

1. FEATURES

- AEC-Q100 (ADX122Q only)
- Ultra-small QFN package: 2mm x 1.5mm x 0.4mm
- Small 3mm x 3mm MSOP package
- Wide supply range: 2V to 5.5V
- Low current consumption:
 - Continuous mode: Only 150µA
 - Single-shot mode: automatic power-down
- Programmable data rate up to 3571SPS
- Optional 50/60Hz rejection filter
- Sensor detect current
- Single-cycle settling
- Internal low-drift voltage reference
- Internal oscillator
- SPI compatible interface
- Internal PGA
- Four single-ended or two differential inputs
- Operating temperature range: -40°C to 125°C

2. APPLICATIONS

- Temperature measurement:
 - Thermocouple measurement
 - Thermistor measurement
- Portable instrumentation
- Factory automation and process controls
- Battery voltage and current monitoring

3. DESCRIPTION

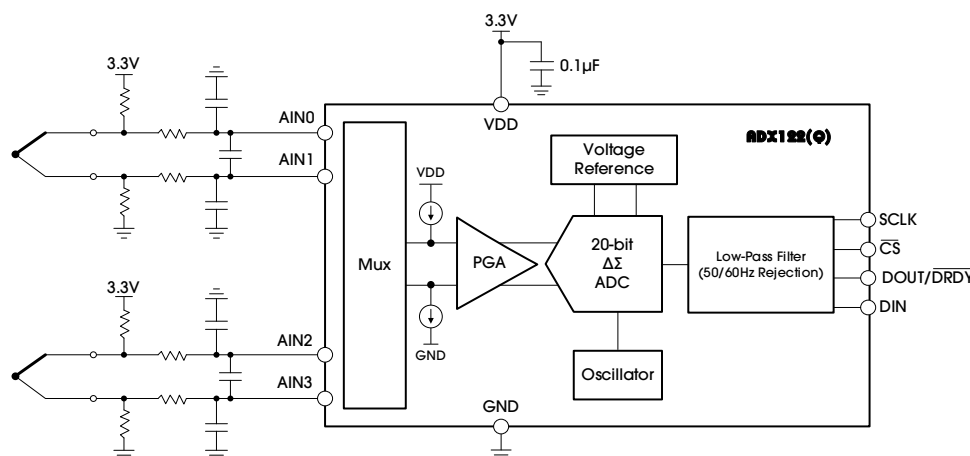
The ADX122(Q) is a precision, low-power, 20-bit analog-to-digital converter (ADC) that provides all features necessary to measure the most common sensor signals in an MSOP-10 package or an ultra-small, leadless QFN-10 package.

The ADX122(Q) integrates a programmable gain amplifier (PGA), voltage reference, oscillator. These features, along with a wide power supply range from 2V to 5.5V, make the ADX122(Q) ideally suited for applications of power- and space-constrained, sensor-measurement.

The ADX122(Q) can perform conversions at data rates up to 3571 samples per second (SPS). Internal digital filter provides flexible output data rate, from 10SPS to 3571SPS. The PGA offers input ranges from ±256mV to ±6.144V, allowing both large and small signals to be measured with high resolution. An input multiplexer (MUX) allows to measure two differential or four single-ended inputs.

The ADX122(Q) operates either in continuous conversion mode, or in a single-shot mode that automatically powers down after a conversion. Single-shot mode significantly reduces current consumption during idle periods. Data are transferred through a serial peripheral interface (SPI™). The ADX122(Q) is specified from -40°C to 125°C.

K-Type Thermocouple Measurement



Note: SPI is a trademark of Motorola, Inc.