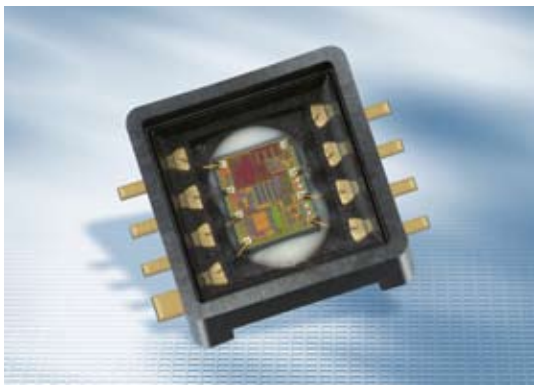
KP22x/Turbo MAP

Integrated Pressure Sensor IC for Manifold Air Pressure Measurement Applications



Application

The manifold air pressure (Turbo MAP) is an important parameter to compute the air-fuel ratio provided to the engine for lower emission due to better combustion and increased efficiency. For cost sensitive engine systems a MAP sensor show the potential to complement or even substitute mass air flow (MAF) sensors. In addition manifold pressure data can be used to compute diagnostics of leakages and malfunctions of the exhaust gas recirculation valve. In automotive applications where high production volumes are common there is substantial interest in precision, low-cost and fully integrated sensors. In this context products of the developed MAP sensor family KP22x are the optimum solution for aspirated or turbo diesel and gasoline engines management systems.

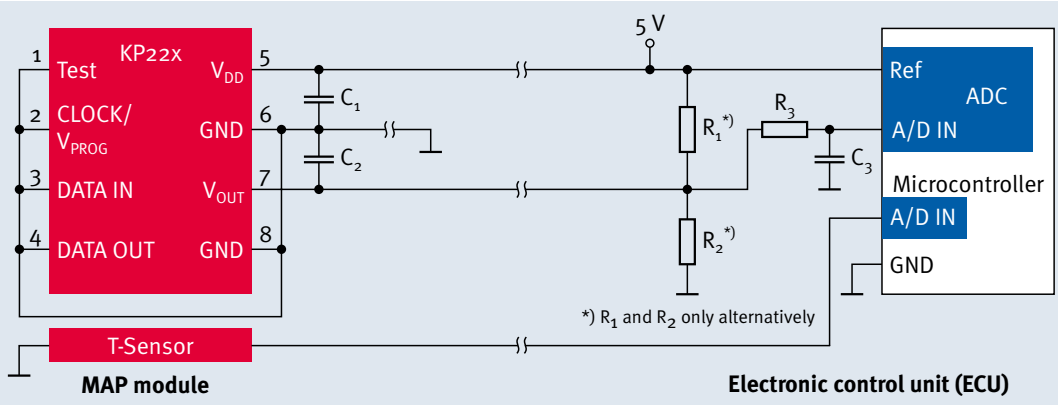
Typical Application

- Engine control/Turbo MAP applications
- Industrial controls

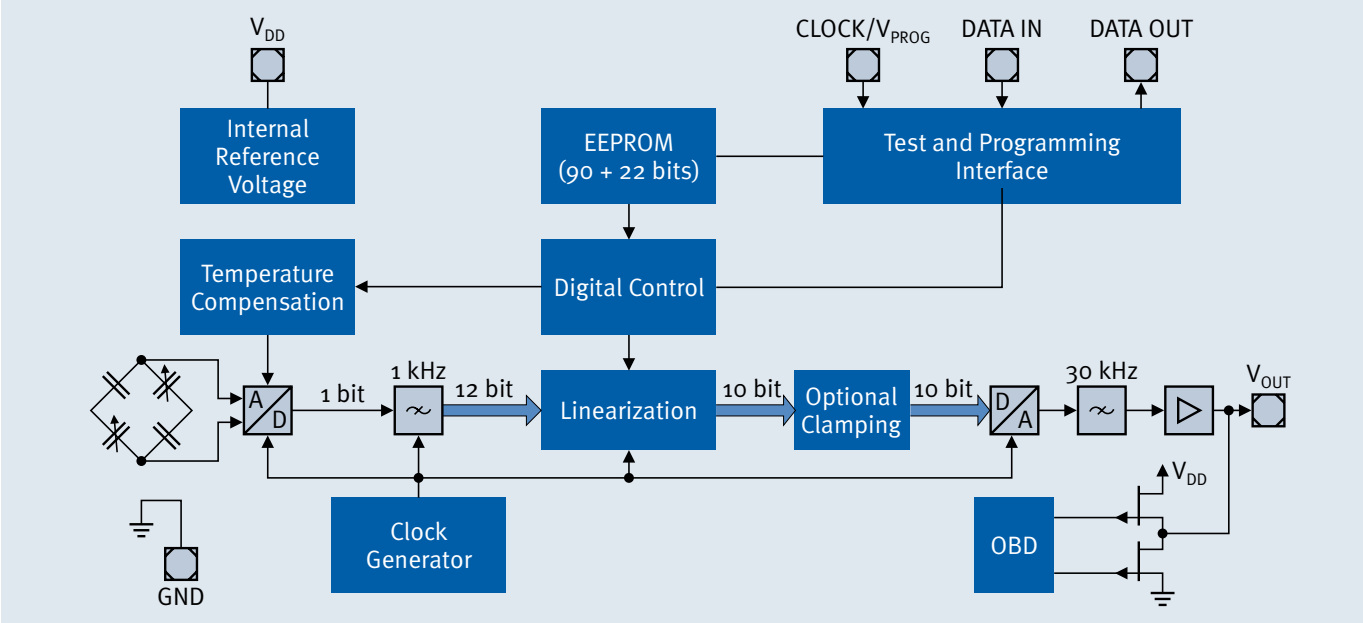
Features

- Absolute air pressure measurement
- Excellent accuracy over a large temperature range
- Ratiometric analog output
- Output signal fully compensated
- Pressure range from 15 to 400kPa
- Temperature range (ambient) from -40 to +140°C
- SMD package (PG-DSOF-8-16)
- Output clamping (Optional for KP226)
- Complete Product Family (KP224, KP225, KP226)

Application Circuit for the Pressure Sensor System



Highly Integrated Sensors - Single Chip



Infineon offers an extensive broad product portfolio for diesel engine management systems from micro-machined sensors to smart power ICs and microcontrollers. The KP22x pressure sensor as an integrated pressure sensor for manifold pressure measurement, is a benchmark in terms of reliability, performance and integration level.

Product Summary

Parameter	Range			Unit
	Min.	Typ.	Max.	
Accuracy			1.0	% F.S.
Pressure Range	10		400	kPa
Sensitivity	15.5		25	mV/kPa
Supply Voltage	4.5	5.0	5.5	V
Output Current			1.0	mA
Output Voltage	0.1		4.85	V
Operating Temperature	-40		+140	°C
Programmable Transfer Functions				
Transfer Function Pressure Min	10		80	kPa
Transfer Function Pressure Max	200		400	kPa
Transfer Function Voltage Min	0,1		0.5	V
Transfer Function Voltage Max	4.5		4.85	V
Lower Programmable Clamping Level (KP226)	0.0		0.63	V
Upper Programmable Clamping Level (KP226)	4.37		5.0	V

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Information

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