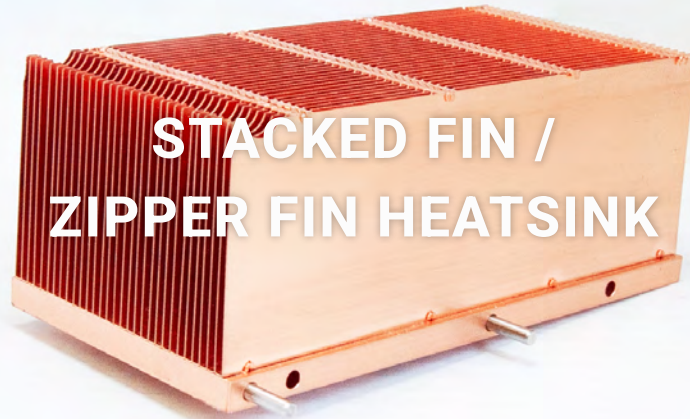


STACKED FIN / ZIPPER FIN HEATSINK



Stacked Fin / Zipper Fin Heatsinks – High-Efficiency Thermal Management by Cofan

Cofan's **stacked fin heatsink**—also known as a **zipper fin heatsink**—is a precision-engineered **thermal management device** designed to **dissipate heat** from high-performance electronic components. It features **multiple thin fins** arranged in a **stacked configuration** on top of a solid base, offering **maximum surface area** for efficient heat transfer.

These heatsinks are typically made from **high thermal conductivity materials** such as **aluminum** or **copper** and are attached to the base using **soldering, welding, mechanical fastening, or thermal adhesives**. The result is a **compact yet powerful cooling solution** suitable for applications where space is limited but thermal performance is critical.

PRODUCTS

OSFP Thermal Solutions

Passive Cooling (Heatsink)

- Bonded Fin Heatsink
- Crimped Heatsink
- Extruded Heatsink
- Skived Fin Heatsink
- Stacked/Zipper Fin Heatsink
- BGA Heatsink

Active Cooling (Fan)

- AC Fans
- DC Fans
- DC Blowers
- DC Impellers
- Crossflow Fans
- Frameless DC Fans

Metal Fabrications

- CNC Machining
- Die Casting
- Extrusion
- Plastic Injection Molding
- Sheet Metal

Cold Plates

Heat Pipes

Vapor Chambers

Air Filtration

Friction Stir Welding

Thermal Pad / Grease

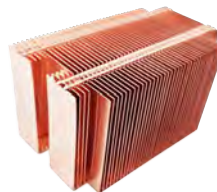
Product Information

- Process: CNC, NCT, Soldering
 - Material: Copper
- Application: Thermal Management
 - Finish: Anti-oxidant Finish
 - Part No: 04.01.00035



Product Information

- Process: CNC, NCT
 - Material: Copper
- Application: Thermal Management
 - Finish: Anti-oxidant Finish
 - Part No: 04.01.00036



Product Information

- Process: CNC, NCT, Soldering
 - Material: Base-Aluminum 6063-T5, Fin-Aluminum 1100
- Application: Lighting Fixture
 - Finish: Nickel Plating
 - Part No: 04.01.00038

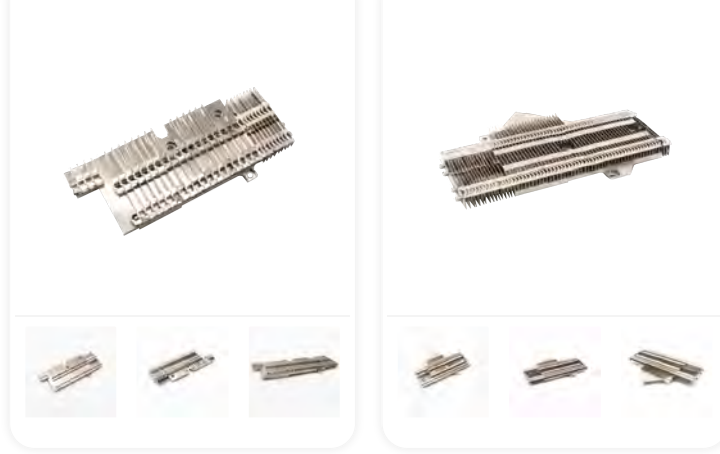


Product Information

- Process: CNC, NCT, Soldering
 - Material: Base-Aluminum 6063-T5, Fin-Aluminum 1100
- Application: Lighting Fixture
 - Finish: Nickel Plating
 - Part No: 04.01.00032

Product Information

- Process: CNC, NCT, Soldering
 - Material: Base-Aluminum 6063, Fin-Aluminum 1100
- Application: Lighting Fixture
 - Finish: Nickel Plating
 - Part No: 04.01.00034



Key Features and Advantages

- **Superior Heat Dissipation** – Increased surface area accelerates thermal transfer.
- **Compact Design** – Maintains small footprint while providing maximum cooling capacity.
- **Material Flexibility** – Available in aluminum, copper, or hybrid designs.
- **Custom Engineering** – Adaptable to specific thermal, size, and performance needs.
- **Durability** – Optional anodizing or coating improves corrosion resistance and lifespan.
- **Broad Industry Use** – Effective across computing, LED lighting, automotive electronics, and power systems.

Manufacturing Process

The production of Cofan's stacked fin heatsinks involves:

1. **Fin Fabrication** – Individual thin fins are formed through stamping or folding processes.
2. **Attachment to Base** – Using **soldering, welding, or adhesives** to ensure a strong thermal bond.
3. **Surface Treatment** – Anodizing, plating, or coating to improve **thermal conductivity** and **corrosion resistance**.

This method ensures **consistent quality, high efficiency, and long-term reliability**.

Applications Across Industries

1. Computing & Data Centers

- **CPUs:** Modern processors generate significant heat due to their high density of transistors. High-performance desktops, servers, and AI systems use stacked fin heatsinks for temperature stability.
- **GPUs:** Gaming and AI-focused GPUs require intensive cooling. Stacked fin heatsinks, often paired with heat pipes and fans, manage these thermal loads efficiently.
- **Networking Equipment:** Data centers rely on these heatsinks in routers, switches, and server blades for 24/7 operation.

2. Power Electronics

- **Power Transistors & MOSFETs:** Used in industrial power supplies, inverters, and amplifiers, where stable operation under load is essential.
- **RF & Audio Power Amplifiers:** In telecom base stations and high-fidelity audio equipment, stacked fin heatsinks maintain performance and prevent thermal damage.

3. Telecommunications

- **RF Power Amplifiers:** Cellular base stations use stacked fin heatsinks to cool high-power RF modules, ensuring signal integrity.

- **Networking Hardware:** Continuous-operation networking gear depends on these heatsinks to prevent performance degradation.

4. LED Lighting

- **High-Power LEDs:** Industrial, commercial, and street lighting fixtures use stacked fin designs to maintain brightness and extend lifespan by preventing overheating.

5. Automotive Electronics

- **Electronic Control Units (ECUs):** In EVs and hybrids, ECUs and battery management systems (BMS) require precise cooling.
- **Power Modules:** Critical in propulsion systems and regenerative braking components, where heat management is key to efficiency.

6. Consumer Electronics

- **Gaming Consoles:** High-performance consoles like PlayStation and Xbox employ stacked fin cooling to handle extended gaming sessions.
- **Smart Appliances:** Embedded processors in appliances like smart refrigerators and ovens need compact, effective heatsinks.

7. Industrial Equipment & Robotics

- **Motor Drives & Inverters:** Automation systems use stacked fin cooling to maintain operational reliability.
- **Robotics:** Actuators and controllers in industrial robots rely on this design for efficient thermal control.

Why Cofan's Stacked Fin Heatsinks Stand Out

Cofan brings decades of **thermal engineering expertise** and **in-house manufacturing** to deliver reliable, high-performance cooling solutions. Our ability to **customize designs** ensures that each application—whether in **computing, automotive, LED lighting, telecom, or industrial systems**—receives an optimized heatsink for maximum efficiency and durability.