



## SP27

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

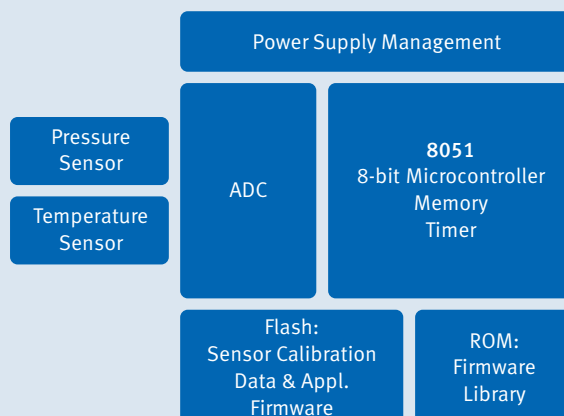
The SP27 sensor is designed for measuring pressure in PMS applications. With its microcontroller and integrated peripherals, the SP27 is a single package solution, requiring very few external components.

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 a 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  $< 0.7\mu\text{A}$
- Supply voltage range of 1.9 to 3.6V
- Operating temperature range of  $-40$  to  $125^\circ\text{C}$
- PG-DSOSP-14-6 package



# 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 <sup>1)</sup>

1) available under NDA

Published by  
Infineon Technologies AG  
85579 Neubiberg, Germany

© 2013 Infineon Technologies AG.  
All Rights Reserved.

Visit us:  
[www.infineon.com](http://www.infineon.com)

Order Number: B142-H9774-X-X-7600  
Date: 01 / 2013

#### ATTENTION PLEASE!

The information given in this document shall in no event be regarded as a guarantee of conditions or characteristics ("Beschaffenheitsgarantie"). With respect to any examples or hints given herein, any typical values stated herein and/or any information regarding the application of the device, Infineon Technologies hereby disclaims any and all warranties and liabilities of any kind, including without limitation warranties of non-infringement of intellectual property rights of any third party.

#### INFORMATION

For further information on technology, delivery terms and conditions and prices please contact your nearest Infineon Technologies Office ([www.infineon.com](http://www.infineon.com)).

#### WARNINGS

Due to technical requirements components may contain dangerous substances. For information on the types in question please contact your nearest Infineon Technologies Office. Infineon Technologies Components may only be used in life-support devices or systems with the express written approval of Infineon Technologies, if a failure of such components can reasonably be expected to cause the failure of that life-support device or system, or to affect the safety or effectiveness of that device or system. Life support devices or systems are intended to be implanted in the human body, or to support and/or maintain and sustain and/or protect human life. If they fail, it is reasonable to assume that the health of the user or other persons may be endangered.