

Essentials

Product Collection

10th Generation Intel® Core™ i9 Processors

Code Name

Products formerly Comet Lake

Vertical Segment

Desktop

Processor Number

i9-10900KF

Status

Launched

Launch Date

Q2'20

Lithography

14 nm

Use Conditions

PC/Client/Tablet

Recommended Customer Price

\$463.00 - \$474.00

CPU Specifications

of Cores

10

of Threads

20

Processor Base Frequency

3.70 GHz

Max Turbo Frequency

5.30 GHz

Intel® Thermal Velocity Boost Frequency

5.30 GHz

Cache

20 MB Intel® Smart Cache

Bus Speed

8 GT/s

Intel® Turbo Boost Max Technology 3.0 Frequency ‡

5.20 GHz

Intel® Turbo Boost Technology 2.0 Frequency‡

5.10 GHz

TDP

125 W

Configurable TDP-down Frequency

3.30 GHz

Configurable TDP-down

95 W

Supplemental Information

Embedded Options Available

No

Datasheet

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Memory Specifications

Max Memory Size (dependent on memory type)

128 GB

Memory Types

DDR4-2933

Max # of Memory Channels

2

Max Memory Bandwidth

45.8 GB/s

ECC Memory Supported ‡

No

Expansion Options

Scalability

1S Only

PCI Express Revision

3.0

PCI Express Configurations ‡

Up to 1x16, 2x8, 1x8+2x4

Max # of PCI Express Lanes

16

Package Specifications

Sockets Supported

FCLGA1200

Max CPU Configuration

1

Thermal Solution Specification

PCG 2015D

Intel® Thermal Velocity Boost Temperature

70 °C

TJUNCTION

100°C

Package Size

37.5mm x 37.5mm

Advanced Technologies

Intel® Optane™ Memory Supported ‡

Yes

Intel® Thermal Velocity Boost

Yes

Intel® Turbo Boost Max Technology 3.0 ‡

Yes

Intel® Turbo Boost Technology ‡

2.0

Intel vPro® Platform Eligibility ‡

No

Intel® Hyper-Threading Technology ‡

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

Intel® Transactional Synchronization Extensions

No

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® Identity Protection Technology ‡

Yes

Intel® Stable Image Platform Program (SIPP)

No

Security & Reliability

Intel® AES New Instructions

Yes

Secure Key

Yes

Intel® Software Guard Extensions (Intel® SGX)

Yes with Intel® ME

Intel® OS Guard

Yes

Intel® Trusted Execution Technology ‡

No

Execute Disable Bit ‡

Yes

Intel® Boot Guard

Yes