

XENSIV™ – TLI5570 TMR

Magnetic current sensor

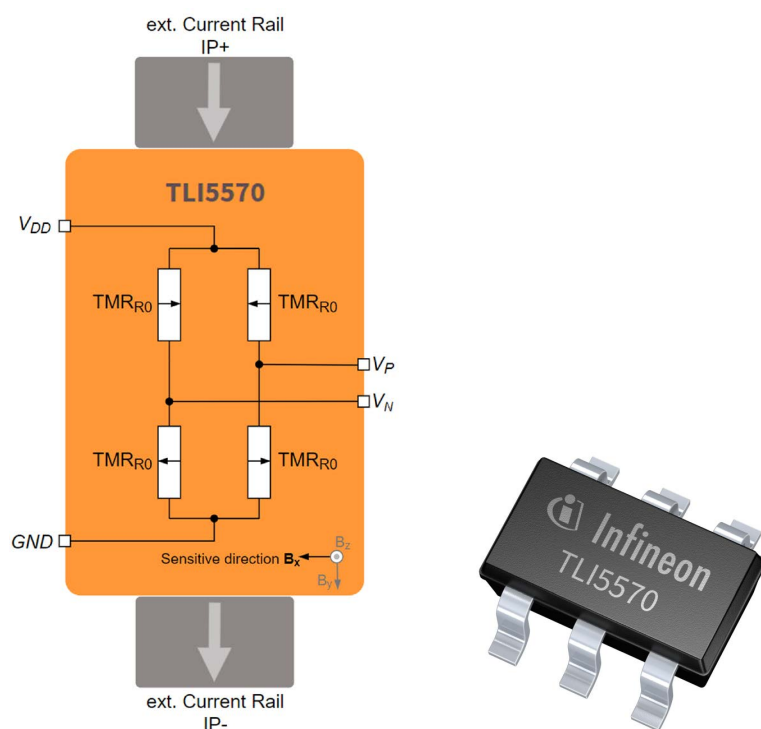
Cost efficient small sized current sensor

The XENSIV™ TLI5570-RE35E1-E0001 is a high-precision miniature coreless magnetic sensor for AC and DC measurement. Our revolutionary and robust, highly linear monolithic TMR (tunnel magnetoresistance) technology enables accurate current measurement. With a bandwidth of more than 1.1 MHz, this sensor provides a non-amplified high-speed differential analog output signal to be directly connected to replacing shunts.

Utilizing Infineon's new and highly linear TMR technology, this coreless sensor can measure currents accurately from 0 A to >1000 A. In particular, the very high signal to noise ratio performance of the TMR technology enables precise measurements even in applications with lower currents. Suitable for both AC and DC currents, the sensor's bandwidth of over 1 MHz delivers a non-amplified, high-speed differential analog output signal for direct connection to amplification stages. Thanks to Infineon's extensive experience in magneto-resistive sensor technologies, our new generation TMR sensor provides superior temperature and lifetime stability. Its industrial grade qualification enables the operation in harsh environments up to 125°C.

Key features

- Accurate AC & DC current sensing with stable sensitivity and offset over temperature and lifetime
- Contactless, galvanically isolated current measurement up to > 1 kA
- From 1 V and 5 V supply voltage
- > 1.1 MHz bandwidth
- Ultra-low noise analog out
- Temperature range -40°C to +125°C
- Magnetic measurement range ± 35 mT



Key benefits

- Cost-efficient TMR current sensor as shunt replacement
- Isolated current measurement
- Small design footprint
- Wide range of applications
- Highly robust system design
- Reduced power losses and lowest parasitic inductance



Power tools



Vacuum cleaner



Home & garden



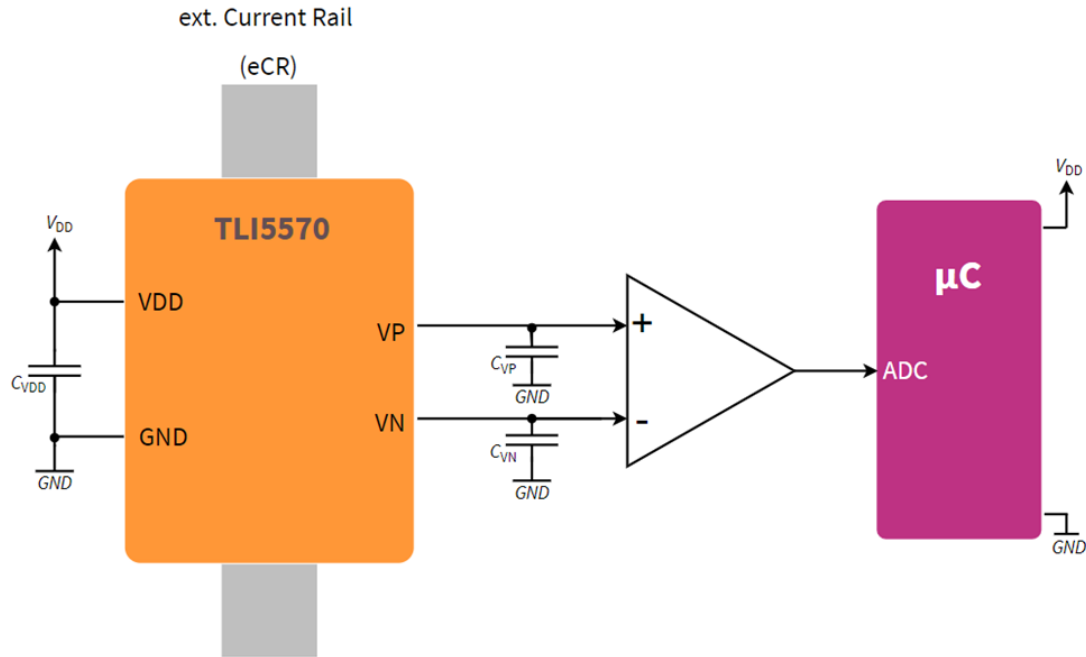
Warehouse / logistics robots

PRODUCT BRIEF

The TLI5570-RE35E1-E0001 is aimed at replacing a shunt resistor in multiple applications. Like Shunts, the TLI5570 provides a directly compatible output signal for a differential operational amplifier. This amplifier converts the differential signal into a single-ended signal for the ADC of a microcontroller.

Alternatively, the TLI5570-RE35E1-E0001 can connect to a device with a differential analog input and integrated differential-to-single-ended conversion. In this setup the differential operational amplifier is built-in, and the signal is internally routed to an ADC

Example block diagram



Product	Typ. accuracy	Field range [mT]	Bandwidth [MHz]	Typ. sensitivity [mV/V/mT]	Industrial	Package
TLI5570-RE35E1-E0001	5%	35	> 1.1	4.8	√	PG-SOT23-6-4

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