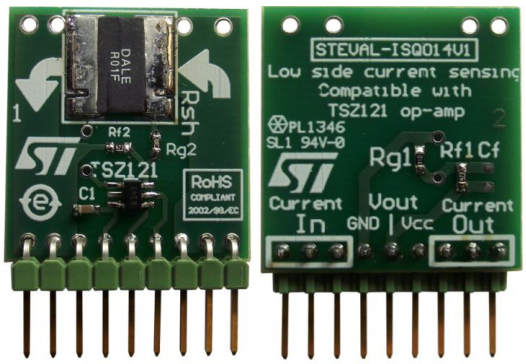
STEVAL-ISQ014V1

Low-side current sensing evaluation board based on the TSZ121 op amp

Data brief



Features

- Very high accuracy: offset voltage 5 µV max at 25 °C, 8 µV over full temperature range (-40 °C to 125 °C)
- Rail-to-rail input and output
- Low supply voltage: 1.8 - 5.5 V
- Low power consumption: 40 µA max. at 5 V
- Gain bandwidth product: 400 kHz
- High tolerance to ESD: 4 kV HBM
- Extended temperature range: -40 to +125 °C
- Micro-packages: SC70-5 (TSZ121), DFN8 2x2 (TSZ122), and QFN16 3x3 (TSZ124)
- RoHS compliant

Description

The STEVAL-ISQ014V1 product evaluation board implements low-side current sensing which consists in placing a sense resistor between the load and the circuit ground. The resulting voltage drop is amplified using a TSZ121 op amp.

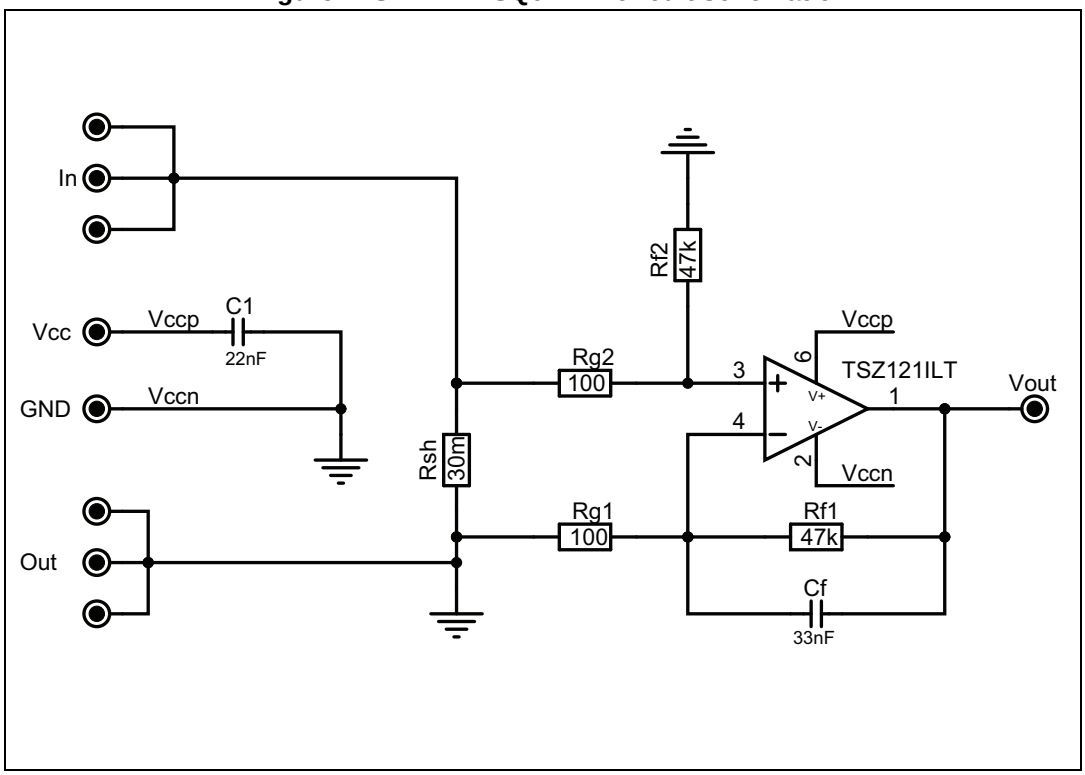
The common mode voltage is close to ground, whatever the voltage of the power source, so the current sense voltage can be amplified by this low voltage op amp without restriction.

The circuit offers very stable electrical characteristics over the entire supply voltage range and is particularly suited for automotive and industrial applications.

Thanks to the highly accurate TSZ121 op amp, precise current measurements can be made through your application without the added cost of high-precision resistors.

1 Schematic diagram

Figure 1. STEVAL-ISQ014V1 circuit schematic



2 Revision history

Table 1. Document revision history

Date	Revision	Changes
08-May-2014	1	Initial release.

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