

## Product Announcement

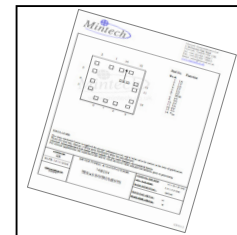
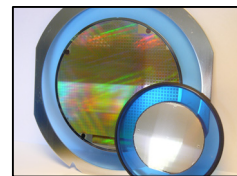
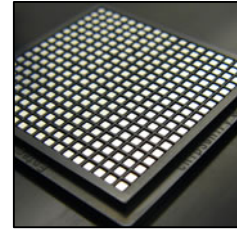
### Introducing PGA309 as Bare Die Product from Texas Instruments

## Voltage output Programmable Sensor Conditioner

The PGA309 is a programmable analog signal conditioner designed for bridge sensors. The analog signal path amplifies the sensor signal and provides digital calibration for zero, span, zero drift, span drift, and sensor linearization errors with applied stress (pressure, strain, etc.). The calibration is done via a One-Wire digital serial interface or through a Two-Wire industry-standard connection. The calibration parameters are stored in external non-volatile memory to eliminate manual trimming and achieve long-term stability.

The all-analog signal path contains a 2x2 input multiplexer (mux), auto-zero programmable-gain instrumentation amplifier, linearization circuit, voltage reference, internal oscillator, control logic, and an output amplifier. Programmable level shifting compensates for sensor DC offsets.

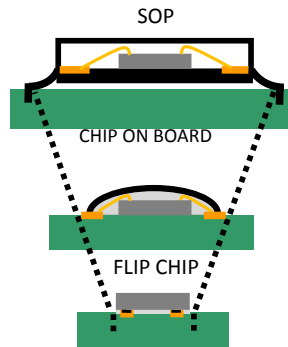
The core of the PGA309 is the precision, low-drift, no 1/f noise Front-End PGA (Programmable Gain Amplifier). The overall gain of the Front-End PGA + Output Amplifier can be adjusted from 2.7V/V to 1152V/V. The polarity of the inputs can be switched through the input mux to accommodate sensors with unknown polarity output. The Fault Monitor circuit detects and signals sensor burnout, overload, and system fault conditions. Designing applications with the PGA309 in bare die form allows the designer to place the device closer to the signal source to reduce noise pickup and increase signal integrity. Bare die form factor greatly assists size sensitive applications.



Please [contact us](#) for the PGA309 die geometry.

### Quick Reference Data

Vs (Min) (V)	2.7
Vs (Max) (V)	5



### Features

- COMPLETE BRIDGE SENSOR CONDITIONER
- VOLTAGE OUTPUT: Ratiometric or Absolute
- DIGITAL CAL: No Potentiometers/Sensor Trims
- SENSOR ERROR COMPENSATION
  - Span, Offset, and Temperature Drifts
- LOW ERROR, TIME STABLE
- SENSOR LINEARIZATION CIRCUITRY
- TEMPERATURE SENSE: Internal or External
- OVER/UNDER-SCALE LIMITING
- SENSOR FAULT DETECTION
- +2.7V TO +5.5V OPERATION

### Applications

- BRIDGE SENSORS
- REMOTE 4-20mA TRANSMITTERS
- STRAIN, LOAD, AND WEIGH SCALES
- AUTOMOTIVE SENSORS

A full electrical datasheet is available from <http://focus.ti.com/lit/ds/symlink/pga309.pdf>

For further die technical information and choice of available supply formats please [contact us](#)

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