

## Intel Core i9-12900F processor 30 MB Smart Cache Box

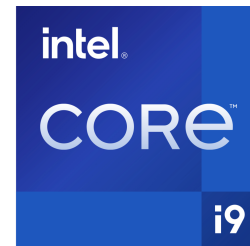
Brand : Intel

Product family: Core

Product code: BX8071512900F

Product name : i9-12900F

Boxed Intel® Core™ i9-12900F Processor (30M Cache, up to 5.10 GHz) FC-LGA16A  
 Intel Core i9-12900F. Processor family: Intel® Core™ i9, 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: 4.0, 5.0. Intel® Turbo Boost Max Technology 3.0 frequency: 5.1 GHz. Package type: Retail box



Processor		Features	
Processor manufacturer *	Intel	Direct Media Interface (DMI) Revision	4.0
Processor generation	12th gen Intel® Core™ i9	Export Control Classification Number (ECCN)	5A992CN3
Processor model *	i9-12900F	Commodity Classification Automated Tracking System (CCATS)	G167599
Processor family *	Intel® Core™ i9	<b>Processor special features</b>	
Processor cores *	16	Intel® Hyper Threading Technology (Intel® HT Technology)	✓
Processor socket *	LGA 1700	Intel® Turbo Boost Technology	2.0
Processor threads	24	Intel® AES New Instructions (Intel® AES-NI)	✓
Processor operating modes *	64-bit	Enhanced Intel SpeedStep Technology	✓
Performance cores	8	Intel® Speed Shift Technology	✓
Efficient cores	8	Intel® Turbo Boost Max Technology 3.0 frequency	5.1 GHz
Processor boost frequency	5.1 GHz	Intel® Gaussian & Neural Accelerator (Intel® GNA) 3.0	✓
Performance-core boost frequency	5 GHz	Intel® Control-flow Enforcement Technology (CET)	✓
Performance-core base frequency	2.4 GHz	Intel® Thread Director	✓
Efficient-core boost frequency	3.8 GHz	Intel VT-x with Extended Page Tables (EPT)	✓
Efficient-core base frequency	1.8 GHz	Intel® Secure Key	✓
Processor cache	30 MB	Intel® OS Guard	✓
Processor cache type	Smart Cache	Intel 64	✓
Box *	✓	Intel Virtualization Technology (VT-x)	✓
Processor base power	65 W	Intel Virtualization Technology for Directed I/O (VT-d)	✓
Maximum turbo power	202 W	Intel Turbo Boost Max Technology 3.0	✓
Stepping	C0	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	134598	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 *	✗		
On-board graphics card model *	Not available		
Discrete graphics card model *	Not available		
<b>Features</b>			
Execute Disable Bit	✓		
Idle States	✓		

Features		Logistics data	
Thermal Monitoring Technologies	✓	Harmonized System (HS) code	85423119
Market segment	Desktop	Packaging data	
Use conditions	PC/Client/Tablet	Package type	Retail box
Maximum number of PCI Express lanes	20	Technical details	
PCI Express slots version	4.0, 5.0	Target market	Gaming, Content Creation
PCI Express configurations	1x16+1x4, 2x8+1x4	Launch date	Q1'22
Supported instruction sets	SSE4.1, SSE4.2, AVX 2.0	Status	Launched
Scalability	1S	Weight & dimensions	
CPU configuration (max)	1	Processor package size	45 x 37.5 mm
Embedded options available	✗	Other features	
		Maximum internal memory	128 GB



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