

AI DATA CENTER

Powering, cooling & Sensing

Melexis ICs provide the intelligence, safety, and efficiency required for high-density AI data centers. From grid-to-chip 800V power conversion to advanced liquid cooling infrastructure, our automotive-grade semiconductor solutions enable higher power density, lower thermal resistance, and real-time operational diagnostics

Current Sensor ICs

High-isolation, fast-response current sensors engineered to optimize power conversion efficiency and overcurrent protection across 800V architectures and server shelves.



Technology choice

- ✓ High accuracy & fast response
- ✓ High galvanic isolation & surge current capability
- ✓ System design flexibility

Motor Driver ICs

Compact, Code-Free motor drivers and predrivers designed for high-efficiency 12V/48V server fans, CDU pumps, and coolant valves.



Technology choice

- ✓ Code-Free (no SW development)
- ✓ Plug-and-play integration for 1-coil and 3-phase BLDC motors
- ✓ Automotive-grade quality and reliability

Pressure Sensor ICs

Factory-calibrated, liquid-compatible pressure sensors for continuous monitoring and leak detection in direct-to-chip liquid loops and Coolant Distribution Units (CDUs).



Technology choice

- ✓ 2-70 bar in gas, liquid and frozen media
- ✓ Excellent media compatibility (e.g., PG25 coolant)
- ✓ Integrated self-diagnostics

Temperature Sensor ICs

Contactless infrared temperature sensors enabling real-time thermal management on busbars, cold plates, and critical server hot spots.

Technology choice

- ✓ Contactless
- ✓ Fast response
- ✓ Factory calibrated



Protective Devices

Monolithic Silicon-RC snubbers designed to damp high-voltage switching transients and boost power converter reliability in 800V SiC/GaN architectures.

Technology choice

- ✓ Compact and reliable
- ✓ Reduces switching losses
- ✓ High thermal stability



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