

KP25x Integrated Pressure Sensor

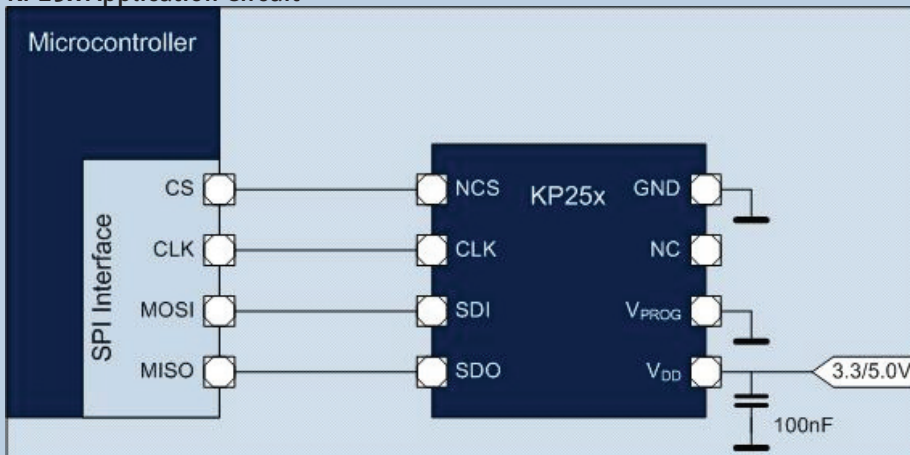
Digital Barometric Air Pressure Sensor IC

Description

The KP25x integrated pressure sensor family is a miniaturized Digital Barometric Air Pressure Sensor IC based on the capacitive principle. It is surface micro-machined with a monolithic integrated fully digital signal conditioning circuit, implemented in state-of-the-art 0.5 micron BiCMOS technology. The KP25x provides an SPI interface to enable direct microcontroller connections with a minimum bill of materials.

The KP25x is individually calibrated and temperature compensated, reducing software complexity by providing a direct readout of pressure and temperature. KP25x provides a fast startup time of less than 10 ms, high accuracy of up to 1 kPa and different sensitivities. Combined with the wide operating temperature range of -40 to 125 C°, high ESD robustness, and excellent EMC performance, the KP25x is perfectly suited to the harsh environmental conditions prevalent in automotive and industrial applications.

KP25x Application Circuit



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Features

- High accuracy pressure sensing up to +/- 1.0 kPa
- Integrated temperature sensor
- Pressure ranges 40-115 kPa and 60-165 kPa
- Wide operating temperature range -40 to 125 C°
- Digital SPI interface
- Up to 12 bit pressure and temperature resolution
- Calibrated and compensated
- Self-diagnosis features
- Fast startup time of less than 10 ms
- „Green“ 8 pin SMD housing



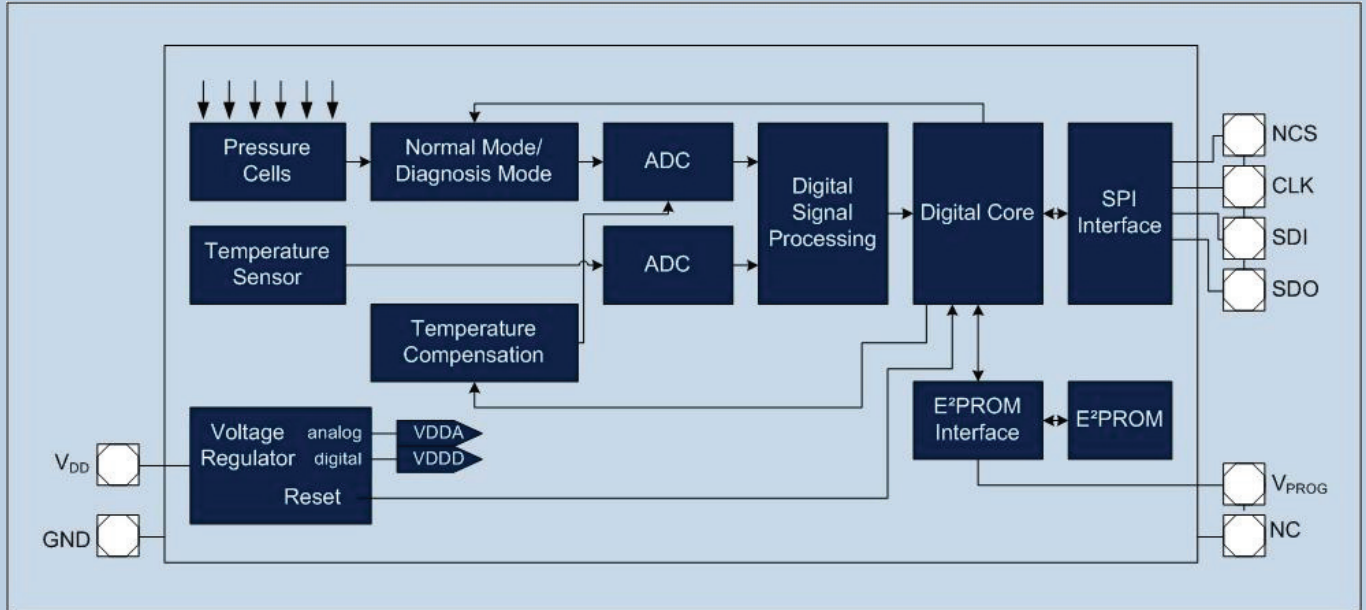
Typical Applications

- Automotive Engine Management
- Small Engine Management
- Industrial Control
- Altimeter
- Weather Station
- Medical



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KP25x Block Diagram

INFINEON TECHNOLOGIES offers an extensive product portfolio for gasoline and diesel engine management systems and industrial control applications. Our products range from micromachined sensors, microcontrollers, and smart power ICs to voltage regulators and other standard components. The KP25x is a digital integrated pressure sensor for barometric pressure management, and provides benchmark performance in terms of reliability, accuracy, and ease-of-use.

Parameter	KP253	KP254	KP256	Unit
Pressure range	60.0 - 165.0	40.0 - 115.0	60.0 - 165.0	kPa
Accuracy	+/- 1.0	+/- 1.5	+/- 1.0	kPa
Output Format	Digital SPI	Digital SPI	Digital SPI	
Resolution	12	10	10	bits
Sensitivity	39	13.6	9.8	LSB/kPa
Supply Voltage	3.3 - 5.0	3.3 - 5.0	3.3 - 5.0	V
Order Code	SP000843708	SP000773948	SP000773952	

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