

Intel® Core™ i5-13400E Processor (20M 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	i5-13400E
Lithography	Intel 7
Recommended Customer Price	\$224.00

CPU Specifications

Total Cores	10
# of Performance-cores	6
# of Efficient-cores	4
Total Threads	16
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	20 MB Intel® Smart Cache
Total L2 Cache	9.5 MB
Processor Base Power	65 W
TDP	65 W

Supplemental Information

Marketing Status	Launched
Launch Date	Q1'23
Embedded Options Available	Yes
Use Conditions	Embedded Broad Market Commercial Temp
Datasheet	View now

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

GPU Specifications

GPU Name‡	Intel® UHD Graphics 730
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	24
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	1
Intel® Quick Sync Video	Yes
Intel® Clear Video HD Technology	Yes
# of Displays Supported ‡	4
Device ID	0xA782

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
Max Operating Temperature	100 °C

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) on CPU	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® Secure Key	Yes
Intel® Control-Flow Enforcement Technology	Yes
Intel® AES New Instructions	Yes
Intel® OS Guard	Yes
Execute Disable Bit ‡	Yes
Intel® Boot Guard	Yes

Mode-based Execute Control (MBEC)	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