

Integrated Silicon Pressure Sensor for Manifold Absolute Pressure, Altimeter or Barometer Applications On-Chip Signal Conditioned, Temperature Compensated and Calibrated

Motorola's MPX4115A/MPXA4115A series 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 pressure sensor a logical and economical choice for the system designer.

The MPX4115A/MPXA4115A series piezoresistive transducer is a state-of-the-art, monolithic, signal conditioned, silicon pressure sensor. This sensor combines advanced micromachining techniques, thin film metallization, and bipolar semiconductor processing to provide an accurate, high level analog output signal that is proportional to applied pressure.

Figure 1 shows a block diagram of the internal circuitry integrated on a pressure sensor chip.

Features

- 1.5% Maximum Error over 0° to 85°C
- Ideally suited for Microprocessor or Microcontroller-Based Systems
- Temperature Compensated from -40° to +125°C
- Durable Epoxy Unibody Element or Thermoplastic (PPS) Surface Mount Package

Application Examples

- Aviation Altimeters
- Industrial Controls
- Engine Control
- Weather Stations and Weather Reporting Devices

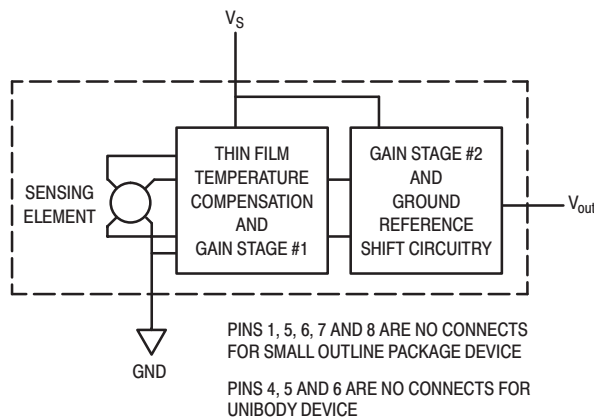


Figure 1. Fully Integrated Pressure Sensor Schematic

**MPX4115A
 MPXA4115A
 SERIES**

**INTEGRATED
 PRESSURE SENSOR
 15 to 115 kPa (2.2 to 16.7 psi)
 0.2 to 4.8 Volts Output**

UNIBODY PACKAGE

**MPX4115A
 CASE 867**

**MPX4115AP
 CASE 867B**

**MPX4115AS
 CASE 867E**

SMALL OUTLINE PACKAGE

**MPXA4115A6U
 CASE 482**

**MPXA4115AC6U
 CASE 482A**

PIN NUMBER			
1	N/C	5	N/C
2	V _S	6	N/C
3	Gnd	7	N/C
4	V _{out}	8	N/C

NOTE: Pins 1, 5, 6, 7, and 8 are internal device connections. Do not connect to external circuitry or ground. Pin 1 is noted by the notch in the lead.

PIN NUMBER			
1	V _{out}	4	N/C
2	Gnd	5	N/C
3	V _S	6	N/C

NOTE: Pins 4, 5, and 6 are internal device connections. Do not connect to external circuitry or ground. Pin 1 is noted by the notch in the lead.

Freescale Semiconductor, Inc.

