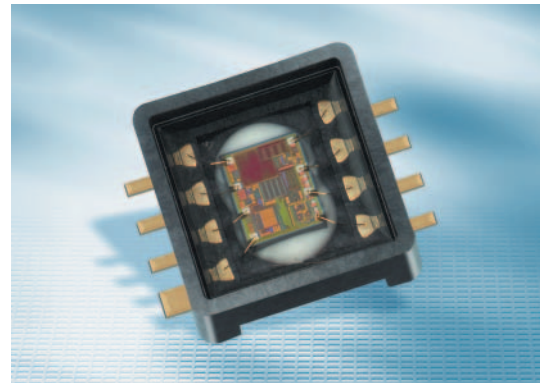


## KP125

### Integrated Pressure Sensor IC for Barometric Air Pressure Measurement Applications



#### Application

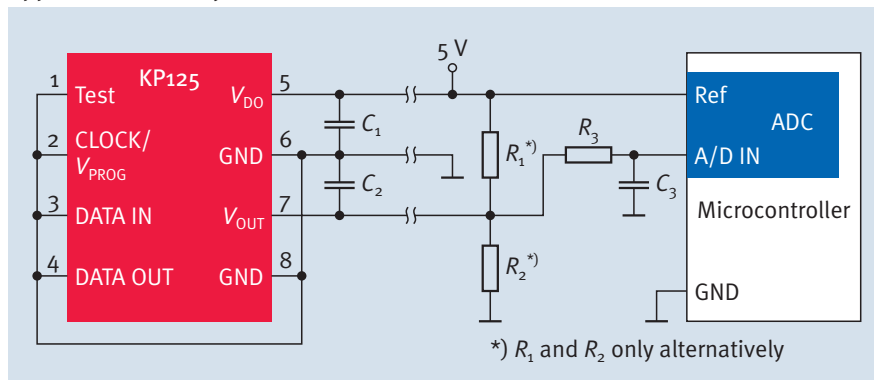
The barometric air pressure (BAP) is an important parameter to compute the air-fuel ratio provided to the engine and for controlling spark advance to optimize engine efficiency. In automotive applications where high production volumes are common there is substantial interest in precision, low-cost and fully integrated sensors. In this context the developed BAP sensor KP125 is a promising approach in. Applications for the barometric pressure sensor KP125 are diesel and gasoline engine management.

#### Features

- Absolute air pressure measurement based on capacitive principle
- Cost effective solution (integrated sensor, single-chip solution)
- Excellent accuracy of 1.2 kPa over a large temperature range
- Ratiometric analog output proportional to the applied pressure
- Output signal fully compensated over pressure and temperature
- Pressure range from 40 to 115 kPa
- Temperature range from -40 to +125°C
- “Green” SMD package (PG-DSOF-8-12)
- Output clamping (optional)
- Open bond detection for supply and GND (OBD)
- Detection of broken pressure cells
- Inverse polarity protection



#### Application Circuitry



#### Typical Applications

- Engine Management
- Altimeters
- Industrial Controls
- Weather Reporting Devices
- Medical

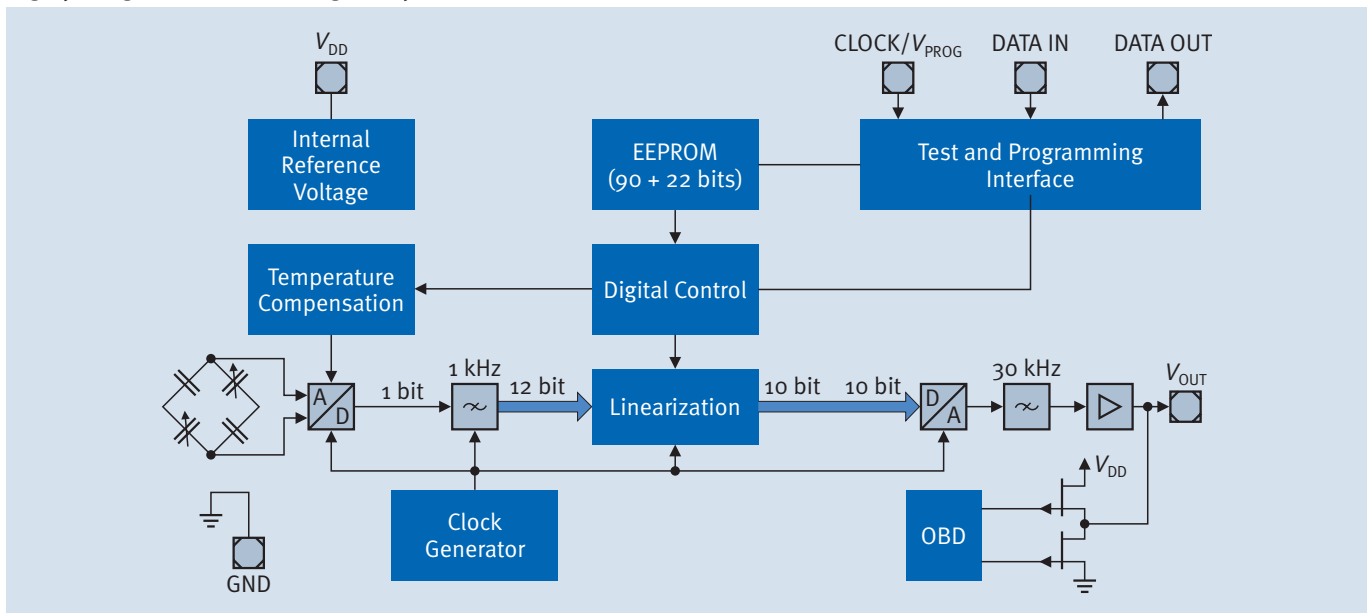
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## Sensors



Never stop thinking

## Highly Integrated Sensor – Single Chip



INFINEON TECHNOLOGY offers an extensive product portfolio for diesel engine management systems from micro-machined sensors to smart power ICs and microcontrollers. The KP125 as an integrated pressure sensor for barometric pressure measurement, is a benchmark in terms of reliability, performance and integration level.

Parameter	Range			Unit
	min.	typ.	max.	
Accuracy	–	–	1.2	kPa
Pressure Range	40	–	115	kPa
Supply Voltage	4.5	5.0	5.5	V
Output Current	–	–	1.0	mA
Output Voltage	0.5	–	4.5	V
Response Time	–	1.8	–	ms
Operating Temperature	-40	–	+125	°C
Life Time	15	–	–	Years

Parameter	Derivatives					Unit
	KP123	Kp124	KP125	KP126	KP126 N6165	
Basic Accuracy	Typ. 1.5% F.S.	1.5% F.S.	1.2	1.0	1.0	kPa
Transfer Function Pressure Min.	15	15	40	40	60	kPa
Transfer Function Pressure Max.	115	115	115	115	165	kPa
Transfer Function Voltage Min.	0.2	0.2	0.5	0.5	0.2	V
Transfer Function Voltage Max.	4.7	4.7	4.5	4.5	4.8	V

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