

Intel Core Ultra 9 285K processor



Artikel	405206
Herstellernummer	BX80768285K
EAN	5032037281928
Intel	

Zusammenfassung

Intel Core Ultra 9 285K, Intel Core Ultra 9, LGA 1851 (Socket V1), Box, Intel, 285K, 64-bit

Intel Core Ultra 9 285K. Processor family: Intel Core Ultra 9, Processor socket: LGA 1851 (Socket V1), Package type: Box. Neural processor unit (NPU): Intel AI Boost, AI software frameworks supported by NPU: DirectML, OpenVINO, Windows ML, ONNX RT, WebNN, Total processor performance up to: 36 TOPs. Memory channels: Dual-channel, Maximum internal memory supported by processor: 192 GB, Memory types supported by processor: DDR5-SDRAM. On-board graphics card model: Intel Graphics, On-board graphics card outputs supported: HDMI 2.1, Embedded DisplayPort (eDP) 1.4b, DisplayPort 2.1, On-board graphics card base frequency: 300 MHz. Market segment: Desktop, Use conditions: Workstation, PC/Client/Tablet, PCI Express slots version: 4.0, 5.0

Merkmale

Logistics data

Harmonized System (HS) code	8542310050
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Operational conditions

Maximum operating temperature	105 °C
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Other features

L2 cache	40960 KB
Maximum internal memory	192 GB

Neural processor unit (NPU)

Neural processor unit (NPU)	Intel AI Boost
Sparsity support	Yes
Windows Studio effects support	Yes
AI software frameworks supported by NPU	DirectML, OpenVINO, Windows ML, ONNX RT, WebNN
Total processor performance up to	36 TOPs
NPU performance up to	13 TOPs
GPU performance up to	8 TOPs

Features

Execute Disable Bit	Yes
Idle States	Yes
Thermal Monitoring Technologies	Yes

Graphics output	DP2.1 UHBR20, HDMI 2.1 FRL 12GHz, eDP1.4b
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Technical details

OpenCL version	3.0
Launch date	Q4'24
Status	Launched
Memory speed (max)	6400 MHz

Memory

Maximum internal memory supported by processor	192 GB
Memory types supported by processor	DDR5-SDRAM
Memory clock speeds supported by processor	6400 MHz
Memory channels	Dual-channel
ECC	Yes

Market segment	Desktop
Use conditions	Workstation, PC/Client/Tablet
Maximum number of PCI Express24 lanes	
PCI Express slots version	4.0, 5.0
Supported instruction sets	AVX 2.0, SSE4.1, SSE4.2
Scalability	1S
Embedded options available	No
Thermal solution specification	PCG 2020A
Direct Media Interface (DMI) Revision	4.0
Export Control Classification Number (ECCN)	5A992C
Commodity Classification	740.17B1
Automated Tracking System (CCATS)	

Graphics

On-board graphics card	Yes
Discrete graphics card	No
On-board graphics card model	Intel Graphics
On-board graphics card outputs supported	HDMI 2.1, Embedded DisplayPort (eDP) 1.4b, DisplayPort 2.1
On-board graphics card base frequency	300 MHz
On-board graphics card dynamic frequency (max)	2000 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 refresh rate at maximum resolution (DisplayPort)	60 Hz
On-board graphics card refresh rate at maximum resolution (eDP - Integrated Flat Panel)	60 Hz
On-board graphics card refresh rate at maximum resolution (HDMI)	60 Hz
On-board graphics card ID	0x7D67
Discrete graphics card model	Not available
Xe-cores	4

Processor

Processor manufacturer	Intel
Processor generation	Intel Core Ultra (Series 2)
Processor model	285K
Processor family	Intel Core Ultra 9
Processor cores	24
Processor socket	LGA 1851 (Socket V1)
Processor threads	24
Processor operating modes	64-bit
Performance cores	8
Efficient cores	16
Processor boost frequency	5.7 GHz
Performance-core boost frequency	5.5 GHz

Performance-core base frequency	3.7 GHz
Efficient-core boost frequency	4.6 GHz
Efficient-core base frequency	3.2 GHz
Processor cache	36 MB
Processor cache type	Smart Cache
Package type	Box
Cooler included	No
Processor base power	125 W
Maximum turbo power	250 W
AI software frameworks supported by CPU	DirectML, OpenVINO, Windows ML, ONNX RT, WebNN
Stepping	B0
Maximum number of DMI lanes	8
Processor codename	Arrow Lake
Processor ARK ID	241060

Processor special features

Intel® Turbo Boost Technology	2.0
Intel® Quick Sync Video Technology	Yes
Intel® AES New Instructions (Intel® AES-NI)	Yes
Enhanced Intel SpeedStep Technology	Yes
Intel Trusted Execution Technology	Yes
Intel® Speed Shift Technology	Yes
Intel® Thermal Velocity Boost	Yes
Intel® Turbo Boost Max Technology 3.0 frequency	5.6 GHz
Intel® Thunderbolt 4	Yes
Intel® Thermal Velocity Boost Frequency	5.7 GHz
Intel® Control-flow Enforcement Technology (CET)	Yes
Intel® Thread Director	Yes
Intel VT-x with Extended Page Tables (EPT)	Yes
Intel® Secure Key	Yes
Intel® Active Management Technology (Intel® AMT)	Yes
Intel® OS Guard	Yes
Intel 64	Yes
Intel Virtualization Technology (VT-x)	Yes
Intel Virtualization Technology for Directed I/O (VT-d)	Yes
Intel Turbo Boost Max Technology 3.0	Yes
Intel® Boot Guard	Yes
Intel® Deep Learning Boost (Intel® DL Boost) on CPU	Yes
Intel® Volume Management Device (VMD)	Yes
Mode-based Execute Control (MBE)	Yes
Intel® Standard Manageability (ISM)	Yes
Intel® One-Click Recovery	Yes
Intel® Stable IT Platform Program (SIPP)	Yes
Intel® Remote Platform Erase	Yes

(RPE)

Intel® Virtualization Technology with Redirect Protection (VT-rp)	Yes
Intel® Deep Learning Boost (Intel® DL Boost) on GPU	Yes
Intel vPro® Enterprise Platform Eligibility	Yes
Intel® Threat Detection Technology (TDT)	Yes
Intel® Hardware Shield Eligibility	Yes
Intel® Total Memory Encryption - Multi Key	Yes

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