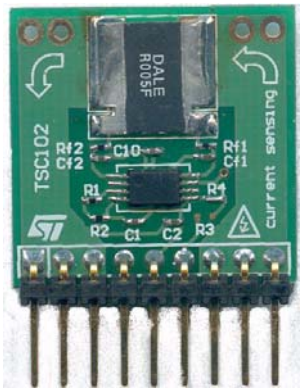
# STEVAL-ISQ010V1

## High-side current-sense amplifier demonstration board based on the TSC102

**Data brief**

## Features

- Independent supply and input common-mode voltages
- Wide common-mode operating range: 2.8 V to 30 V
- Wide common-mode survival range: -16 V to 60 V (reverse battery and load-dump conditions)
- Low current consumption: $I_{CC}$ max = 450 µA
- Internally fixed gain: 20 V/V
- Integrated fully-accessible operational amplifier for tailor-made signal conditioning
- RoHS compliant




**STEVAL-ISQ010V1**

## Description

The STEVAL-ISQ010V1 demonstration board is specifically designed for the TSC102 device.

The TSC102 measures a very small voltage drop on a high-side shunt resistor and, using an internally fixed gain, amplifies the difference into a ground-referenced output voltage. The amplification gain is internally fixed. The device is housed in a tiny TSSOP8 package.

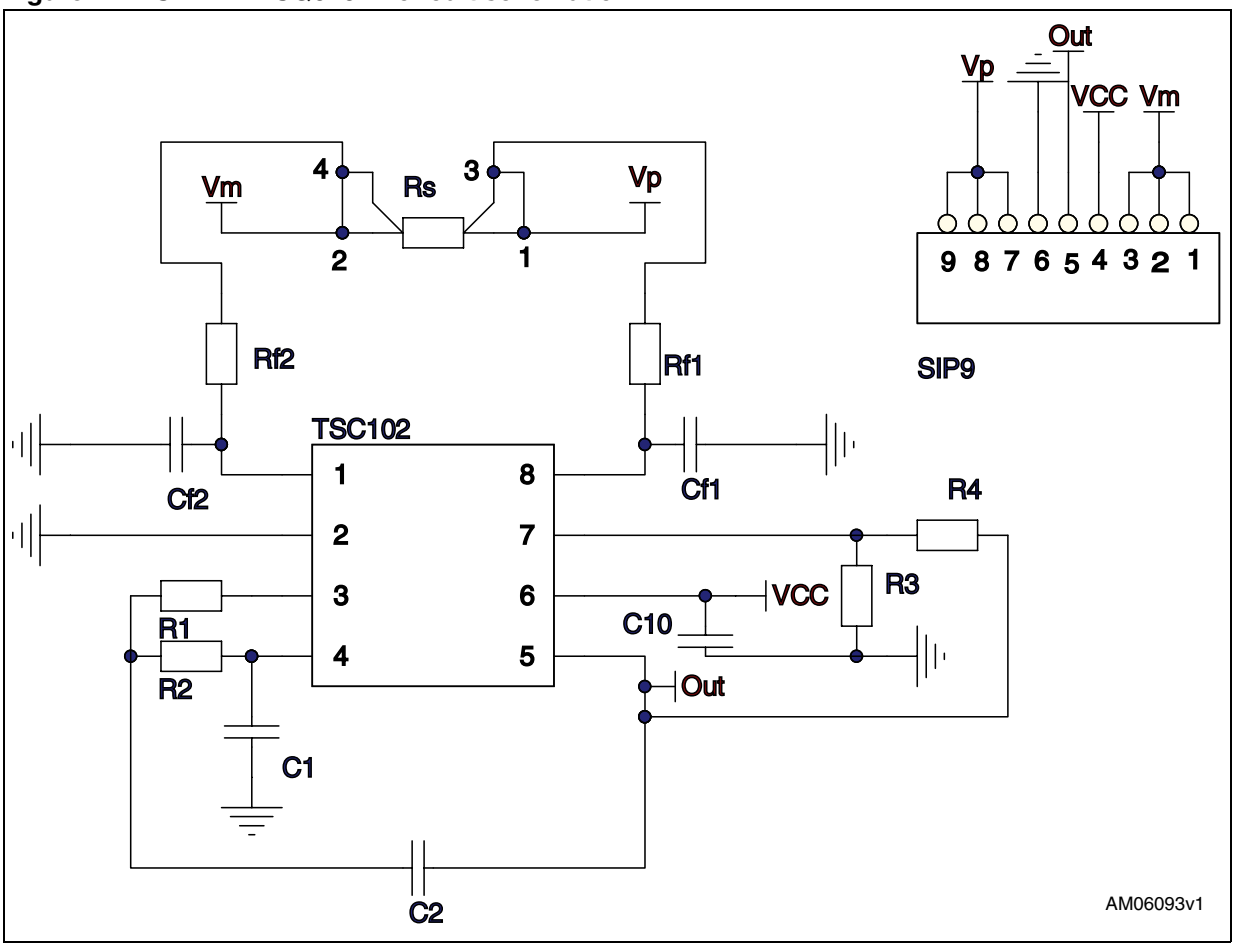
Input common-mode and power supply voltages are independent. The common-mode voltage can range from 2.8 V to 30 V during operation. Under absolute maximum rating conditions, the Vp and Vm pins can sustain as much as 60 V to handle events like load-dump conditions, and as low as -16 V to deal with reverse battery conditions.

The supply voltage can range from 3.5 V to 5.5 V, therefore the TSC102 can be supplied by the same voltage regulator used for digital circuits.

Current consumption is less than 450 µA over the temperature range, and low input bias current is less than 7 µA in standard conditions.

# 1 Schematic diagram

**Figure 1. STEVAL-ISQ010V1 circuit schematic**



# 2 Revision history

**Table 1. Document revision history**

| Date | Revision | Changes |
|---|---|---|
| 08-Mar-2010 | 1 | Initial release. |

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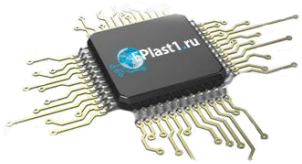


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