

6-31-PD5S2-101

Generic Laptop CPU GPU Fan and Heatsink for CLEVO PD50 (Model 6-31-PD5S2-101) Instruction Manual

Model: 6-31-PD5S2-101

1. INTRODUCTION

This manual provides essential information for the installation, operation, maintenance, and troubleshooting of the Generic Laptop CPU GPU Fan and Heatsink, model 6-31-PD5S2-101. This component is designed for use with CLEVO PD50 series laptops to ensure optimal thermal management of the Central Processing Unit (CPU) and Graphics Processing Unit (GPU).

Please read this manual thoroughly before attempting any installation or maintenance procedures. Proper handling and installation are crucial for the longevity and performance of your laptop's cooling system.

2. PRODUCT OVERVIEW

The CPU GPU Fan and Heatsink assembly is a critical component responsible for dissipating heat generated by the laptop's main processing units. This specific model, 6-31-PD5S2-101, is a direct replacement part for compatible CLEVO PD50 laptops.

- **Item Description:** Laptop Parts - CPU and GPU cooling solution.
- **Function:** Efficiently transfers heat away from the CPU and GPU to prevent overheating and maintain stable system performance.
- **Compatibility:** Specifically designed for CLEVO PD50 series laptops.

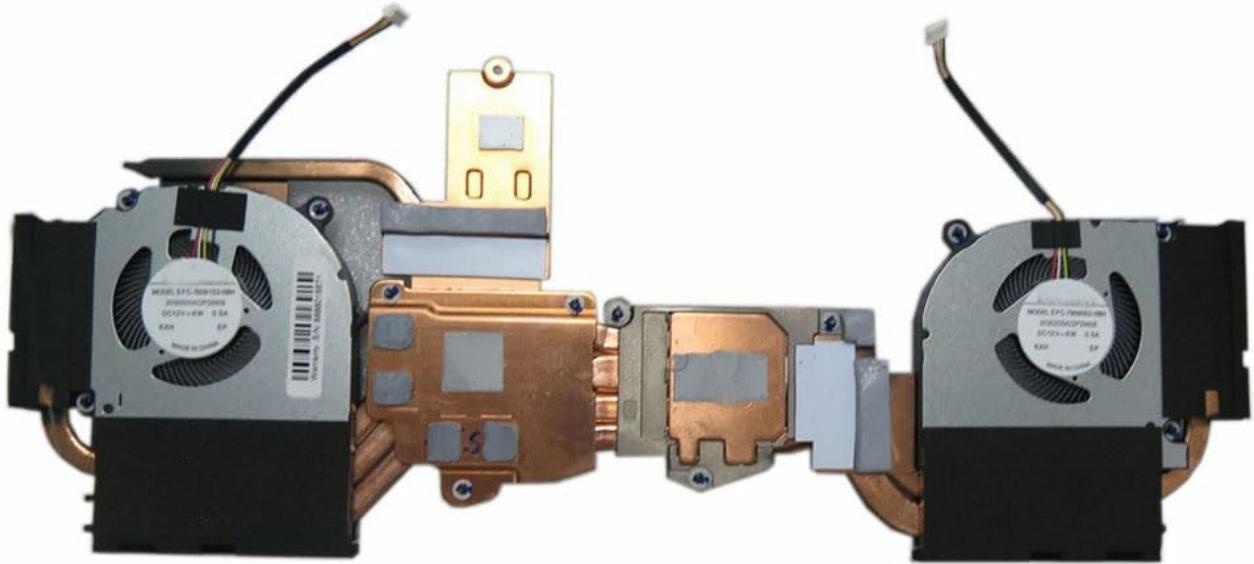


Figure 2.1: Overall view of the Generic Laptop CPU GPU Fan and Heatsink assembly. This image displays the dual fan design connected by heat pipes and copper heatsinks.



Figure 2.2: Close-up view of the heatsink assembly, showing the model number sticker (6-31-PD5S2-101) and a QR code. This sticker confirms the specific part number.

3. SETUP AND INSTALLATION

Installing a CPU/GPU fan and heatsink requires careful handling and basic technical knowledge. If you are unsure about any step, it is recommended to seek professional assistance.

3.1 Safety Precautions

- **Power Off:** Always ensure the laptop is completely powered off and disconnected from the power adapter. Remove the battery before proceeding.
- **Static Discharge:** Wear an anti-static wrist strap or frequently touch a grounded metal object to prevent electrostatic discharge (ESD), which can damage sensitive electronic components.
- **Tools:** Use appropriate tools, typically small Phillips head screwdrivers.
- **Work Area:** Work in a clean, well-lit, and organized environment.

3.2 Installation Steps (General Guide)

1. Disassembly: Carefully disassemble your laptop to access the existing CPU/GPU cooling system. This typically involves removing the bottom cover, keyboard, and potentially other components. Refer to your specific laptop model's service manual for detailed disassembly instructions.

2. Remove Old Heatsink:

- Disconnect the fan cables from the motherboard.
- Unscrew the heatsink mounting screws, usually in a numbered sequence (e.g., 1-2-3-4) to ensure even pressure release.
- Gently lift the old heatsink assembly from the CPU and GPU. It may be slightly adhered due to old thermal paste.

3. Clean Surfaces:

- Using isopropyl alcohol and a lint-free cloth, carefully clean off all old thermal paste from the CPU and GPU dies, as well as from the contact surfaces of the new heatsink if it came with pre-applied paste that needs removal.

4. Apply Thermal Paste: Apply a small, pea-sized amount of new thermal paste to the center of both the CPU and GPU dies. Do not spread it manually; the pressure from the heatsink will distribute it evenly.

5. Install New Heatsink:

- Carefully align the new heatsink assembly over the CPU and GPU.
- Place the heatsink onto the processors, ensuring proper alignment with the screw holes.
- Screw in the heatsink mounting screws, following the numbered sequence (if present) or tightening them in a diagonal pattern to ensure even pressure. Do not overtighten.
- Connect the fan cables to their respective headers on the motherboard. Ensure they are securely seated.

6. Reassembly: Reassemble the laptop by reversing the disassembly steps. Double-check all connections and ensure no screws are left loose.

7. Initial Test: After reassembly, power on the laptop and monitor temperatures using a reliable software utility. Ensure the fans spin correctly and temperatures remain within acceptable limits during idle and under load.

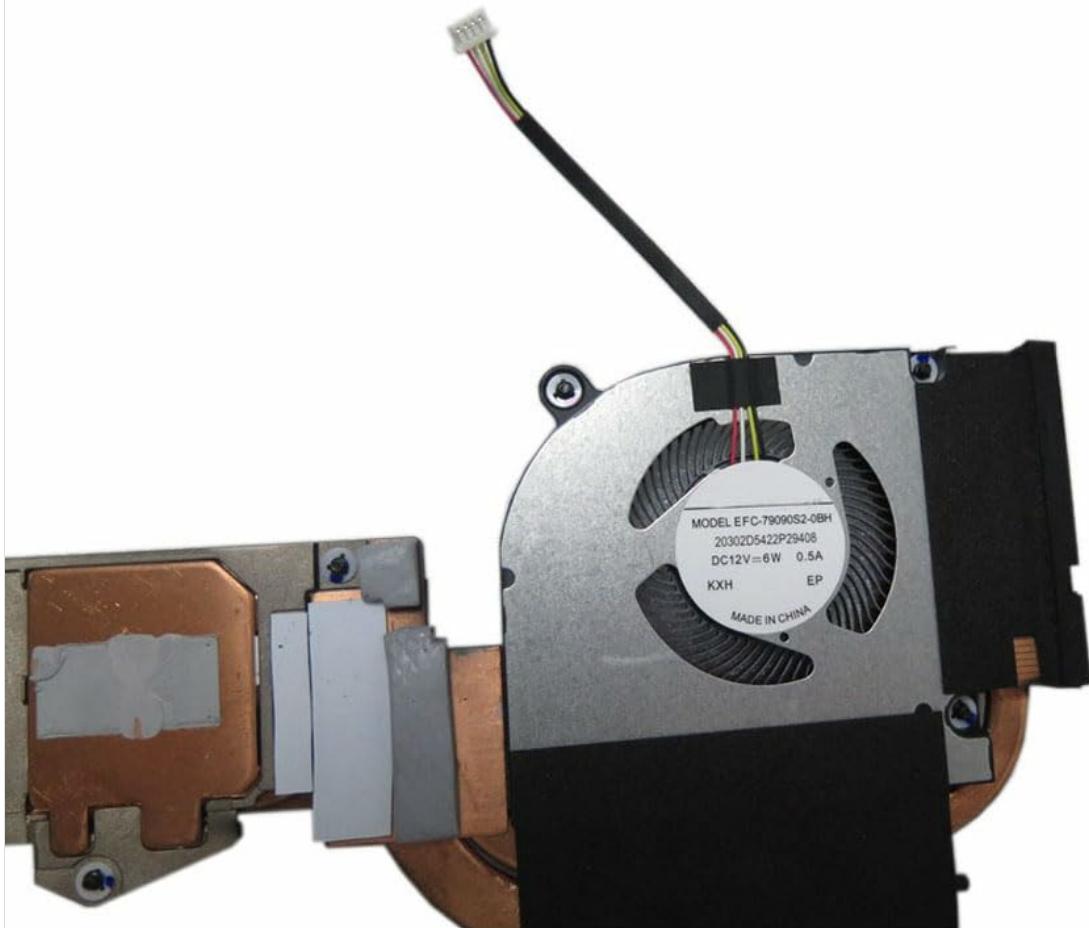


Figure 3.1: Close-up of one of the cooling fans, showing its model number (EFC-79090S2-0BH) and electrical specifications (DC12V=6W, 0.5A). This detail is important for verifying fan compatibility.

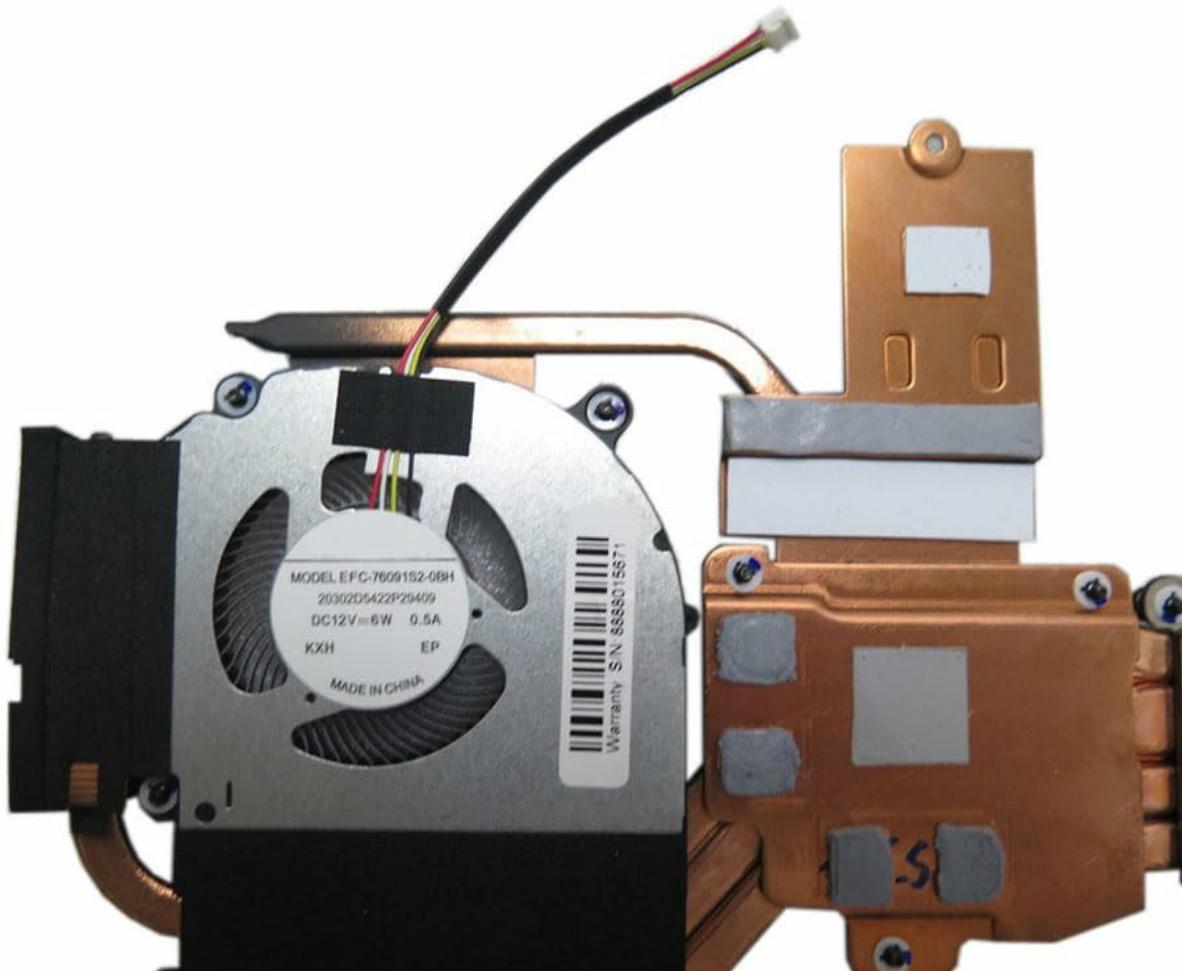


Figure 3.2: View of a section of the heatsink, featuring a "Warranty S/N: 8888015671" sticker. This serial number may be required for warranty claims.

4. OPERATION

Once correctly installed, the CPU GPU Fan and Heatsink operates automatically. The laptop's BIOS and operating system manage the fan speed based on the thermal load detected by internal sensors. The fans will increase speed as temperatures rise to maintain optimal operating temperatures and decrease speed when cooling is less critical, reducing noise and power consumption.

No user intervention is typically required for the daily operation of the cooling system.

5. MAINTENANCE

Regular maintenance helps ensure the longevity and efficiency of your cooling system.

- **Dust Removal:** Periodically (e.g., every 6-12 months, depending on usage environment), open the laptop and gently clean dust from the fan blades and heatsink fins using compressed air or a soft brush. Hold the fan blades to prevent them from spinning excessively during cleaning, which can damage the bearings.
- **Thermal Paste Replacement:** Over time, thermal paste can dry out and become less effective. Consider

replacing the thermal paste on the CPU and GPU every 2-3 years, or if you notice consistently higher operating temperatures.

- **Fan Inspection:** Listen for unusual noises from the fans. If a fan becomes excessively noisy or stops spinning, it may need replacement.

6. TROUBLESHOOTING

If you encounter issues with your laptop's cooling system, consider the following:

- **Overheating:**

- Ensure fans are spinning. If not, check fan cable connections.
- Clean dust from heatsink fins and fan blades.
- Verify proper application of thermal paste. Reapply if necessary.
- Ensure laptop vents are not obstructed.

- **Excessive Fan Noise:**

- Dust accumulation can cause imbalance and noise. Clean the fans.
- If noise persists, a fan bearing may be failing, requiring fan replacement.

- **Fans Not Spinning:**

- Check fan cable connections to the motherboard.
- Ensure the laptop is receiving adequate power.
- A faulty fan may need replacement.

For persistent issues, consult a qualified technician or contact customer support.

7. SPECIFICATIONS

Product Dimensions	11.81 x 7.87 x 3.94 inches
Item Weight	4.4 pounds
Manufacturer	Generic
Item Model Number	6-31-PD5S2-101
ASIN	B0DMV7W29Q
Date First Available	November 13, 2024

8. WARRANTY AND SUPPORT

This product comes with a **90-day warranty** from the date of purchase. This warranty covers manufacturing defects and ensures the product functions as intended under normal use.

For warranty claims or technical support, please refer to the seller's contact information provided at the time of purchase. It is recommended to keep your purchase receipt and any serial numbers (such as 8888015671, if applicable) for reference.

To ensure you receive the correct goods and for any post-purchase communication, please check your registered email after payment.

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