Intel CD8069504193701

Intel Xeon Gold 6230 Processor User Manual

Model: CD8069504193701

1. Introduction

This manual provides essential information for the installation, operation, and maintenance of your Intel Xeon Gold 6230 Icosa-core (20 Core) 2.10 GHz Processor. Designed for demanding server and workstation environments, this processor delivers high performance and reliability. Please read this manual thoroughly before proceeding with installation.

2. Product Overview

The Intel Xeon Gold 6230 processor is a high-performance CPU featuring 20 physical cores and 40 threads, operating at a base frequency of 2.10 GHz. It is part of the Intel Xeon Scalable processor family, optimized for data centers, cloud computing, high-performance computing (HPC), and enterprise applications. Its architecture supports advanced technologies for enhanced security, reliability, and performance.

Figure 2.1: Front view of the Intel Xeon Gold 6230 processor, displaying the integrated heat spreader with branding and model details.

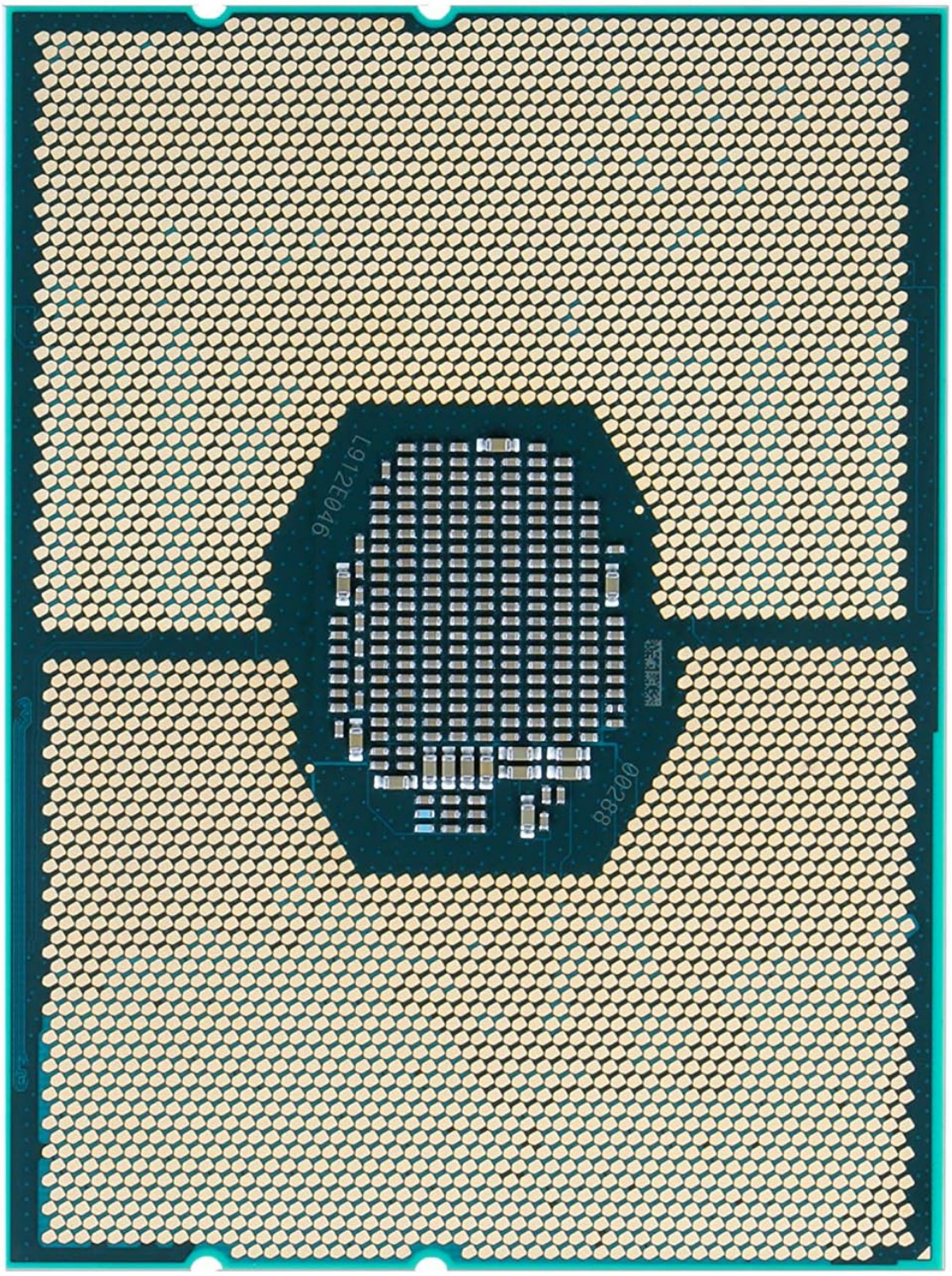


Figure 2.2: Back view of the Intel Xeon Gold 6230 processor, illustrating the LGA 3647 contact pads.

3. Package Contents

The Intel Xeon Gold 6230 processor is typically sold as an OEM (Original Equipment Manufacturer) pack. The contents usually include:

- 1 x Intel Xeon Gold 6230 Processor
- (Note: Thermal solution and installation tools are generally not included with OEM processors and must be acquired separately.)

4. Setup and Installation

Proper installation is crucial for the optimal performance and longevity of your processor. It is highly recommended that installation be performed by a qualified professional. Ensure your motherboard is compatible with the LGA 3647 socket and supports Intel Xeon Gold 6230 processors.

4.1. Pre-Installation Checklist

- Compatible Motherboard (LGA 3647 socket)
- Compatible CPU Cooler (designed for LGA 3647 and appropriate TDP)
- Thermal Paste
- Anti-static Wrist Strap
- Clean, well-lit workspace

4.2. Installation Steps

1. **Prepare the Motherboard:** Ensure the motherboard is securely mounted in the chassis. Open the CPU socket retention mechanism.
2. **Handle with Care:** Always hold the processor by its edges. Avoid touching the gold contact pads on the underside or the integrated heat spreader (IHS) surface.
3. **Align the Processor:** Carefully align the processor with the socket. The processor has specific notches that must align with the socket's keys. Do not force the processor into the socket.
4. **Secure the Processor:** Once properly seated, close the socket retention mechanism to secure the processor.
5. **Apply Thermal Paste:** Apply a small amount of high-quality thermal paste to the center of the processor's IHS. Follow the thermal paste manufacturer's instructions for application.
6. **Install CPU Cooler:** Mount the compatible CPU cooler onto the motherboard, ensuring proper contact with the processor's IHS. Connect the cooler's fan cable to the appropriate header on the motherboard.
7. **Connect Power:** Connect the necessary power cables from the power supply unit (PSU) to the motherboard and any auxiliary CPU power connectors.

After physical installation, connect your display, keyboard, and mouse. Power on the system and enter the BIOS/UEFI settings to verify that the processor is recognized correctly and to configure any necessary settings.

5. Operating the Processor

The Intel Xeon Gold 6230 processor operates as the central processing unit within your server or workstation system. Once installed and the operating system is loaded, the processor manages all computational tasks. Its 20 cores and 40 threads are designed to handle intensive multi-threaded applications, virtualization, and complex data processing workloads efficiently.

5.1. Software and Drivers

Ensure your operating system (e.g., Windows Server, Linux distributions) is up-to-date with the latest patches and drivers. While processors typically do not require specific drivers beyond what the operating system provides, motherboard chipset drivers are essential for optimal system performance and stability. Visit your motherboard manufacturer's website for the latest driver downloads.

5.2. Performance Monitoring

Monitor processor temperature and utilization using system monitoring tools provided by your operating system or third-party software. Maintaining appropriate temperatures is critical for processor longevity and stable operation.

6. Maintenance

Processors generally require minimal maintenance. However, ensuring a clean operating environment and effective cooling is vital.

- **Dust Removal:** Regularly clean dust from your system's cooling fans and heatsinks. Dust accumulation can impede airflow and lead to overheating. Use compressed air for this purpose, ensuring the system is powered off and unplugged.
- **Thermal Paste:** The thermal paste between the processor and the heatsink may degrade over several years. If you observe consistently high temperatures, consider reapplying fresh thermal paste. This procedure should be done carefully and ideally by a professional.
- **Environmental Control:** Operate your system in a cool, dry, and well-ventilated environment to prevent excessive heat buildup.

7. Troubleshooting

If you encounter issues with your system after processor installation, consider the following troubleshooting steps:

- **No Power/No Boot:**
  - Verify all power cables (24-pin ATX, 8-pin CPU) are securely connected to the motherboard and PSU.
  - Ensure the CPU is correctly seated in its socket and the retention mechanism is fully closed.
  - Check RAM modules are properly seated.
- **Overheating:**
  - Confirm the CPU cooler is correctly installed and making full contact with the processor's IHS.
  - Check if thermal paste was applied correctly and sufficiently.
  - Ensure CPU cooler fan(s) are spinning and connected to the motherboard.
  - Verify adequate airflow within the computer case.
- **System Instability/Crashes:**
  - Update motherboard BIOS/UEFI to the latest version.
  - Ensure all system drivers (chipset, etc.) are up-to-date.
  - Run diagnostic tools to check memory (RAM) integrity.
- **Processor Not Recognized:**
  - Confirm motherboard BIOS/UEFI supports the Intel Xeon Gold 6230 processor. An older BIOS version might not recognize newer CPUs.
  - Re-seat the processor carefully.

If issues persist, consult your system integrator or Intel's official support resources.

8. Specifications

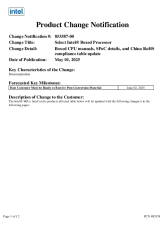
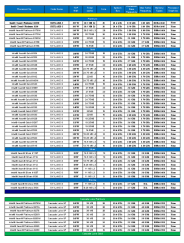
Feature	Detail
Processor Family	Intel Xeon Gold
Model Number	6230
Part Number (OEM)	CD8069504193701
Cores / Threads	20 Cores / 40 Threads
Base Clock Speed	2.10 GHz

Feature	Detail
Cache	27.5 MB L3 Cache
Thermal Design Power (TDP)	125 W
Socket Type	LGA 3647
Compatible Operating Systems	Windows Server, Linux distributions (e.g., Windows 10 as listed in product specs)
Manufacturer	Intel

9. Warranty and Support

For detailed warranty information, please refer to the terms and conditions provided by your point of purchase or the official Intel website. As an OEM product, warranty terms may vary depending on the system integrator or reseller.
For technical support, drivers, and additional resources, please visit the official Intel support website:
Intel Support Website

Related Documents - CD8069504193701

	Intel Product Change Notification 853587-00: Boxed Processor Updates Notification regarding updates to Intel Boxed Processor manuals, Single Point of Contact (SPoC) details, and China RoHS compliance tables, affecting various Intel Core and Xeon processors.
	Intel Xeon E5-2680 v4 Processor: User Manual and Installation Guide Detailed user manual and installation guide for the Intel Xeon E5-2680 v4 processor. Covers specifications, compatible components, installation steps, troubleshooting, and performance optimization for server and workstation environments.
	Intel Xeon CPU Support List for C621-WD12 Motherboard Find detailed specifications for Intel Xeon Platinum, Gold, Silver, and Bronze processors compatible with the C621-WD12 motherboard, including SKYLAKE-S and Cascade Lake series.

	[Intel Desktop Processor Warranty FAQ: Eligibility, Exchange, and Troubleshooting] Comprehensive FAQ guide on Intel desktop processor warranties. Covers eligibility for boxed vs. OEM processors, warranty exchange procedures, troubleshooting steps, and identification of engineering samples. Get answers to common warranty questions for Intel CPUs.
	[OpenCL™ Developer Guide for Intel® Processor Graphics: Optimization and Performance] This comprehensive guide offers developers detailed insights and optimization techniques for OpenCL applications targeting Intel® Processor Graphics. It covers architectural specifics, memory management, coding best practices for CPU and GPU, performance analysis, and multi-device strategies.
	[8th and 9th Generation Intel® Core™ and Xeon® E Processor Families Datasheet] Comprehensive datasheet detailing the architecture, features, technologies, power management, and specifications for Intel's 8th and 9th Generation Core™ and Xeon® E processor families. Covers performance, interfaces, and system integration aspects.