Low Power Piezoresistive Sensor Interface IC

The MAS6505 uses analog front-end (AFE) comprising of a chopper amplifier with very low noise performance (0.27 uVrms). The analog-to-digital converter (ADC) employs a delta-sigma conversion technique to achieve high resolution (22-bit). It can operate from very wide range of supply voltages (1.71V...5.5V) and it has extremely low current consumption (down to 0.8uA, one measurement in a second) which make it an ideal solution for battery powered applications. Two different temperature sensing methods are supported; sensor bridge resistance sensing or using external temperature sensing diode. The 512-bit EEPROM memory is available for storing sensor trimming and calibration coefficients on chip. The device is operated using standard I2C and SPI serial bus interfaces.

Features
- 22-bit ratiometric ADC + chopper AFE
- Low noise Analog Front End 0.27 uVrms
- IIR filter options: 2, 4, 8, 16
- Normal Mode: automated measurements
- Forced mode: planned measurements
- Seven OSR resolution options
- Very low current consumption max. 25uA
- Internal clock oscillator
- I2C- and SPI-Bus
- 512 Bit EEPROM memory

Applications
MAS6505 is a high resolution sensor signal interface IC designed for piezoresistive sensor modules.
- MEMS pressure sensor modules
- Altimeters
- Barometers
- Navigation systems
- Temperature measurement
- Battery powered systems
- Industrial and process control applications