

Intel BX8070110400-99A00D

Intel Comet Lake Core i5-10400 Desktop Processor User Manual

Model: BX8070110400-99A00D

1. PRODUCT OVERVIEW

The Intel Core i5-10400 is a 10th Generation Comet Lake desktop processor designed for mainstream computing. It features 6 Cores and 12 Threads, providing robust performance for multitasking, gaming, and productivity applications. This processor is built for the LGA 1200 socket and is compatible with Intel 400 series chipset motherboards.

Key features include:

- **6 Cores / 12 Threads:** Enables efficient handling of multiple applications simultaneously.
- **Base Clock Speed:** 2.9 GHz, with Intel Turbo Boost 2.0 technology allowing frequencies up to 4.3 GHz.
- **Socket Type:** LGA 1200, ensuring compatibility with modern motherboards.
- **Cache Memory:** 12MB of Intel Smart Cache for faster data access.
- **Memory Support:** Supports up to 128GB of dual-channel 2666 MHz DDR4 RAM.
- **Integrated Graphics:** Features Intel UHD Graphics 630, suitable for basic display output and light multimedia tasks.
- **Intel Optane Memory Support:** Enhances system responsiveness.



Figure 1.1: Top view of the Intel Core i5-10400 processor, showing the integrated heat spreader (IHS) with the Intel logo.

2. SETUP AND INSTALLATION

Proper installation of your Intel Core i5-10400 processor is crucial for optimal performance and system stability. Always handle the processor by its edges to avoid touching the gold contacts or the integrated heat spreader (IHS).

2.1. Before You Begin

- Ensure your motherboard has an LGA 1200 socket and supports 10th Generation Intel Core processors. Refer to your motherboard's manual for compatibility.
- Gather necessary tools: Phillips head screwdriver, thermal paste, and a compatible CPU cooler.
- Work in a clean, static-free environment. Use an anti-static wrist strap if available.

2.2. Processor Installation Steps

1. Prepare the Motherboard:

Locate the LGA 1200 CPU socket on your motherboard. Gently push down the small lever on the side of the

socket and swing it open to release the load plate.

2. **Insert the Processor:**

Carefully align the triangular arrow on the corner of the processor with the corresponding arrow on the CPU socket. Lower the processor straight down into the socket without forcing it. The processor should sit flush in the socket.

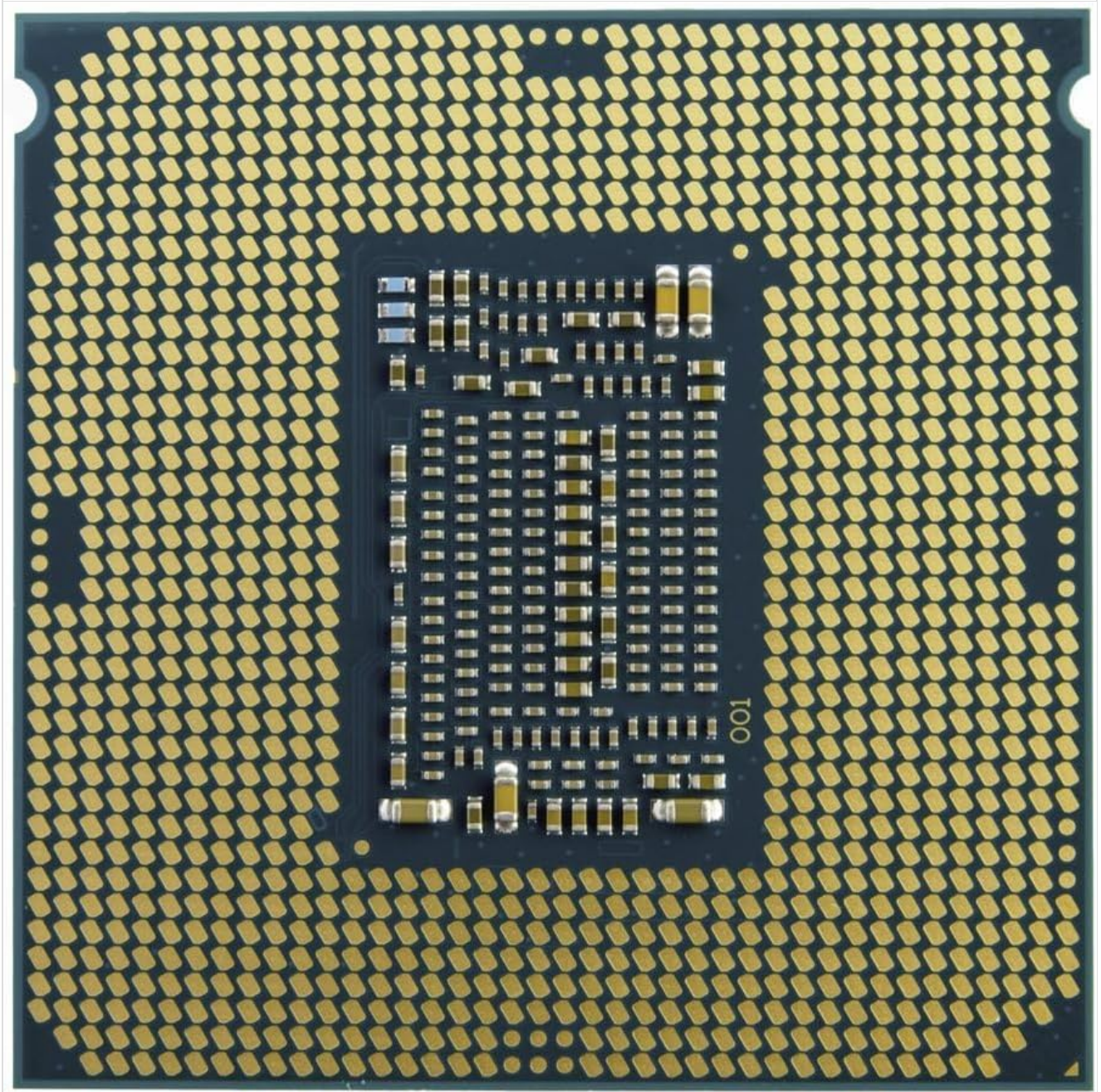


Figure 2.1: Bottom view of the Intel Core i5-10400 processor, highlighting the LGA 1200 contact pads. Ensure these align correctly with the motherboard socket.

3. **Secure the Processor:**

Close the load plate over the processor and gently push the lever back into its locked position. This will secure the processor firmly in the socket.

4. **Apply Thermal Paste:**

Apply a small amount of high-quality thermal paste (pea-sized dot or thin line) to the center of the processor's IHS. Do not spread it manually; the pressure from the cooler will distribute it evenly.

5. **Install CPU Cooler:**

Mount your compatible CPU cooler according to its manufacturer's instructions. Ensure it makes firm, even contact with the processor's IHS. Connect the CPU cooler fan cable to the designated CPU_FAN header on your motherboard.



Figure 2.2: An angled view of the Intel Core i5-10400 processor, illustrating both the top (IHS) and bottom (contact pads) surfaces. Proper handling is essential to prevent damage.

3. OPERATING CONSIDERATIONS

Once installed, the Intel Core i5-10400 processor operates automatically within your system. Its performance is managed by the motherboard's BIOS/UEFI and the operating system. Here are some general operating considerations:

- **BIOS/UEFI Settings:** Ensure your motherboard's BIOS/UEFI is updated to the latest version to ensure full compatibility and optimal performance with the i5-10400. Check for settings related to CPU fan control, memory frequency, and power management.
- **Driver Installation:** Install the latest chipset drivers for your motherboard from the manufacturer's website. If using the integrated Intel UHD Graphics 630, install the latest graphics drivers from Intel's official website.
- **Thermal Management:** Monitor CPU temperatures using system monitoring software. Ensure your CPU cooler is functioning correctly and maintaining temperatures within safe operating limits, especially under heavy load.
- **Power Supply:** Ensure your system's power supply unit (PSU) provides sufficient and stable power to all components, including the CPU.

4. MAINTENANCE

While the processor itself requires minimal maintenance, ensuring the surrounding components are well-maintained contributes to the longevity and stable operation of your CPU.

- **Dust Removal:** Regularly clean dust from your CPU cooler and case fans using compressed air. Dust buildup can impede airflow and lead to higher temperatures.
- **Thermal Paste Reapplication:** If you remove your CPU cooler for any reason, or if you notice consistently high temperatures after several years of use, it is recommended to clean off old thermal paste and apply new thermal paste.
- **System Updates:** Keep your operating system and drivers updated to benefit from performance optimizations and security patches.

5. TROUBLESHOOTING

If you encounter issues with your system after installing the Intel Core i5-10400 processor, consider the following troubleshooting steps:

- **No Display/System Not Booting:**
 - Verify the processor is correctly seated in the LGA 1200 socket and the load plate is secured.
 - Ensure the CPU power cable from the PSU is securely connected to the motherboard.
 - Check that RAM modules are properly seated in their slots.
 - Confirm your CPU cooler fan is connected to the CPU_FAN header and spinning.
 - Reset CMOS (Clear Complementary Metal-Oxide-Semiconductor) on your motherboard.
- **Overheating Issues:**
 - Ensure the CPU cooler is properly installed and making good contact with the processor's IHS.
 - Verify that thermal paste was applied correctly and is evenly spread.
 - Check for proper airflow within your PC case; ensure case fans are oriented correctly and not obstructed by dust.
 - Consider upgrading to a more robust CPU cooler if temperatures remain high under load.
- **System Instability/Crashes:**
 - Ensure your motherboard BIOS/UEFI is updated to the latest version.
 - Run memory diagnostic tools to check for RAM issues.
 - Verify that your power supply unit (PSU) meets the power requirements of your system components.

6. SPECIFICATIONS

Detailed technical specifications for the Intel Core i5-10400 processor:

Feature	Specification
Processor Model	Intel Core i5-10400
Cores / Threads	6 Cores / 12 Threads
Base Clock Speed	2.9 GHz
Max Turbo Frequency	4.3 GHz
Cache Memory	12 MB Intel Smart Cache
Socket Type	LGA 1200
TDP	65 W
Integrated Graphics	Intel UHD Graphics 630
Max Memory Size	128 GB
Memory Types	DDR4-2666
PCIe Lanes	16 (PCIe 3.0)

Feature	Specification
Product Dimensions	4.33 x 2.76 x 4.72 inches
Item Weight	1.1 pounds
Model Number	BX8070110400-99A00D



Figure 6.1: The official Intel Core i5 10th Generation logo, indicating the processor's series and generation.

7. WARRANTY AND SUPPORT

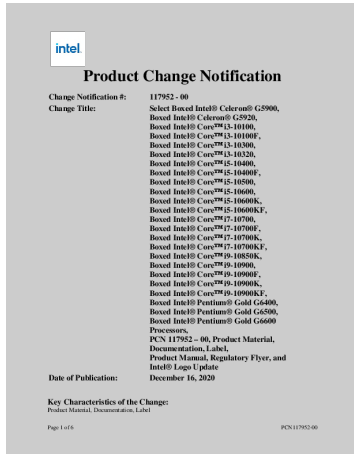
For warranty information and technical support regarding your Intel Core i5-10400 processor, please refer to Intel's official website or contact their customer support directly. Keep your proof of purchase for warranty claims.

- **Intel Support Website:** <https://www.intel.com/content/www/us/en/support/products/processors.html>
- **Product Registration:** Registering your product may provide additional support benefits.

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