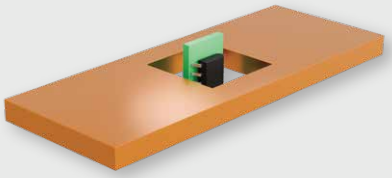
Coreless external primary Hall current sensor IC

MLX91235

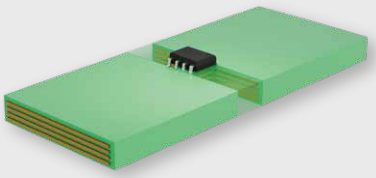
The MLX91235 is a smart high-speed coreless current sensor designed to revolutionize your power electronics designs. By eliminating the need for external ferromagnetic concentrators (C-cores or U-shields), it reduces system complexity and BOM.

Key features

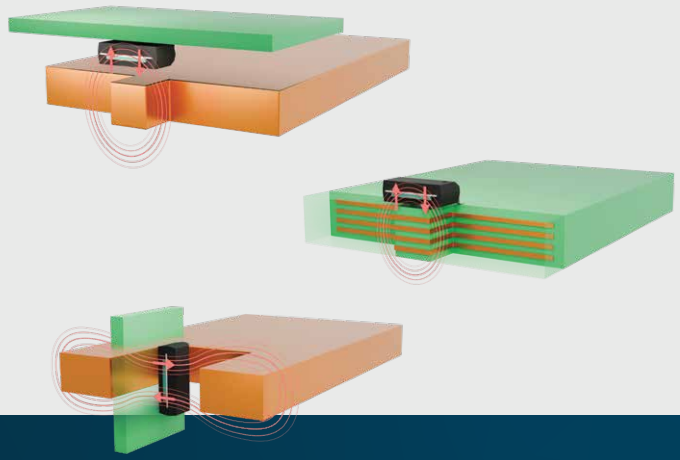
- Coreless technology
  - No need for a ferromagnetic concentrator (C-core, U-shield)
  - Get Melexis support to ensure the best mechanical integration
- DSP compensation for high accuracy
  - <0.5% thermal sensitivity drift from -40°C to 150°C
  - <1% total sensitivity drift (thermal&lifetime) from -40°C to 150°C
  - Limited noise degradation over temperature
- Open calibration via SPI
  - End-of-line programmable
  - For easy in-situ adjustment
- High-speed sensing
  - DC to 500 kHz bandwidth
  - 1.5 µs response time
- Protection & diagnostics (via SPI)
  - Overcurrent detection (programmable, 1% accuracy) with fast detection (1.5µs)
  - Temperature monitoring
  - Self-test functionality
  - Broken wire detection
- Operating range
  - Supply 3.3V and 5V
  - Temperature from -40°C to 165°C
  - Ratiometric output
- ISO 26262 ASIL B compliant SEooC
- AEC-Q100 – Grade 0
- RoHS-compliant package SOIC-8 (die up)



Busbar (200-10'000 A)



Power PCB (<500 A)



Applications

- Inverter
- Battery Management System (BMS)
- Low voltage DC-DC converter
- Smart battery junction box
- Smart fuse
- Power distribution

www.melexis.com/MLX91235

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