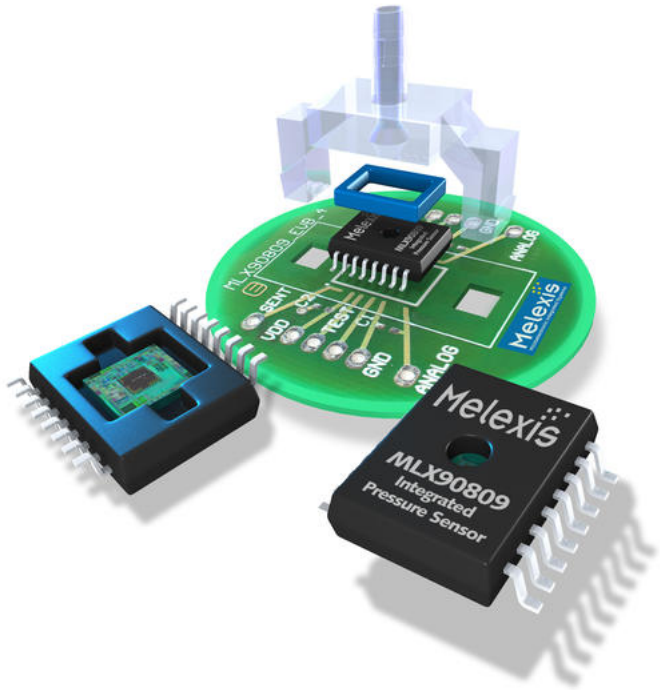
Rugged MEMs pressure sensors deliver accuracy, ease of use



Melexis introduces the first of its line of commercial, off the shelf, packaged MEMs pressure sensors. The MLX90809 benefits from 10+ years of developing custom MEMs pressure sensors for demanding automotive applications. This new device is a highly accurate, AEC Q100 qualified relative pressure sensor specifically targeted at 1 Bar applications. The company’s proprietary piezo-resistive MEMS technology combined with a high accuracy sensing element, low noise analog front end, and 16-bit sigma-delta analog-to-digital converter (ADC) delivers superior performance. The resulting sophisticated analog chain provides the necessary amplification and offset compensation for the sensing element. The built-in 16-bit microcontroller unit (MCU) deals with temperature compensation and supplies the diagnostic mechanisms required for safety critical applications.

An integrated fully programmable EEPROM memory allows different configurations to be supported. Examples include independent setting of diagnostic functions for over-voltage or under-voltage supply conditions, over-pressure or under-pressure conditions, and selectable digital filter settings to further reduce output noise or alternatively to decrease sensor response time. It also permits sensor compensation data and unit identity to be stored.

Offered in a highly robust, plastic molded, 16-pin surface mount package, the MLX90809 sensor device can deliver pressure data via an analog output voltage ratiometric to the supply voltage or using the SENT digital protocol. It has an

operational temperature range of -40 °C to +150 °C, enabling it to cope with the most demanding automotive environments.

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