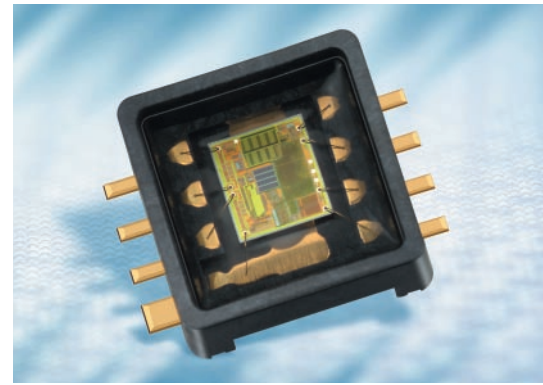


## KP106

### Integrated Pressure Sensor IC for Side Crash Detection



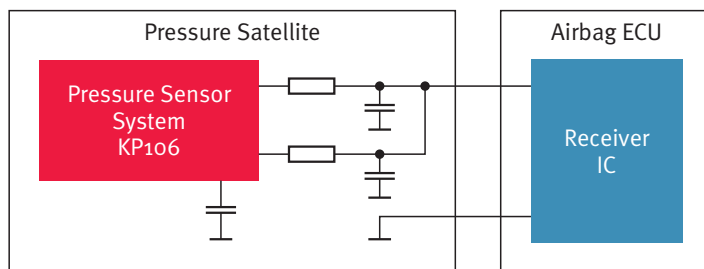
#### Application

KP106 is a pressure sensor system for the detection of side crashes in passenger cars. In this application, 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, the KP106 provides a signal pulse which is proportional to the pressure change inside the door. The height of the signal pulse depends on the relative pressure change. Therefore the output signal is independent of the ambient pressure.

#### Features

- PS15 compliant / Multi-Protocol
- Synchronous or asynchronous data transmission
- User specified protocol available
- 2-wire interface with on chip current modulator for Manchester communication
- E<sup>2</sup>PROM for ID number, calibration and mode selection
- Patented online diagnoses for pressure cells and circuitry
- Serial service interface
- On chip voltage regulator
- Reverse polarity protection

#### Application Circuit for the Pressure Sensor System



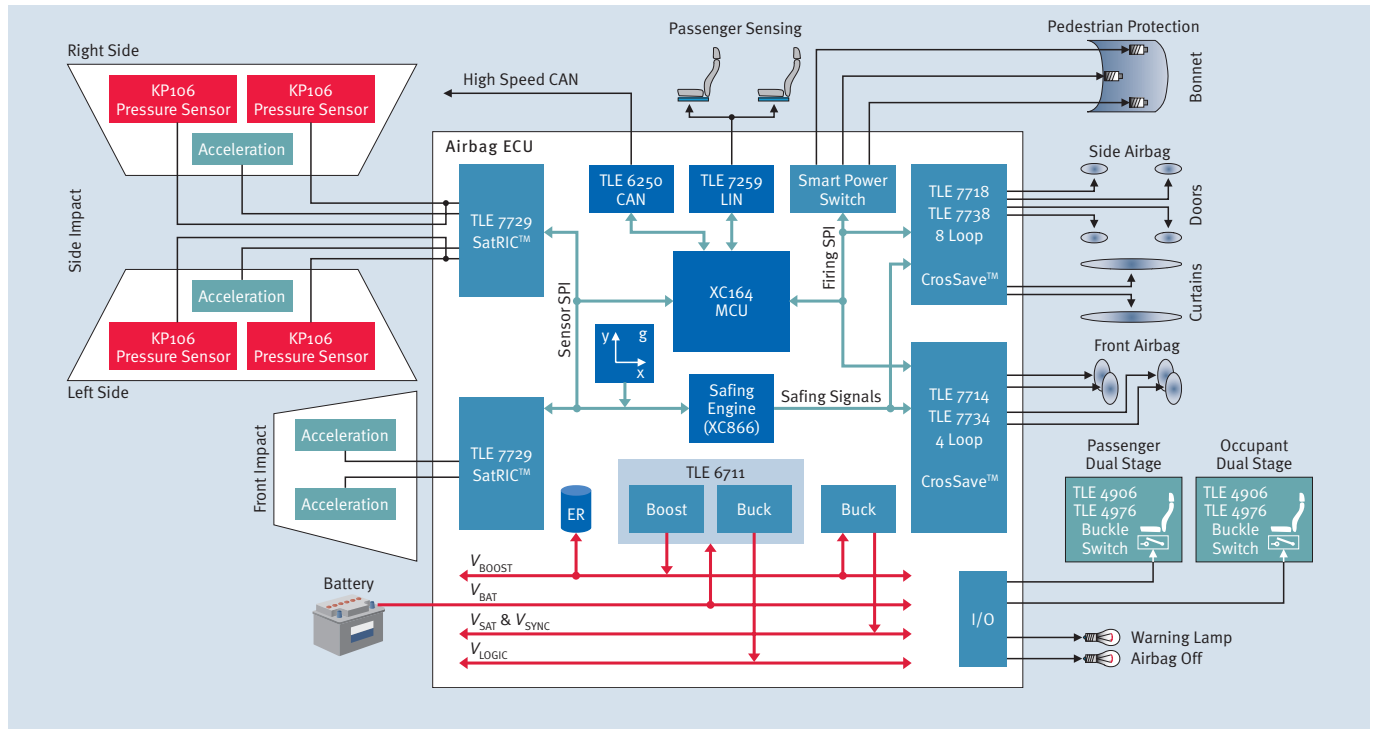
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## Sensors



Never stop thinking

## Application Example: Airbag System



INFINEON TECHNOLOGIES offers an extensive product portfolio for occupant safety systems from micromachined sensors to smart power ICs and microcontrollers. The KP106 as an integrated pressure sensor systems for side crash detection, is a benchmark in terms of reliability and integration level.

Parameter	Range			Unit
	min.	typ.	max.	
Ambient Pressure Range	50		130	kPa
Supply Voltage	4.5		14.0	V
Supply Current into $V_{DD}$	5.0	8.0	10.0	mA
Signal Modulation Current	20.0	25.0	30.0	mA
Operating Temperature	-40		+90	°C
Internal Clock Frequency		8.0		MHz
Signal Conditioning Corner Frequency		370		Hz
Period of Data Transmission		228		µs

The surface micro-machined capacitive pressure sensor KP106 is designed to provide the relative pressure as a digital Manchester encoded output signal. This configuration is optimal for a single IC satellite system, where no further logic IC is used in the door module.

Type	Sales Code	Package
KP106	On request <sup>1)</sup>	PG-DSOF-8-13

<sup>1)</sup> Please contact your regional sales office

The sensor IC is mounted in an 8-pin plastic SMD PG-PSOF-8-13 package.

How to reach us:  
<http://www.infineon.com>

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