)	✓
Box *	✗	Intel Virtualization Technology for Directed I/O (VT-d)	✓
Processor base power	125 W	Intel Turbo Boost Max Technology 3.0	✓
Maximum turbo power	190 W	Intel® Optane™ Memory Ready	✓
Bus type	DMI4	Intel® Boot Guard	✓
Maximum number of DMI lanes	8	Intel® Deep Learning Boost (Intel® DL Boost)	✓
Memory bandwidth supported by processor (max)	76.8 GB/s	Intel® Volume Management Device (VMD)	✓
Processor codename	Alder Lake	Mode-based Execute Control (MBE)	✓
Processor ARK ID	134595	Intel® Standard Manageability (ISM)	✓
<b>Memory</b>		<b>Operational conditions</b>	
Maximum internal memory supported by processor	128 GB	Tjunction	100 °C
Memory types supported by processor	DDR4-SDRAM, DDR5-SDRAM		
Memory channels *	Dual-channel		
Memory bandwidth (max)	76.8 GB/s		
<b>Graphics</b>			
On-board graphics card *	✗		
Discrete graphics card *	✗		
Discrete graphics card model *	Not available		
<b>Features</b>			
Execute Disable Bit	✓		
Idle States	✓		
Thermal Monitoring Technologies	✓		

Features		Logistics data	
Market segment	Desktop	Harmonized System (HS) code	85423119
Use conditions	PC/Client/Tablet	<b>Packaging data</b>	
Maximum number of PCI Express lanes	20	Package type	Retail box
PCI Express slots version	5.0, 4.0	<b>Technical details</b>	
PCI Express configurations	1x16+1x4, 2x8+1x4	Target market	Gaming, Content Creation
Supported instruction sets	SSE4.1, SSE4.2, AVX 2.0	Launch date	Q4'21
Scalability	1S	Status	Launched
CPU configuration (max)	1	<b>Weight &amp; dimensions</b>	
Embedded options available	✘	Processor package size	45 x 37.5 mm
Thermal solution specification	PCG 2020A	<b>Other features</b>	
		Maximum internal memory	128 GB



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