

Aochuan Technology

Thermal Management Materials Solution Supplier

**20+ Years Dedicated to Thermal Interface Materials
Driving Industry Innovation**

Aochuan Technology

Established in 2004, Shenzhen Aochuan Technology Co., Ltd. is a world leading manufacturer of thermal interface materials and provider of thermal management solutions in China.

Product Portfolio

Thermal gap filler pads, silicone-free thermal pad, thermal conductive insulators, thermal grease, thermal liquid gap filler, potting compounds, phase change materials, EMI absorbing pads, thermal putty, fiberglass reinforced pads, liquid metal grease, graphene thermal pad.

Applications

AI computing • Servers • Energy storage • Security systems • Telecom • Power supplies • Automotive electronics • New energy vehicles.

Innovation & Market

Dozens of proprietary patents with business presence across domestic and global markets.



Corporate Overview



22 Years

22 Years of Expertise in the R&D and Manufacturing of Thermal Interface Materials (TIM).



50+

Complete Product Portfolio
Professional Thermal Interface Materials Supplier



300+

Strong Talent Reserve
300+ Employees Across Greater China



2000+

Customized Thermal Solutions for 2,000+ Enterprises Worldwide

Philosophy

People First, Contributing to Society

Mission

Strive for Excellence and Build a World-Class Brand.

Vision

To create greater value for our customers.
To build a company where employees feel proud to belong.

2004

July 14, 2004 – **Shenzhen Aochuan Technology Co., Ltd.** was established, becoming **one of the first domestic manufacturers** integrating independent R&D, manufacturing, and sales of thermal interface materials.

2009

Established a dedicated R&D department, **pioneering** advanced technologies in **powder compounding** and **material modification**.

2015

Established partnerships with leading new energy battery manufacturers.
• **BYD** • **Gotion High-Tech** • **CALB** • **EVE Energy** • **Fute**

2020

Established a Class 1,000,000 cleanroom facility, becoming **the first** TIM manufacturer in China **with a standardized cleanroom workshop**.

2023

Recognized as a Shenzhen **SRDI SME** (Specialized, Refined, Differential, and Innovative).

2005

Developed **the first generation of halogen-free eco-friendly thermal interface materials**, successfully applied in set-top box and intercom projects for Dahua Technology.

2011

Awarded the **first patent certificate** in China's thermal materials industry by the China National Intellectual Property Administration (**CNIPA**).

2017

Completed factory **relocation** from Shenzhen to Heyuan, expanding the facility from **4,000 m² to 12,000 m²** and introducing advanced equipment and multiple production lines to greatly enhance production capacity.

2022

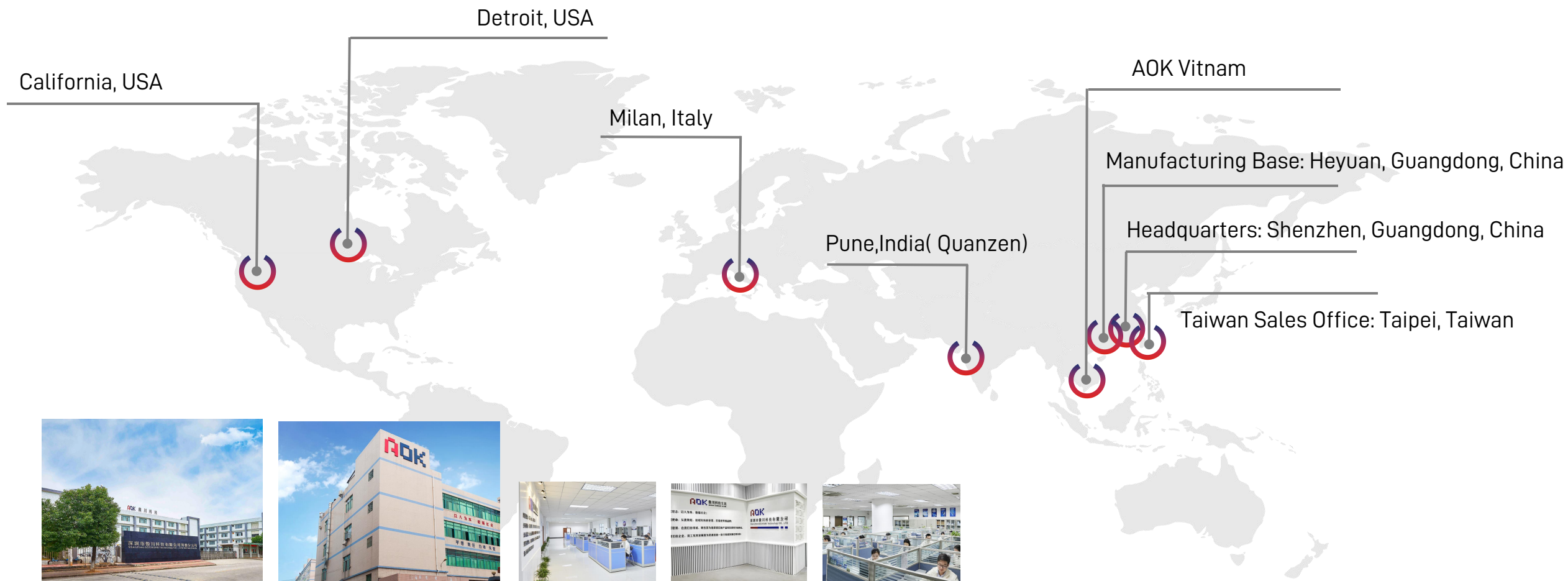
Recognized as a Shenzhen Innovative SME.
Became **the first** domestic TIM enterprise to implement an integrated five-management-system framework and the integration of informatization, industrialization, and automation.

2025

Launched multiple high-performance thermal materials:
Graphene Thermal Pads
Phase Change Materials (PCM)
Liquid Metal Thermal Grease
Thermal Grease

- Class 1,000,000 Cleanroom Facility
- Multiple Automated & Intelligent Production Lines
- Annual Capacity: 50,000+ Tons





With offices across Asia, North America, and Europe, we provide a global service network supporting customers worldwide.



Innovation-Driven R&D

- **22 years** of expertise in thermal materials, building an internationally competitive R&D system.
- R&D team of experts and senior engineers, with core members having **10+ years of industry experience**.
- 2010 breakthrough: achieved **domestic substitution of spherical alumina** with support from local powder suppliers. Resolved a key raw material supply bottleneck, creating early advantages for China's thermal materials industry.



Patent Portfolio

- **Dozens of core patents** have been applied for and granted, with **5-6 new patents added** annually, ensuring independent and controllable core technologies.
- Dec 14, 2011: Obtained **the first patent certificate** in China's thermal materials industry issued by the China National Intellectual Property Administration (CNIPA).



Technical Collaboration Network

- Close **industry-university-research collaboration** with **Sichuan University, Hunan University, and Huangpu Institute of Materials (GBA)**.
- Continuously introducing advanced materials technologies and promoting research commercialization.



Establishing Industry Leadership and a Strong Brand Moat

Standards Contribution



Industry Influence

Industry pioneer

Established in 2004 as China's first company focused on thermal design solutions and thermal interface materials (TIM), with 21 years of expertise.

Standards Contribution

- Actively contributed to the development of industry standards for thermal interface materials in China.
- Participated in drafting **GB/T 43751-2024** – Rubber and Rubber Products: Guidelines for the Application of Statistics in Physical Testing,, helping guide standardized testing and practices in the industry.

Brand Development

- Owner of well-known trademarks "AOK" and "Aochuan".
- Actively expanding global brand presence.
- 2018 Guangdong Famous Brand Product (Industry Category) award.

Thermal Interface Materials and Thermal Solutions Provider



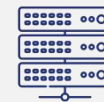
New Energy Vehicles (NEV)



Security systems



Power Supplies



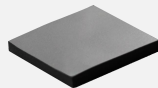
**Networking and
Communications**



Automotive Electronics



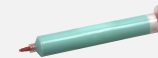
Thermal Gap Filler Pad



Silicone-Free
Thermal Pad



Thermal Conductive
Insulators



Two-part Liquid Gap
Filler



One Part Liquid Dispensed
Materials



Thermal Grease



Two-part Thermally
Conductive Potting
Encapsulate



Phase Change
Thermal Material



Liquid Metal Grease



Graphene Thermal
Pad

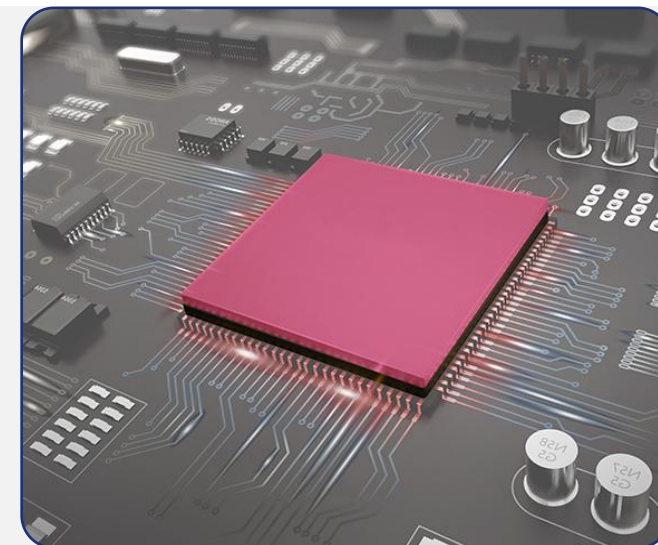
Thermal Gap Filler Pad

Product Introduction

Thermal Gap Filler Pads are designed to perfectly fill microscopic gaps at the contact interface, completely displacing trapped air. Air is a very poor thermal conductor and creates significant thermal resistance that severely blocks heat flow between surfaces. By adding Thermal Gap Filler Pad, the heat source and heat sink achieve true full-face contact, enabling direct “face-to-face” heat transfer and delivering the smallest possible temperature difference (ΔT).

Product Features

- Wide thermal conductivity range – covers all high-power components.
- Bridges tolerances – lowers assembly precision requirements.
- Excellent electrical insulation + long-term weather resistance.
- Non-corrosive & metal/plastic compatible (RoHS & REACH).
- Easy to install, die-cut to any shape & reusable.



Silicon-Free Thermal pad

- Thermal Conductivity: 2.0–10.0 W/m-K
- No silicone bleed or siloxane outgassing
- Excellent mechanical properties
- Slight tackiness (optional single-side adhesion)
- Soft texture, easy processing
- Superior electrical insulation
- High compressibility



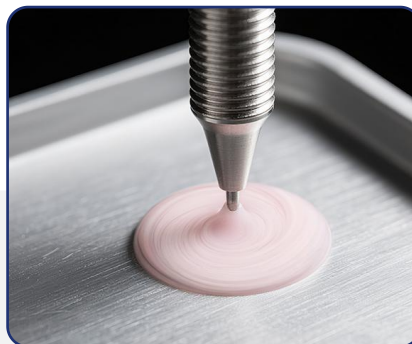
Thermally Conductive EMI Absorber Pad

- Dual-function: Heat dissipation + Microwave absorption
- Low thermal resistance
- Natural surface low tack for easy install
- Outstanding EMI absorption & shielding
- Superior high/low temp & mechanical properties



Two-part Liquid Gap Filler

- Thermal Conductivity range: 2.0 / 3.0 / 3.5 / 4.0 / 6.0 / 8.0 / 10.0 / 12.0 W/m-K
- Low viscosity – easy dispensing
- Ultra-low compression stress
- Adjustable cure time
- Superior high/low temp & chemical stability



One part Liquid Dispensed Materials

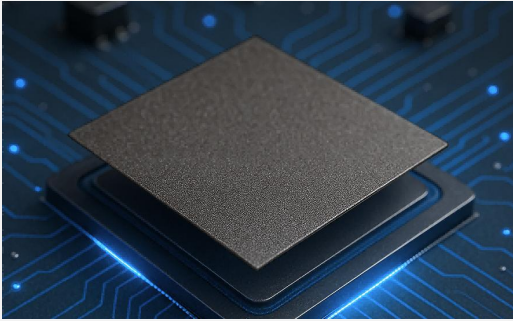
- Thermal Conductivity: 2.0–15.0 W/m-K optional
- High electrical insulation
- Low compression stress
- Excellent wide-temperature performance
- Extremely low interface thermal resistance
- Ready for automated high-volume production



Two-part Thermally Conductive Potting Encapsulate

- Thermal Conductivity: 0.6–4.0 W/m-K optional
- High electrical insulation
- Adjustable pot life / working time
- UL94 V-0 flame retardant
- Excellent flowability & wettability
- Automated dispensing ready

Advanced Thermal Management Product Portfolio

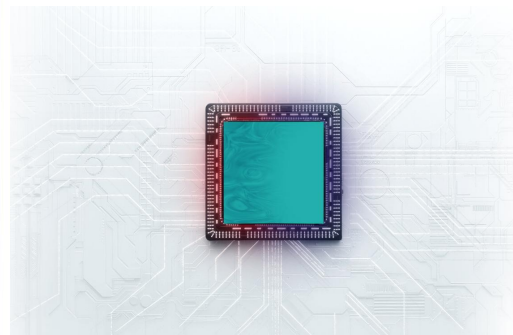


Graphene Thermal Pad

- Highly flexible pad with superior thermal conductivity.
- Ultra-low thermal resistance (≤ 0.04 °C·cm²/W).
- Lightweight, easy to install, and highly resilient.

Phase Change Material (PCM)

- Solid pad at room temperature, transforms into a semi-liquid state above the phase change temperature
- Excellent wettability and compressibility for effective gap filling
- Reduces interface thermal resistance and improves heat transfer efficiency



Liquid Metal Grease

- Designed for applications requiring stable interface pressure and controlled bond line thickness (BLT)
 - Excellent thermal performance for high heat flux devices
- Suitable for screen-printing processes for optimized application

Thermal Grease

- Ultra-low thermal resistance for efficient heat dissipation
- Combines low bond line thickness (BLT) with high thermal conductivity
- Provides stable and reliable thermal interface performance



Thermal Management Service Ecosystem

Solution Design

- Experienced thermal engineering team with strong technical support capabilities.
- Provide customized thermal management solutions based on application scenarios and thermal simulation analysis.

Custom Development

- Provide customized product development when standard products do not fully meet application requirements.
- Develop customer-specific thermal solutions based on project needs.

After-Sales Support & Warranty

- Quality is the foundation of AOK products.
- Comprehensive warranty and after-sales support ensure reliable performance and customer peace of mind.





- Thermal solution consulting
- Material selection
- Targeted product development

- Rapid sample support
- Customized testing
- Technical support

- Customized products
- Continuous technical support
- Solution optimization

Early Stage

Mid Stage

Late Stage

Project Support Features



Real-time service response



Comprehensive error-correction system



Extensive project experience

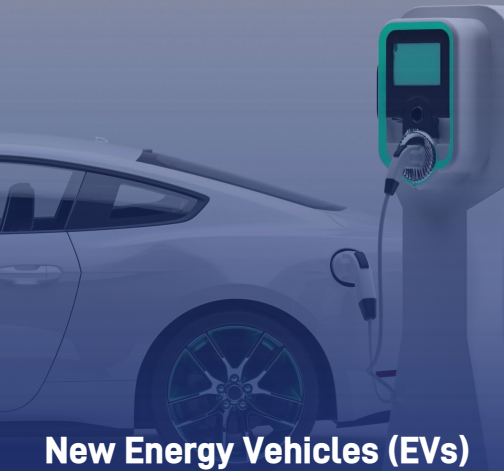


Strict project supervision



Global support

Thermal Management Solutions



New Energy Vehicles (EVs)



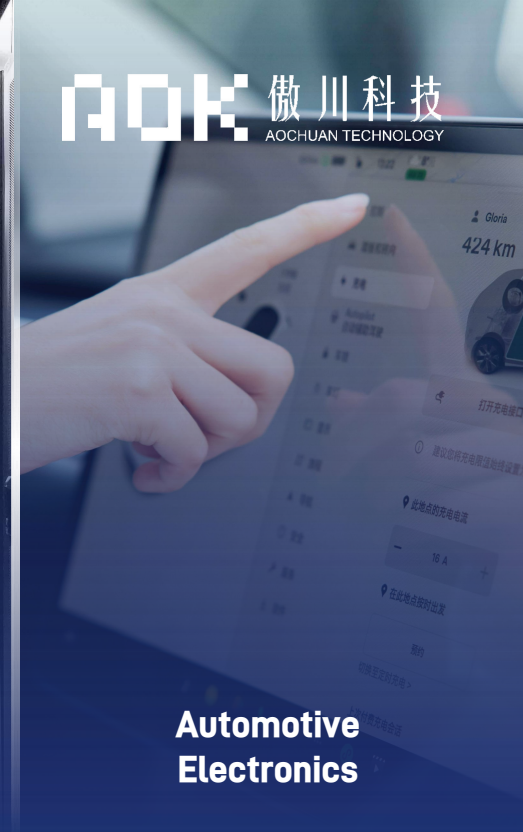
Security System



Power Supplies



Telecom



Automotive Electronics

AOK 傲川科技
AOCHUAN TECHNOLOGY

·Efficient Heat Dissipation: Rapidly extracts heat during high-temperature operation to prevent thermal runaway and ensure safety.

·Low-Temperature Preheating: Enhances cell activity in cold environments to guarantee reliable charging/discharging performance.

·Temperature Uniformity: Minimizes temperature differentials between cells, suppresses hot spot formation, slows battery degradation, and extends the overall pack lifecycle.

Surveillance systems integrate cameras, PTZ domes, monitors, displays, DVRs, and matrix switchers, often operating 24/7 in compact enclosures.

AOK Thermal Silicone Pads are engineered for various power ratings of security cameras. Each product undergoes rigorous high-temperature aging tests to ensure consistent thermal performance and long-term reliability under continuous operation.

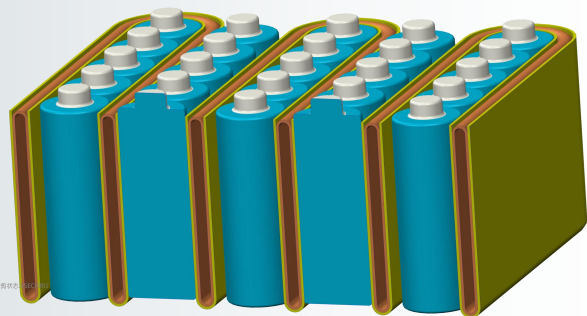
Optimizing heat transfer paths is critical for power supply reliability. By implementing strategic thermal layouts and selecting the appropriate Thermal Interface Materials (TIMs), heat is efficiently transferred from internal components to heatsinks, effectively reducing temperature rise and enhancing power density and long-term stability.

As network equipment evolves with higher intelligence and frequencies, increased data processing leads to greater power consumption and thermal challenges.

As an indispensable "enabler" in electronics thermal design, TIMs effectively bridge thermal bottlenecks, ensuring chips operate within optimal temperature ranges. This boosts processing speeds, system stability, and overall product lifespan.

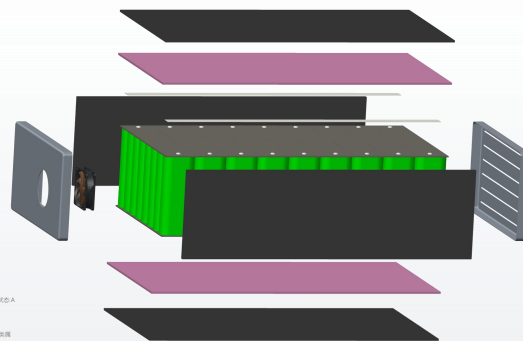
AOK thermal materials are maturely deployed across critical new energy vehicle systems. We offer a full suite of solutions—including thermal conduction, heat spreading, and thermal insulation—empowering our clients to achieve higher standards of safety and reliability in their automotive electronics.

Thermal Management Solutions for New Energy Vehicles (Case Studies)



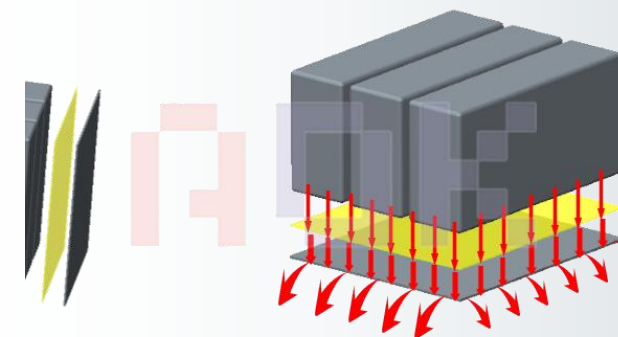
Tesla Battery Thermal Management System – Cooling Principle

- Battery cells generate large amounts of heat during operation
- Thermal gap filler pad transfers heat to cooling tubes
- Cooling tubes deliver heat to the circulating coolant
- Coolant flows through the pack, removing heat efficiently



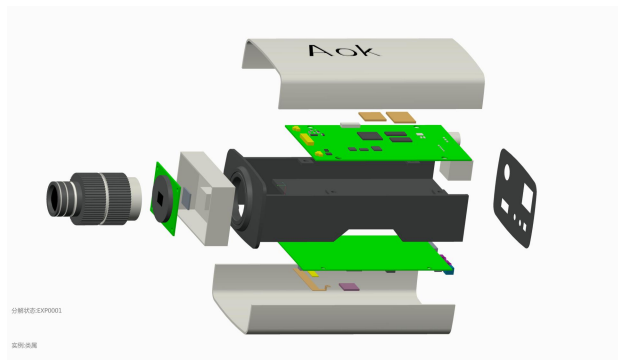
Leading Chinese EV Manufacturer – Battery Cooling Principle

- Active air cooling with fans blowing into battery channels
- Heat is carried away by airflow
- Problem: Internal $\Delta T > 5^{\circ}\text{C}$
- Solution: Thermal gap filler pad on top & bottom
- Heat transferred to outer cooling housing
- Result: $\Delta T \leq 5^{\circ}\text{C}$ • Longer battery life • More stable performance



A Leading Chinese EV Manufacturer – Passive Cooling Principle

- Passive air cooling design (without fans)
- Thermal gap filler pad between battery pack and aluminum plate
- Heat transferred from cells to aluminum plate
- Cooling plate dissipates heat to ambient air via natural convection

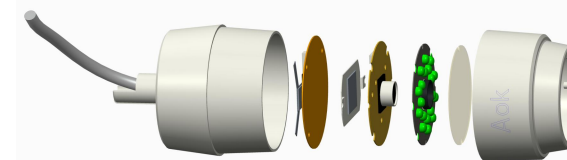
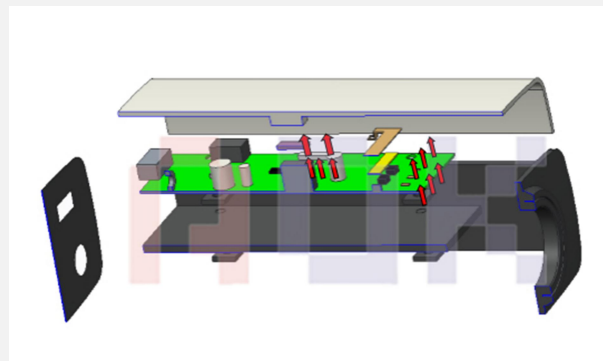


Low-Volatility Thermally Conductive Pad in Image Processing Modules

- Problem with conventional TIMs: Siloxane outgassing in high-temp operation
- Volatiles deposit on optical lens → contaminates sensor → poor image quality
- Key requirement: Low oil bleed + low volatility
- Solution: Our low-volatility (non-silicone) thermal pad
- Result: Crystal-clear images & long-term reliability

Thermal Gap Filler Pad Application on Power Boards

- Camera operation generates rapid internal heat buildup
- Risk: Overheating → component failure & reduced reliability
- Critical need: Lower thermal load on core parts + eliminate PCB stress concentration
- Solution: Our Thermal gap filler pad on power board
- Result: Stable temperature • Longer lifespan • Consistent 24/7 performance

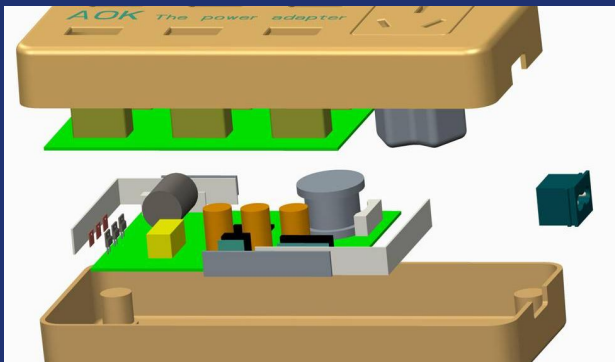


Thermal Gap Filler Pad Application on Bullet Cameras

- Most PTZ housings lack ventilation holes → poor heat dissipation
- Camera operation → excessive internal temperature rise
- Risk: Malfunction or damage to camera & electronics
- Solution: Our Thermal gap filler pad
- Result: Safe operating temperature • Long-term reliability



More Details

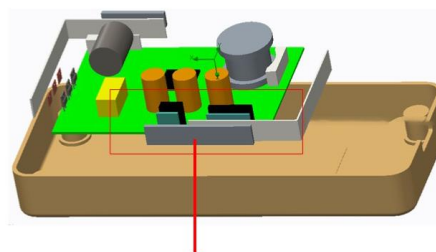


Thermally Conductive Material Solution for Power Adapters

- Everyday devices that run hot during long-term use
- Risk: High temperature → performance drop & safety hazards
- Critical need: Effective heat dissipation for stability
- Solution: Our Thermal gap filler pad / grease
- Result: Lower operating temperature • Higher reliability • Safer product

Thermal Pad Application in Power Supplies

- Camera operation generates rapid internal heat buildup
- Risk: Overheating → component failure & reduced reliability
- Critical need: Lower thermal load on core parts + eliminate PCB stress concentration
- Solution: Our Thermal gap filler pad in power supplies
- Result: Stable temperature • Longer lifespan • Consistent performance



Thermal gap filler pad

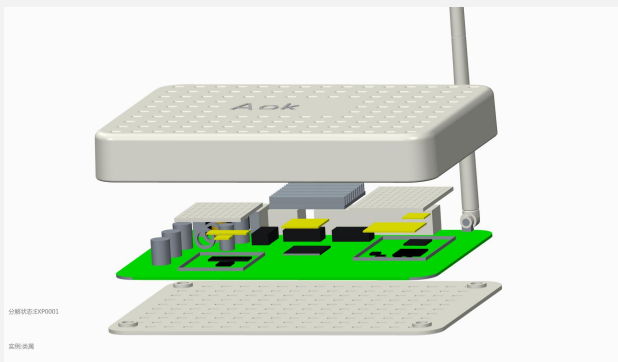


Thermally Conductive Potting Encapsulate Application in Power Supplies

- Local Potting: For high & concentrated heat loads where other TIMs cannot substitute
- Full Potting: For long-term outdoor power supplies
- Solves heat dissipation + waterproofing + sealing simultaneously
- Solution: Our UL94 V-0 thermally conductive potting compound
- Result: Reliable operation in harsh environments • Extended product life



More Details



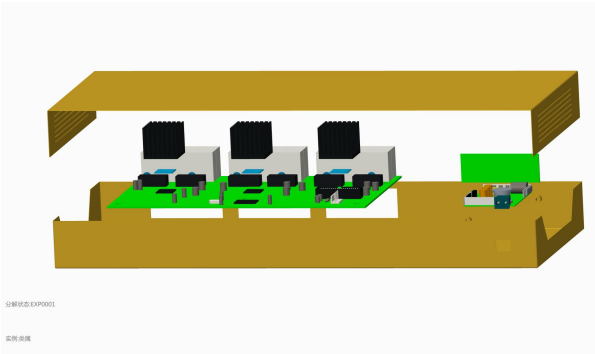
Thermal Pad Application on Routers

- Passive cooling via housing vents → limited efficiency
- Risk: High internal temperature → instability & reduced performance
- Solution: Our Thermal gap filler pad combined with housing
- Result: Faster heat transfer • Stable operation • Longer lifespan

Thermal Pad Application on Switches

High-heat chips → air gaps create high thermal resistance

- Solution: Our pad fills gaps perfectly
- Forms direct thermal path from chip to housing
- Keeps chip temperature in safe range
- Result: Reliable & safe switch operation 24/7



Thermal Grease Application in Power Amplifiers (PA) of DRRU

- PAs in DRRU generate huge heat at high power output
- Risk: Overheating → performance drop & reliability issues
- Solution: Our thermal grease between PA and external cooling system
- Result: Efficient heat transfer • Stable high-power operation • No thermal degradation



More Details



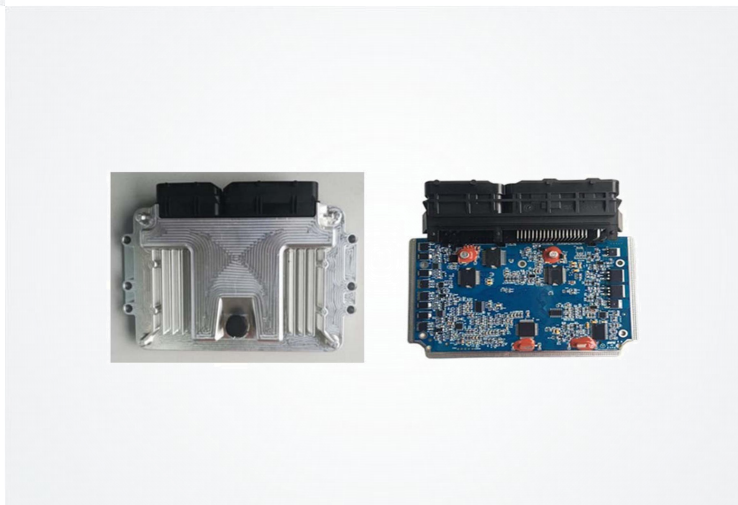
EMS Motor Management System Thermal Solution

- Motor controller + water cooling with TP200R Series pad
- Dramatically lowers system thermal resistance
- Increases power density
- Greatly improves vibration & shock resistance
- Perfect for long-term vibration in electric buses
- Result: Higher reliability • Stable high-power performance



BMS Battery Management System Thermal Solution

- BMS performs heavy computing & signal control
- Trend toward compact design → inevitable internal heat
- Risk: Overheating affects performance & reliability
- Solution: Our Thermal gap filler pad between PCB and housing/heat sink
- Result: Efficient heat transfer + insulation + vibration damping
 - Stable & reliable BMS operation



ECU Electronic Control Unit Thermal Solution

- Sealed ECU in continuous high-temp environment
- Solution: TP150 Series thermal gap filler pad
- Double-sided self-adhesive
- Wide temperature range: -40°C to +150°C
- UL94 V-0 flame retardant rated
- Result: Low thermal resistance + insulation + vibration protection • Reliable sealed operation



More Details



THANKS

No. 302, Guihua Road, Guanlan Street, Longhua District, Shenzhen, 518110, China

www.cnaok.com

