# Intel Core i7-10700K processor


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| **Artikel** | 469151 |
| **Herstellernummer** | BX8070110700K |
| **EAN** | 5032037188616 |

Intel

**Intel® Optane™ Memory Supported**

Intel® Optane™ memory is a revolutionary new class of non-volatile memory that sits in between system memory and storage to accelerate system performance and responsiveness. When combined with the Intel® Rapid Storage Technology Driver, it seamlessly manages multiple tiers of storage while presenting one virtual drive to the OS, ensuring that data frequently used resides on the fastest tier of storage. Intel® Optane™ memory requires specific hardware and software configuration.

**Intel® Turbo Boost Technology**

Intel® Turbo Boost Technology dynamically increases the processor's frequency as needed by taking advantage of thermal and power headroom to give you a burst of speed when you need it, and increased energy efficiency when you don’t.

**Intel® vPro™ Platform Eligibility**

Intel® vPro™ Technology is a set of security and manageability capabilities built into the processor aimed at addressing four critical areas of IT security: 1) Threat management, including protection from rootkits, viruses, and malware 2) Identity and web site access point protection 3) Confidential personal and business data protection 4) Remote and local monitoring, remediation, and repair of PCs and workstations.

**Intel® Hyper-Threading Technology**

Intel® Hyper-Threading Technology (Intel® HT Technology) delivers two processing threads per physical core. Highly threaded applications can get more work done in parallel, completing tasks sooner.

**Intel® Virtualization Technology (VT-x)**

Intel® Virtualization Technology (VT-x) allows one hardware platform to function as multiple “virtual” platforms. It offers improved manageability by limiting downtime and maintaining productivity by isolating computing activities into separate partitions.

**Intel® Virtualization Technology for Directed I/O (VT-d)**

Intel® Virtualization Technology for Directed I/O (VT-d) continues from the existing support for IA-32 (VT-x) and Itanium® processor (VT-i) virtualization adding new support for I/O-device virtualization. Intel VT-d can help end users improve security and reliability of the systems and also improve performance of I/O devices in virtualized environments.

**Intel® VT-x with Extended Page Tables (EPT)**

Intel® VT-x with Extended Page Tables (EPT), also known as Second Level Address Translation (SLAT), provides acceleration for memory intensive virtualized applications. Extended Page Tables in Intel® Virtualization Technology platforms reduces the memory

and power overhead costs and increases battery life through hardware optimization of page table management.

**Intel® 64**

Intel® 64 architecture delivers 64-bit computing on server, workstation, desktop and mobile platforms when combined with supporting software.[1] Intel 64 architecture improves performance by allowing systems to address more than 4 GB of both virtual and physical memory.

**Instruction Set**

An instruction set refers to the basic set of commands and instructions that a microprocessor understands and can carry out. The value shown represents which Intel's instruction set this processor is compatible with.

**Instruction Set Extensions**

Instruction Set Extensions are additional instructions which can increase performance when the same operations are performed on multiple data objects. These can include SSE (Streaming SIMD Extensions) and AVX (Advanced Vector Extensions).

**Idle States**

Idle States (C-states) are used to save power when the processor is idle. C0 is the operational state, meaning that the CPU is doing useful work. C1 is the first idle state, C2 the second, and so on, where more power saving actions are taken for numerically higher C-states.

**Enhanced Intel SpeedStep® Technology**

Enhanced Intel SpeedStep® Technology is an advanced means of enabling high performance while meeting the power-conservation needs of mobile systems. Conventional Intel SpeedStep® Technology switches both voltage and frequency in tandem between high and low levels in response to processor load. Enhanced Intel SpeedStep® Technology builds upon that architecture using design strategies such as Separation between Voltage and Frequency Changes, and Clock Partitioning and Recovery.

**Thermal Monitoring Technologies**

Thermal Monitoring Technologies protect the processor package and the system from thermal failure through several thermal management features. An on-die Digital Thermal Sensor (DTS) detects the core's temperature, and the thermal management features reduce package power consumption and thereby temperature when required in order to remain within normal operating limits.

**Intel® Identity Protection Technology**

Intel® Identity Protection Technology is a built-in security token technology that helps provide a simple, tamper-resistant method for protecting access to your online customer and business data from threats and fraud. Intel® IPT provides a hardware-based proof of a unique user's PC to websites, financial institutions, and network services; providing verification that it is not malware attempting to login. Intel® IPT can be a key component in two-factor authentication solutions to protect your information at websites and business log-ins.

**Intel® Stable Image Platform Program (SIPP)**

Intel® Stable Image Platform Program (Intel® SIPP) can help your company identify and deploy standardized, stable image PC platforms for at least 15 months.

## Zusammenfassung

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**Intel® Optane™ Memory Supported**

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Intel Core i7-10700K, Intel® Core™ i7, LGA 1200 (Socket H5), 14 nm, Intel, i7-10700K, 3.8 GHz

Intel Core i7-10700K. Processor family: Intel® Core™ i7, Processor socket: LGA 1200 (Socket H5), Processor lithography: 14 nm. Memory channels: Dual-channel, Maximum internal memory supported by processor: 128 GB, Memory types supported by processor: DDR4-SDRAM. On-board graphics card model: Intel® UHD Graphics 630, Maximum on-board graphics card memory: 64 GB, On-board graphics card base frequency: 350 MHz. Market segment: Desktop, PCI Express configurations: 1x16, 2x8, 1x8+2x4, Supported instruction sets: SSE4.1, SSE4.2, AVX 2.0. Intel® Turbo Boost Max Technology 3.0 frequency: 5.1 GHz, Intel® Turbo Boost Technology 2.0 frequency: 5 GHz

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### Logistics data

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| Harmonized System (HS) code | 85423119 |

### Operational conditions

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|---|---|
| Tjunction | 100 °C |

### Other features

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|---|---|
| Maximum internal memory | 128 GB |

### Packaging data

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|---|---|
| Package type | Retail box |

### Weight & dimensions

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|---|---|
| Processor package size | 37.5 x 37.5 mm |

### Memory

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|---|---|
| Maximum internal memory supported by processor | 128 GB |
| Memory types supported by processor | DDR4-SDRAM |
| Memory clock speeds supported by processor | 2933 MHz |
| Memory channels | Dual-channel |
| ECC | N |

### Technical details

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|---|---|
| Target market | Gaming, Content Creation |
| Launch date | Q2'20 |
| Maximum resolution & refresh rate (DisplayPort) | 4096 x 2304@60Hz |
| Product type | Processor |
| Status | Launched |
| Maximum memory | 128 GB |
| Supported memory types | DDR4-SDRAM |
| Bus speed | 8 GT/s |
| Maximum graphics card memory | 64 GB |
| Processor ID | 0x9BC5 |

### Features

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|---|---|
| Execute Disable Bit | Y |
| Idle States | Y |
| Thermal Monitoring Technologies | Y |
| Market segment | Desktop |
| Maximum number of PCI Express lanes | 16 |
| PCI Express slots version | 3.0 |
| PCI Express configurations | 1x16, 2x8, 1x8+2x4 |
| Supported instruction sets | SSE4.1, SSE4.2, AVX 2.0 |
| Scalability | 1S |
| CPU configuration (max) | 1 |
| Embedded options available | N |
| Thermal solution specification | PCG 2015D |
| PCI Express CEM revision | 3.0 |
| Export Control Classification Number (ECCN) | 5A992C |
| Commodity Classification Automated Tracking System (CCATS) | G077159 |

### Graphics

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|---|---|
| On-board graphics card | Y |
| Discrete graphics card | N |
| On-board graphics card model | Intel® UHD Graphics 630 |
| Maximum on-board graphics card memory | 64 GB |
| On-board graphics card base frequency | 350 MHz |
| On-board graphics card dynamic frequency (max) | 1200 MHz |
| Number of displays supported (on-board graphics) | 3 |
| On-board graphics card 4K support | Y |
| On-board graphics card DirectX version | 12.0 |
| On-board graphics card OpenGL version | 4.5 |
| On-board graphics card maximum resolution (DisplayPort) | 4096 x 2304 pixels |
| On-board graphics card maximum resolution (eDP - Integrated Flat Panel) | 4096 x 2304 pixels |
| On-board graphics card maximum resolution (HDMI) | 4096 x 2160 pixels |
| 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) | 30 Hz |
| On-board graphics card ID | 0x9BC5 |
| Discrete graphics card model | Not available |

## Processor

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|---|---|
| Processor manufacturer | Intel |
| Processor generation | 10th gen Intel® Core™ i7 |
| Processor model | i7-10700K |
| Processor base frequency | 3.8 GHz |
| Processor family | Intel® Core™ i7 |
| Processor cores | 8 |
| Processor socket | LGA 1200 (Socket H5) |
| Component for | PC |
| Processor lithography | 14 nm |
| Processor threads | 16 |
| System bus rate | 8 GT/s |
| Processor operating modes | 64-bit |
| Processor boost frequency | 5.1 GHz |
| Processor cache | 16 MB |
| Processor cache type | Smart Cache |
| Thermal Design Power (TDP) | 125 W |
| Box | Y |
| Configurable TDP-down frequency | 3.5 GHz |
| Cooler included | N |
| Configurable TDP-down | 95 W |
| Generation | 10th Generation |
| Memory bandwidth supported by processor (max) | 45.8 GB/s |
| Processor codename | Comet Lake |

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| Processor ARK ID | 199335 |

## Processor special features

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|---|---|
| Intel® Hyper Threading Technology (Intel® HT Technology) | Y |
| Intel® Identity Protection Technology (Intel® IPT) | Y |
| Intel® Turbo Boost Technology | 2.0 |
| Intel® Quick Sync Video Technology | Y |
| Intel® InTru™ 3D Technology | Y |
| Intel® Clear Video HD Technology (Intel® CVT HD) | Y |
| Intel® AES New Instructions (Intel® AES-NI) | Y |
| Enhanced Intel SpeedStep Technology | Y |
| Intel Trusted Execution Technology | Y |
| Intel® Thermal Velocity Boost | N |
| Intel® Turbo Boost Max Technology 3.0 frequency | 5.1 GHz |
| Intel® Turbo Boost Technology 2.0 frequency | 5 GHz |
| Intel® Transactional Synchronization Extensions | N |
| Intel VT-x with Extended Page Tables (EPT) | Y |
| Intel® Secure Key | Y |
| Intel Stable Image Platform Program (SIPP) | Y |
| Intel® OS Guard | Y |
| Intel Clear Video Technology | Y |
| Intel Software Guard Extensions (Intel SGX) | Y |
| Intel 64 | Y |
| Intel Virtualization Technology (VT-x) | Y |
| Intel Virtualization Technology for Directed I/O (VT-d) | Y |
| Intel Turbo Boost Max Technology 3.0 | Y |
| Intel® Optane™ Memory Ready | Y |
| Intel® Boot Guard | Y |
| Intel® vPro™ Platform Eligibility | Y |

Preisänderungen und Irrtümer vorbehalten. Alle Produkte solange der Vorrat reicht.