Features

- Contactless current sensing based on AMR effect
- Wide measurement bandwidth: DC to 500kHz
- Excellent immunity to magnetic stray fields using a differential sensor construction
- High precision: total error up to 1.5% of full scale
- Negligible output hysteresis
- Analog current output; external shunt (RM) for voltage conversion
- Factory programmed zero-offset temp-coefficient
- Customer programmed sensitivity trimming after mounting on to the primary current rail (end-of-line)
- Internal precision reference or use external reference
- Overcurrent alarm output with tuneable threshold
- Single 5V supply

Applications

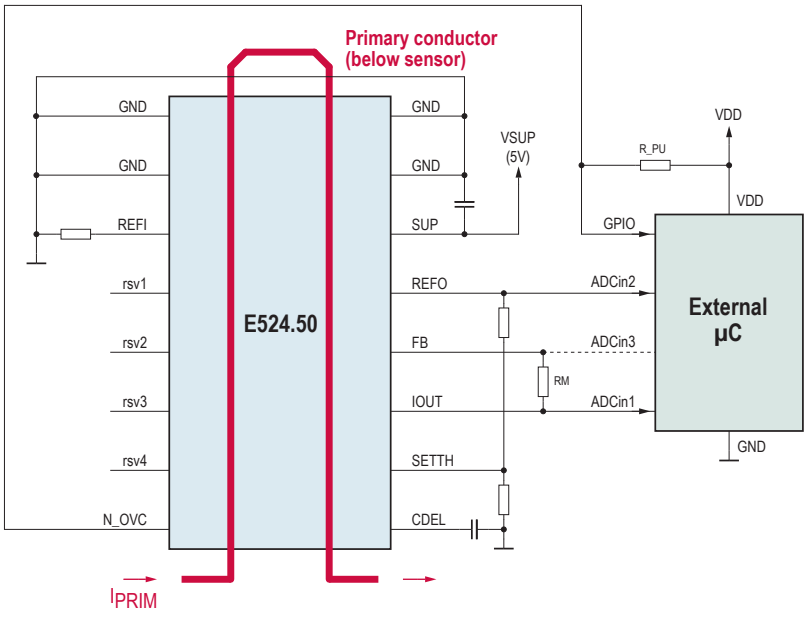
- Electrical motors controls, AC variable speed drives
- Power inverters
- Switch mode power supplies
- Current measurement for safety switch control
- Battery management

General Description

The E524.50 current sensor family is designed for highly dynamic electronic measurements of DC, AC, or pulsed currents with integrated galvanic isolation. This current sensor based on the an-isotropic magneto-resistive effect (AMR) enables excellent dynamic response without a hysteresis present in designs using iron-cores. The primary current measured needs to be fed below the sensor on PCB or in a current rail, usually a U-shaped conductor defining the magnetic field gradient.
The sensor device includes a high-precision signal conditioner IC providing internal feedback of a sensor compensation current for optimum linearity. The IC-output is an offset calibrated and pre-scaled current which is proportional to the primary current measured. This output is easily converted to a voltage with an external resistor at the post-processing device (usually ADC or amplifier). A precise on-chip voltage reference is provided. Alternatively, an external reference can be used. Total accuracy of a multi-sensor system is improved by sharing one voltage reference for all sensors. A fast overcurrent alarm output allows for immediate reaction to overload events independent of processor and software.

Ordering Information

Product ID	Temp. Range	Package
E524.50	-40°C to +125°C	SOIC16



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