Features

- Fully integrated pressure Sensor
- Measurement of absolute pressure: 60 - 165 kPa with over-range capability 40 - 180 kPa
- Full thermal compensation to accuracy ±1.0 kPa
- Digital I²C data interface provides measurement, diagnostic, ID-data and controls:
  - pressure output, 16-bit resolution
  - temperature output (internal sensor), 16-bit res.
  - sensor diagnostics (state-of-health)
  - power-down control: Sleep Mode selected via I²C
  - unique device ID
- Two I²C slave addresses via pin coding
- Two 16-bit ADCs for acquisition of pressure and temperature inputs; pressure acquired at 20 kS/s
- Diagnosis of sensor, sensor supply wiring, and NVM check-sum supervision at power-on
- Sleep-mode with low current consumption
- Supply voltage 3.3V or 5.0V in the same device
- Large temperature range -40 .. + 125°C

Applications

- Automotive applications
- Industrial applications
- Medical applications

General Description

The E524.72 is an absolute pressure sensor for barometric air pressure measurement. It includes a piezo-resistive pressure bridge and a signal processing IC, which performs amplification and thermal compensation of the pressure sensor output to provide a linear, thermally stable signal output.

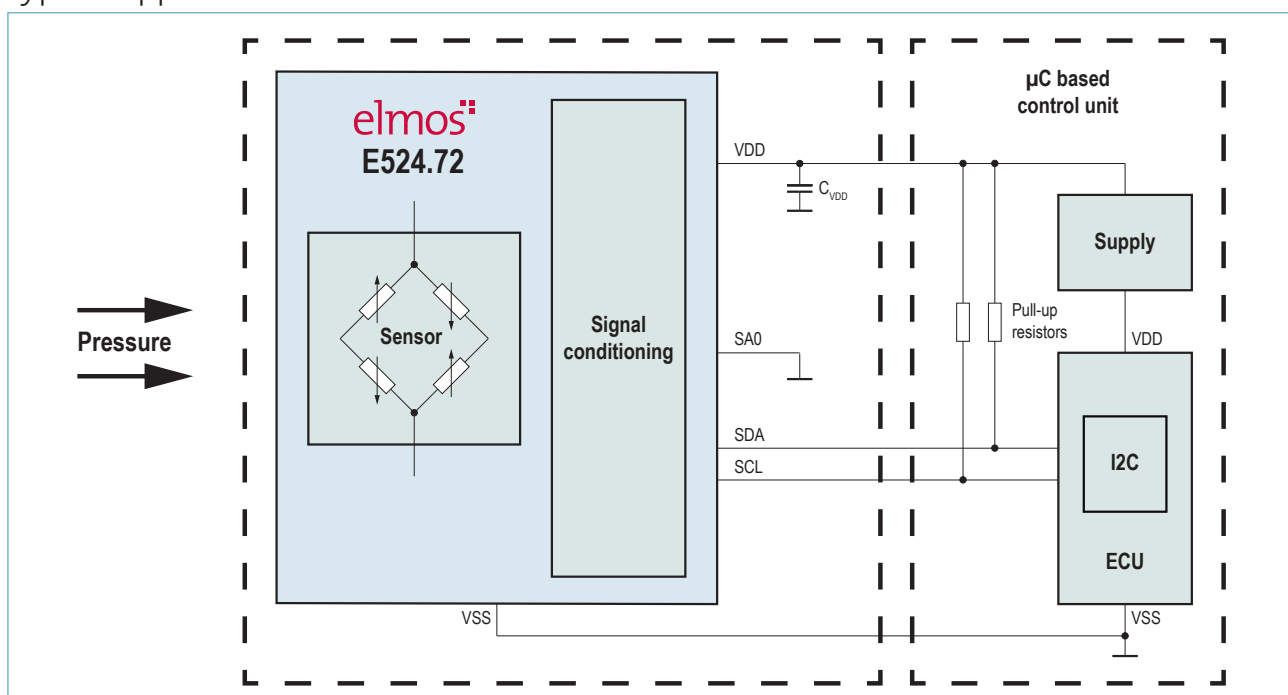The sensor delivers calibrated output data - pressure and temperature - at an I²C interface.

The calibrated transfer characteristic maps the nominal input pressure range linear into a defined fraction of the positive digital number range. The on-chip temperature sensor can be read via I²C, as well diagnosis data. The component can be set to sleep-mode with very low consumption by a specific command. Wake-up from sleep-mode requires toggling the SCL input.

Sensor specific calibration data, configuration and product ID are stored in an embedded non-volatile memory (NVM).

Ordering Information

Product ID	Temp Range	Package
E52472A53I404	-40°C to +125°C	SO8n

Typical Application Circuit

Elmos Support

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