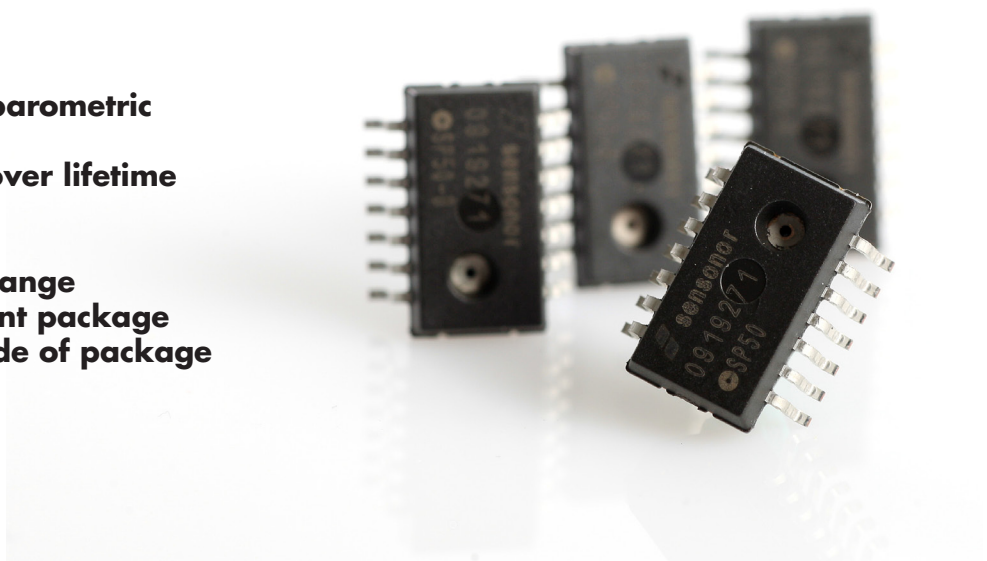


BAROMETRIC PRESSURE SENSOR

80 to 120 kPa (11.6 to 17.4 psi)

Features

- **Absolute pressure sensor for barometric pressure measurements**
- **High reliability and low drift over lifetime**
- **High media compatibility**
- **Backside media access**
- **Wide temperature operating range**
- **Robust miniature surface mount package**
- **Electrical connection on one side of package**
- **Tube connection option**



Description

The SP50-B uncompensated piezoresistive pressure sensor is designed for affordable and reliable barometric pressure measurements in a broad range of industrial applications and designs. The design consists of a bulk micromachined pressure sensor die mounted in a surface mount package.

SP50-B has excellent media compatibility due to the patented triple stack sensor design with buried backside piezoresistive elements. With the backside media access, the piezo resistors will not come in direct contact with the measurement media. The design improves stability and sensor lifetime compared to many traditional sensor designs.

The design and performance of SP50-B makes it ideal for high accuracy measurements, also in harsh environments. The long term stability is outstanding and has been proven in applications during a period of more than 10 years.

SP50-B is packaged in a proven 14 pin, SOIC package that can be handled by automatic production lines.

The sensor can be connected to passive compensation and/or signal conditioning as required for a given application.

The SP50-BT version has a tube connection to ease pressure connection.

SP50-B
SP50-BT

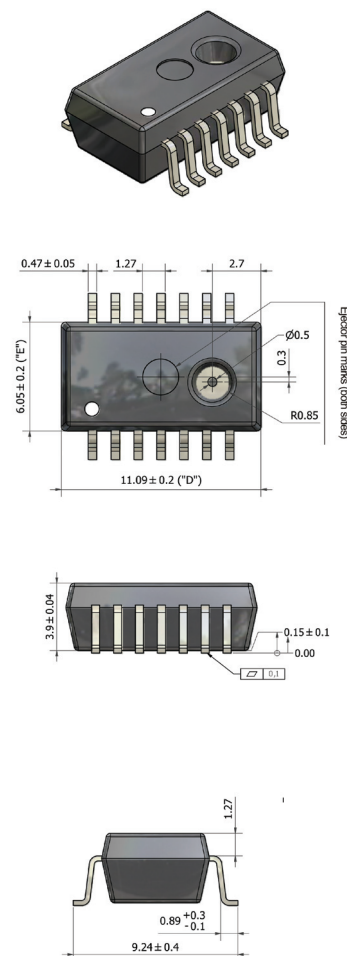
MECHANICAL DIMENSIONS

GENERAL CONDITIONS

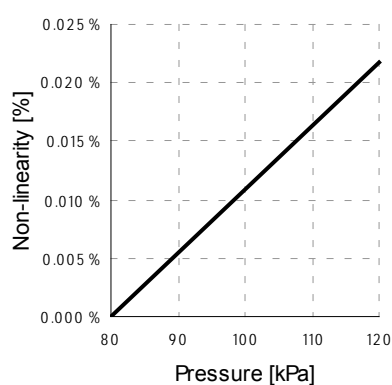
Parameter	Min	Typ	Max	Unit	Comments
Operating supply voltage		5.0		V	
Operating temperature	-40		125	°C	
Operating pressure	80		120	kPa	Absolute pressure
Overload pressure	600			kPa	
Breakdown voltage		14		V	At I=5.0μA
Leakage current		0.2		nA	At Vdd=4.0V

FUNCTIONAL CHARACTERISTICS (@25°C,5V)

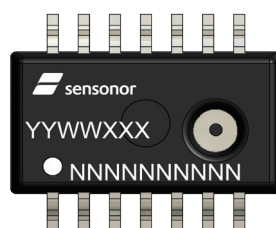
Parameter	Typ	Unit
Bridge resistor		
Bridge resistance	12	kΩ
Temp.coeff. bridge resistor (1 st order)	1.5	10 ⁻³ /°C
Temp.coeff. bridge resistor (2 nd order)	8.2	10 ⁻⁶ /°C ²
Common mode voltage	0.5*Vdd	V
Sensitivity		
Sensitivity	128	μV/VkPa
Temp.coeff. sensitivity drift (1 st order)	-2.0	10 ⁻³ /°C
Non linearity	See separate chart	%FSO
Zero point		
Zero point	-5.1/7.2	mV/V
Temp.coeff. zero point drift (1st order)	±94	μV/V°C



NON-LINEARITY



PIN OUT AND LASER MARKING

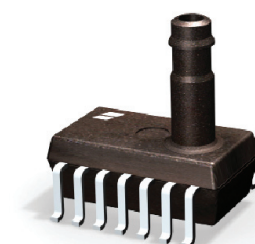


YYWWXXX : Lot number
NNNNNNNNNN: Product name

PINOUT TABLE

1	NC
2	NC
3	PP
4	PN
5	VDD
6	NEPI
7	VSS
8	VSS
9	NC
10	NC
11	NC
12	NC
13	NC
14	NC

TUBE CONNECTION OPTION



ORDERING INFORMATION

Description

Delivered on blister tape

With tube connection

Model

SP50-B

SP50-BT

CONTACT INFORMATION

Sensoror Technologies AS

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