



Intel® Core™ i5-13500E Processor

24M Cache, up to 4.60 GHz

Ordering Code

CM8071505109403

Spec Code

SRMFW

Intel® Core™ i5-13500E Processor (24M Cache- up to 4.60 GHz)	
Essentials	
Product Collection	13th Generation Intel® Core™ i5 Processors
Code Name	Products formerly Raptor Lake
Vertical Segment	Embedded
Processor Number	i5-13500E
Lithography	Intel 7
Recommended Customer Price	\$235.00
Use Conditions	Embedded Broad Market Commercial Temp
CPU Specifications	
Total Cores	14
# of Performance-cores	6
# of Efficient-cores	8
Total Threads	20
Max Turbo Frequency	4.60 GHz
Performance-core Max Turbo Frequency	4.60 GHz
Efficient-core Max Turbo Frequency	3.30 GHz
Performance-core Base Frequency	2.40 GHz
Efficient-core Base Frequency	1.50 GHz
Processor Base Frequency	2.40 GHz
Cache	24 MB Intel® Smart Cache
Total L2 Cache	11.5 MB
Processor Base Power	65 W
TDP	65 W

Supplemental Information	
Marketing Status	Launched
Launch Date	Q1'23
Embedded Options Available	Yes
Memory Specifications	
Max Memory Size (dependent on memory type)	128 GB
Memory Types	Up to DDR5 4800 MT/s Up to DDR4 3200 MT/s
Max # of Memory Channels	2
Max Memory Bandwidth	76.8 GB/s
ECC Memory Supported ⓘ	Yes
Processor Graphics	
Processor Graphics ⓘ	Intel® UHD Graphics 770
Graphics Base Frequency	300 MHz
Graphics Max Dynamic Frequency	1.55 GHz
Graphics Output	eDP 1.4b DP 1.4a HDMI 2.1
Execution Units	32
Max Resolution (HDMI)ⓘ	4096 x 2160 @ 60Hz
Max Resolution (DP)ⓘ	7680 x 4320 @ 60Hz
Max Resolution (eDP - Integrated Flat Panel)ⓘ	5120 x 3200 @ 120Hz
DirectX* Support	12
OpenGL* Support	4.5
OpenCL* Support	3
Multi-Format Codec Engines	2
Intel® Quick Sync Video	Yes
Intel® Clear Video HD Technology	Yes
# of Displays Supported ⓘ	4
Device ID	0x4680
Expansion Options	
Direct Media Interface (DMI) Revision	4
Max # of DMI Lanes	8

Scalability	1S Only
PCI Express Revision	5.0 and 4.0
PCI Express Configurations ⚡	Up to 1x16+4 2x8+4
Max # of PCI Express Lanes	20
Package Specifications	
Sockets Supported	FCLGA1700
Max CPU Configuration	1
Thermal Solution Specification	PCG 2020C
TJUNCTION	100°C
Package Size	45.0 mm x 37.5 mm
Advanced Technologies	
Intel® Time Coordinated Computing (Intel® TCC)⚡	Yes
Intel® Gaussian & Neural Accelerator	3
Intel® Thread Director	Yes
Intel® Deep Learning Boost (Intel® DL Boost)	Yes
Intel® Speed Shift Technology	Yes
Intel® Turbo Boost Max Technology 3.0 ⚡	No
Intel® Turbo Boost Technology ⚡	2
Intel® Hyper-Threading Technology ⚡	Yes
Intel® 64 ⚡	Yes
Instruction Set	64-bit
Instruction Set Extensions	Intel® SSE4.1 Intel® SSE4.2 Intel® AVX2
Idle States	Yes
Enhanced Intel SpeedStep® Technology	Yes
Thermal Monitoring Technologies	Yes
Intel® Volume Management Device (VMD)	Yes
Security & Reliability	
Intel® Standard Manageability (ISM) ⚡	Yes
Intel® Control-Flow Enforcement Technology	Yes
Intel® AES New Instructions	Yes
Secure Key	Yes
Intel® OS Guard	Yes

Intel® Trusted Execution Technology ⓘ	Yes
Execute Disable Bit ⓘ	Yes
Intel® Boot Guard	Yes
Mode-based Execute Control (MBEC)	Yes
Intel® Virtualization Technology with Redirect Protection (VT-rp) ⓘ	Yes
Intel® Virtualization Technology (VT-x) ⓘ	Yes
Intel® Virtualization Technology for Directed I/O (VT-d) ⓘ	Yes
Intel® VT-x with Extended Page Tables (EPT) ⓘ	Yes