SM5611/SM5612



OEM Pressure, Constant Current DIP OEM Pressure, Constant Voltage DIP

OEM Pressure Transducer Fully Temperature Compensated and Calibrated
 Dual-In-Line Package

DESCRIPTION

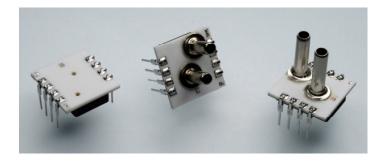
The **SM5600** Series of OEM pressure sensors are fully calibrated, temperature compensated pressure sensors in dual inline packages for printed circuit board mounting. These sensors offer improved performance as well as the option for either constant current or constant voltage excitation. Ultra-low pressure ranges are also available (see **SM5651/SM5652** datasheet), resulting in the broadest selection of standard pressure ranges in the industry.

The **SM5600** Series pressure sensors are constructed by attaching a highly stable piezoresistive pressure sensor chip to a ceramic substrate. Thick film resistors on the ceramic are laser trimmed during manufacturing to provide zero offset calibration, temperature compensation for zero offset, and temperature compensation for sensitivity. In the Model SM5611, an additional resistor is trimmed to normalize the output of an external differential amplifier to provide span calibration when the sensor is driven by a constant current supply. In the Model SM5612, a constant voltage supply can be used and the normalized output span of each sensor can then be easily amplified.

The model **SM5611** is designed for constant current excitation.

The model **SM5612** is designed for constant voltage excitation.

Various electrical pin and pressure port configurations are available for flexibility in matching this product to specific applications.



FEATURES

- 15, 30, 60, and 100 PSI FS Ranges Available
- Constant voltage and constant current versions
- Easy to use dual in-line package (DIP)
- Wide 0-60 °C compensated temperature range
- Span calibration to ±2%
- Zero offset calibration
- High performance, stable packaged silicon chip
- Gage, differential, and absolute pressure configurations

APPLICATIONS

- Barometric Pressure
- Medical Instrumentation
- Environmental Control
- Altimeters
- Automotive Diagnostics
- Appliances

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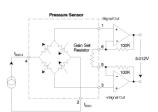
CHARACTERISTICS FOR SM5611/SM5612 - SPECIFICATIONS

Test Conditions: Model SM5611 w/excitation = 1.500mA @ 25 °C, Model SM5612 w/excitation = 10.00Vdc @ 25 °C, unless otherwise specified.

1.50 10.00 105.0 40.0 ±0.20	3.00 20.00 150.0 40.5 2.00	mA V mV mV	Notes 1 2
10.00 105.0 40.0 ±0.20	20.00 150.0 40.5 2.00	V mV mV	
10.00 105.0 40.0 ±0.20	20.00 150.0 40.5 2.00	V mV mV	
105.0 40.0 ±0.20	150.0 40.5 2.00	mV mV	
40.0 ±0.20	40.5 2.00	mV	
40.0 ±0.20	40.5 2.00	mV	
±0.20	2.00		2
±0.2		mV	
	0.5	%FS	3
±0.2	0.5	%FS	3
±0.1		%FS	
		•	
±0.05	0.10	%FS	4
±0.05	0.10	%FS	
±0.05	0.10	%FS	
±0.20	+2.00	%FS	1, 5
3.00	3.80	kΩ	
3.30	3.80	kΩ	
<u>.</u>		1	
8.00	25.00	kΩ	
2.50	3.80	kΩ	
<u>.</u>		1	
	60	°C	
	125	°C	
	125	°C	
	<u>-</u>		
whichever is less		FS Pressure	
whichever is less		FS Pressure	
	±0.2 ±0.1 ±0.05 ±0.05 ±0.05 ±0.20 3.00 3.30 8.00 2.50	#0.2	±0.2 0.5 %FS ±0.1 %FS ±0.05 0.10 %FS ±0.05 0.10 %FS ±0.05 0.10 %FS ±0.20 +2.00 %FS 3.00 3.80 kΩ 3.30 3.80 kΩ 2.50 3.80 kΩ 50 125 °C 125 °C 125 °C 125 °C whichever is less FS Pressure

Notes:

- 1. Positive Pressure is defined as entry on the bottom side of the die; gain, during factory calibration, is set using negative pressure
- 2. Output span of unamplified sensor
- Measured over a temperature range of 0 to 60 °C.
- Best fit straight line
- Sensitivity matching relates to part-to-part matching



Circuit Configuration for SM5611

Model 5611 Pin-out

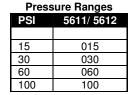
1 -Signal Out
2 -lexc
3 +Signal Out*
4 +lexc
5 Gainset Resistor
6 Gainset Resistor

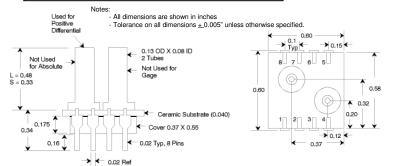
Model 5612 Pin-Out
1 -Signal Out
2 -Vexc
3 +Signal Out*
4 +Vexc
5 Gainset Resistor
6

*Output increases as pressure is increased on Positive Differential Tube or Absolute Tube

DO NOT connect to unlabeled pins

ORDERING INFORMATION: Excitation 1: Coordant Outnerd 2: Coordant Vottage Pinc Configuration 3: Pinc opposite direction of tube 6: Surface menutable Pinc opposite wide of tubes Tube Length L. Long (0.480" +/- 0.005") N: No Tube 8: Shart Tube (0.300" +/- 0.005") Pressure Type A: Absolute (1 Tube) 0: Cogney (1 Tube)





Rev 1.3 7 07



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