

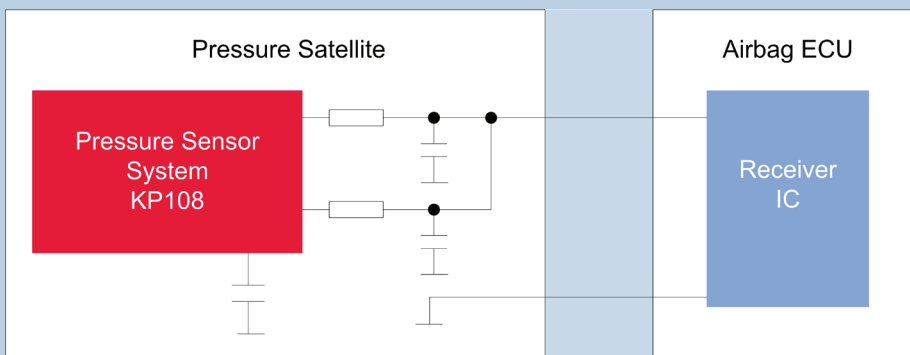
KP108

Integrated Pressure Sensor IC for Side Crash Detection

Application

KP108 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 KP108 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.

Application Circuit for the Pressure Sensor System



Features

- Multi-Protocol
- Synchronous or asynchronous data transmission
- User specified protocol available
- 2-wire interface with on chip current modulator for Manchester communication
- E²PROM 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

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INFINEON TECHNOLOGIES offers an extensive product portfolio for occupant safety systems from micromachined sensors to smart power ICs and microcontrollers. The KP108 as an integrated pressure sensor system 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 KP108 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
KP108-PS	SP000714420	PG-DSOF-8-16
KP108-AD	SP000714416	PG-DSOF-8-16

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