

Product brief

KP200/201/204

XENSIV™ pressure sensors – PRO-SIL™ pressure sensor for side crash detection and pedestrian protection systems

The Infineon XENSIV™ safety pressure sensor family KP20x is a PSI5 and AK-LV29/AK-LV38 compliant and fully monolithically integrated pressure sensor for the detection of side crashes and pedestrian impacts in passenger cars.

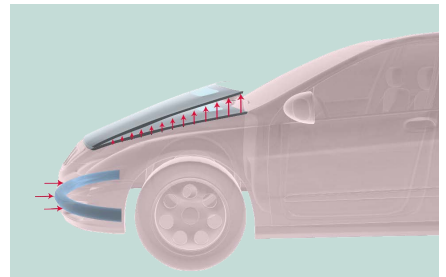
In the application side airbag, the pressure sensor is assembled in a module located within the car's side doors. When the door is compressed due to a side impact, KP200 provides a signal pulse which is proportional to the pressure change inside the door.

In the application pedestrian protection, two pressure sensors are assembled in a module located at both ends of a tube which is located in the front bumper. When the car hits a pedestrian, KP201 provides a signal pulse which is proportional to the pressure change inside the tube.

The height of the signal pulse is independent of the ambient pressure, but dependent on the relative pressure change.

Typical applications

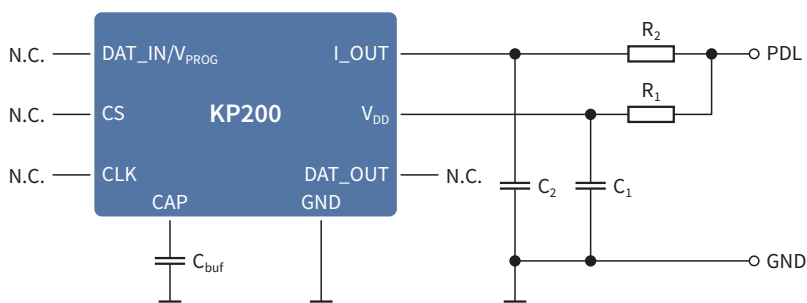
- > Side crash detection
- > Pedestrian input detection
- > Pinch protection for doors and windows



Features

- > Fully compliant to PSI5 and AK-LV 29
- > Patented online diagnoses for pressure cells and circuitry with PRO-SIL™ support IEC 61508 and ISO26262
- > Synchronous and asynchronous data transmission
- > 2-wire current interface
- > Unique ID number for traceability
- > Reverse polarity protection
- > KP201 qualified for higher operating temperatures up to 125 °C
- > KP204 with 4-hole lid supporting insect intrusion protection
- > SMD package (DSOF-8)

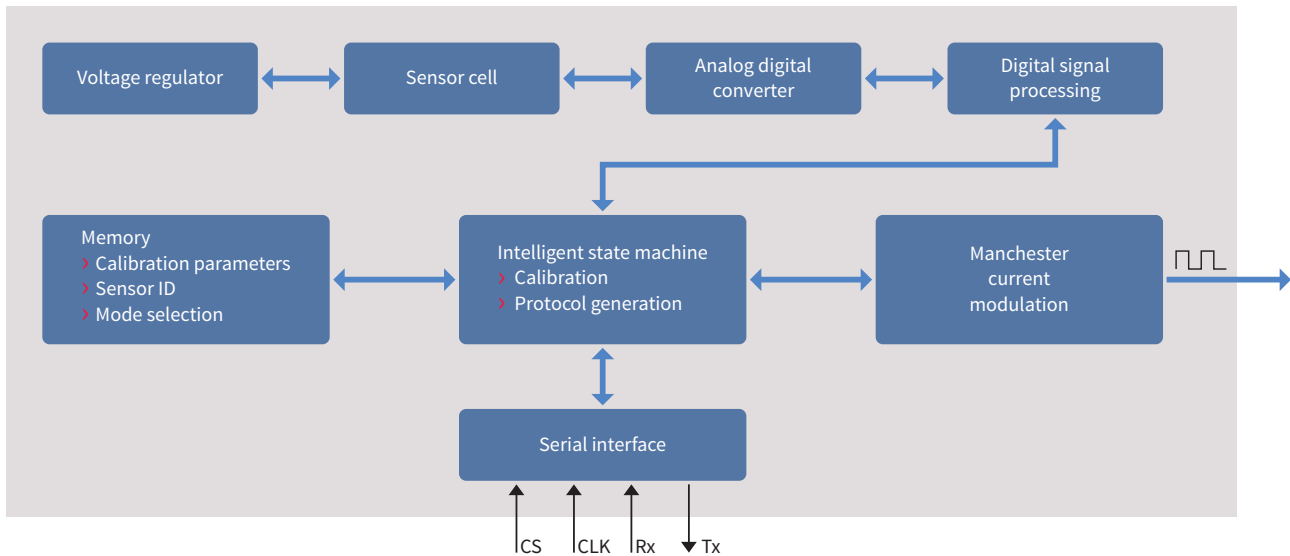
Typical application circuit



KP200/201/204

XENSIV™ pressure sensors – PRO-SIL™ pressure sensor for side crash detection and pedestrian protection systems

Block diagram



KP20x key parameters for PSI5 and AK-LV 29 compliance

Parameter	KP200			KP201			KP204			Unit
	Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	
Ambient pressure range	53.6		110	53.6		110	53.6		110	kPa
Absolute pressure range	50.9		126.5	50.9		126.5	50.9		126.5	kPa
Supply voltage	4.5		11	4.5		11	4.5		11	V
Supply current into V _{DD}	6	8	10	6	8	10	6	8	10	mA
Signal modulation current	22	26	30	22	26	30	22	26	30	mA
Operating temperature	-40		85	-40		85	-40		85	°C
Nominal sensitivity		20.48			20.48			20.48		LSB/%
Compliant to	AK-LV29			AK-LV38			AK-LV29			

Deliverables on request

- > Evaluation kit for KP20x
- > Complete datasheet

www.infineon.com/sab-sensors

Published by
Infineon Technologies AG
81726 Munich, Germany

© 2019 Infineon Technologies AG.
All Rights Reserved.

Please note!

This Document is for information purposes only and any information given herein shall in no event be regarded as a warranty, guarantee or description of any functionality, conditions and/or quality of our products or any suitability for a particular purpose. With regard to the technical specifications of our products, we kindly ask you to refer to the relevant product data sheets provided by us. Our customers and their technical departments are required to evaluate the suitability of our products for the intended application.

We reserve the right to change this document and/or the information given herein at any time.

Additional information

For further information on technologies, our products, the application of our products, delivery terms and conditions and/or prices, please contact your nearest Infineon Technologies office (www.infineon.com).

Warnings

Due to technical requirements, our products may contain dangerous substances. For information on the types in question, please contact your nearest Infineon Technologies office.

Except as otherwise explicitly approved by us in a written document signed by authorized representatives of Infineon Technologies, our products may not be used in any life-endangering applications, including but not limited to medical, nuclear, military, life-critical or any other applications where a failure of the product or any consequences of the use thereof can result in personal injury.