



Signal
Amplified

*"Available Through
Most
Major Distributors"*

Barometric Absolute Pressure Sensor, On-Chip Signal Conditioned, 0.3 V to 4.9 V Output, Temperature Compensated & Calibrated

The Motorola MPXS4100A series Barometric Absolute Pressure (BAP) sensor for engine control is designed to sense absolute air pressure.

Motorola's BAP sensor integrates on-chip, bipolar op amp circuitry and thin film resistor networks to provide a high output signal and temperature compensation. The small form factor and high reliability of on-chip integration make the Motorola BAP sensor a logical and economical choice for the automotive system designer.

Features

- 1.8% Maximum Error Over 0–85°C *First Sensor in Surface Mount*
- Surface Mount Package
- Available Tape and Reeled or in Sleeves *Multiple Shipping Options Available*
- Ideally Suited for Direct Microprocessor Interfacing *Ideally Suited for Automated Equipment*
- Patented Silicon Shear Stress Strain Gauge
- Temperature Compensated Over –40 to +125°C
- Ideal for Non–automotive applications
- Also Available in Unibody Package (see MPX4100A/D data sheet)

MAXIMUM RATINGS (T_C = 25°C unless otherwise noted)

Rating	Symbol	Value	Unit
Overpressure ⁽¹⁾	P _{max}	400	kPa
Burst Pressure ⁽¹⁾	P _{burst}	1000	kPa
Storage Temperature	T _{stg}	–40 to +125	°C
Operating Temperature	T _A	–40 to +125	°C

*Integrated on
a Single Chip*

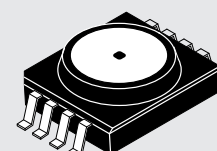
The MPXS4100A series piezoresistive transducer is a state-of-the-art, monolithic, signal conditioned, silicon pressure sensor. This sensor, with its patented X–ducer, combines advanced micromachining techniques, thin film metalization and bipolar semiconductor processing to provide an accurate, high level analog output signal that is proportional to applied pressure. A vacuum is sealed behind the sensor diaphragm providing a reliable pressure reference.

Figure 1 shows a block diagram of the internal circuitry integrated on the stand-alone pressure sensing chip.

*Package Designed for
Absolute Applications*

MPXS4100A SERIES

4100A: 20–105 kPa
X–ducer™
SILICON
PRESSURE SENSOR



*Enhanced
Lead Design*

CASE 432–01
Style 1

Pin Number							
1	2	3	4	5	6	7	8
N/C	V _S	Ground	V _{out}	N/C	N/C	N/C	N/C

NOTE: Pins 1, 5, 6, 7 and 8 are internal device connections. Do not connect to external circuitry or ground.

Minimum Pin Connections

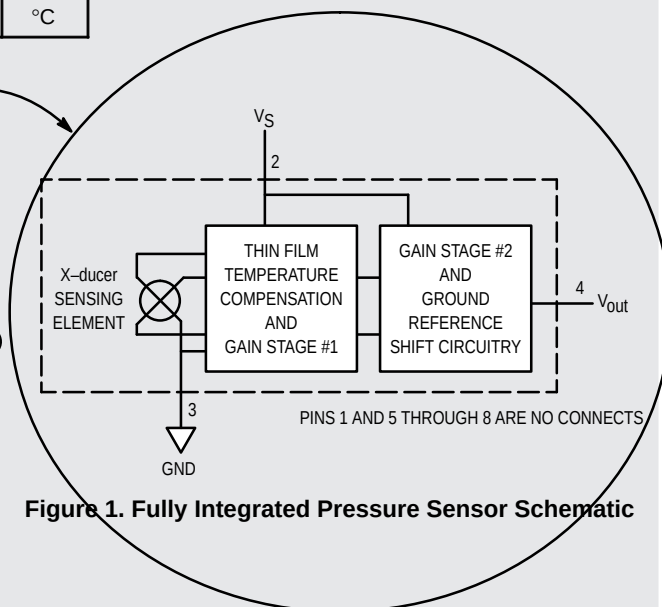


Figure 1. Fully Integrated Pressure Sensor Schematic

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MPXS4100A SERIES

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MPXS4100AANT/D

