SP27
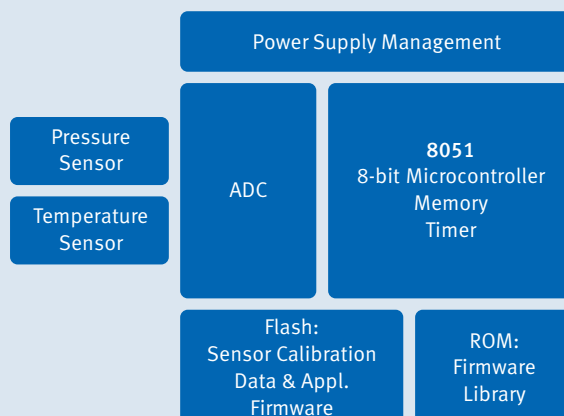## General Sensor for Pressure Monitoring Systems (PMS)

The SP27 sensor is designed for measuring pressure in PMS applications. With its microcontroller and integrated peripherals, the SP27 is a single package solution, requiring very few external components.

Pressure and temperature measurements are controlled by software. The microcontroller formats and processes the measured data and passes them to the PMS. An intelligent wake-up mechanism reduces power consumption, while an interval timer controls the timing of measurements. The circuitry can be programmed to wake up at regular intervals. An external wakeup source can also be connected to a general purpose input/output (GPIO) interface.

The integrated microcontroller is instruction-set-compatible with a standard 8051 processor. Integrated on-chip Flash memory can be used to store a customer-specific application program code and is also used to store an unique ID number and the calibration data for the sensors. Additional on-chip ROM memory is available and contains ROM library functions (developed by Infineon) that cover standard tasks used by the application.

Features

- High robustness enables a wide media compatibility (e.g. diesel fumes, brake fluid, oil, water)
- Pressure sensor (100 to 1300kPa)
- Temperature sensor
- Embedded 8051 compatible 8-bit microcontroller
- 6kB on-chip Flash memory
- 256Byte RAM
- Advanced power control/ wake-up system to minimize power consumption
- Ultra-low standby current of < 0.7µA
- Supply voltage range of 1.9 to 3.6V
- Operating temperature range of -40 to 125°C
- PG-DSOSP-14-6 package

Power Supply Management

Pressure Sensor

Temperature Sensor

ADC

8051 8-bit Microcontroller Memory Timer

Flash: Sensor Calibration Data & Appl. Firmware

ROM: Firmware Library

Green

RoHS

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SP27
General Sensor for Pressure Monitoring Systems (PMS)

Parameter	Symbol	Values		Unit	Note/Test Condition
		Min.	Max.		
Input Pressure Range	P_{in}	100	500	kPa	T = -40 … 125°C
Measurement Error	p_{Error}	-21	+21	kPa	T = 25 … 80°C
	p_{Error}	-46	+46	kPa	T = -40 … 125°C
Input Pressure Range	p_{in}	500	1300	kPa	T = -40 … 125°C
Measurement Error	p_{Error}	-31	+31	kPa	T = 25 … 80°C
	p_{Error}	-60	+60	kPa	T = -40 … 125°C
Temperature Measurement Error	T_{Error}	-3	+3	°C	T = -20 … 70°C
	T_{Error}	-5	+5	°C	T = -40 … -20°C T = 70 … 125°C

Tighter specifications are available on request.

Product Summary

Sales Name	Description	Order Code
SP270-25-256-0	Pressure sensor for various automotive and non-automotive Pressure Monitoring Systems	SP000921782[1]

1) available under NDA