



- **OEM PRESSURE TRANSDUCER FULLY TEMPERATURE COMPENSATED AND CALIBRATED DUAL-IN-LINE PACKAGE**

## DESCRIPTION

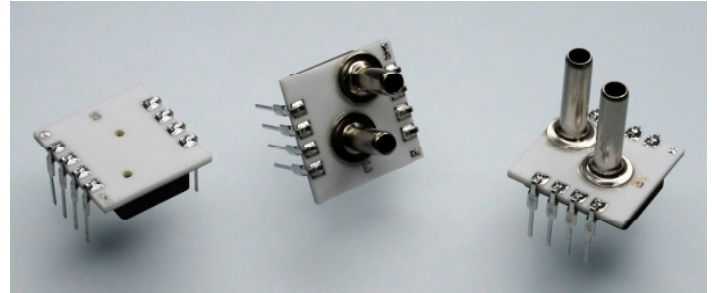
The **SM5600** Series of OEM pressure sensors are fully calibrated, temperature compensated pressure sensors in dual in-line packages for printed circuit board mounting. These sensors offer improved performance as well as the option for either constant current or constant voltage excitation. Ultra-low 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  $\pm 2\%$
- 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

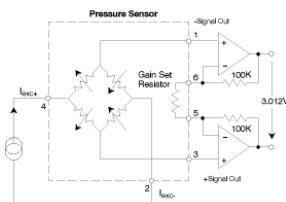
**CHARACTERISTICS FOR SM5611/SM5612 - SPECIFICATIONS**

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

	Min.	Typ.	Max.	Units	Notes
<b>Excitation</b>					
Current (SM5611)	0.00	1.50	3.00	mA	
Voltage (SM5612)	0.00	10.00	20.00	V	
<b>Output</b>					
Span (SM5611)	75.0	105.0	150.0	mV	1
Span (SM5612)	39.5	40.0	40.5	mV	2
Offset	-2.00	±0.20	2.00	mV	
<b>Temperature Performance</b>					
TC Span	-0.5	±0.2	0.5	%FS	3
TC Offset	-0.5	±0.2	0.5	%FS	3
Temp Hysteresis		±0.1		%FS	
<b>Accuracy</b>					
Linearity	-0.10	±0.05	0.10	%FS	4
Repeatability	-0.10	±0.05	0.10	%FS	
Pressure Hysteresis	-0.10	±0.05	0.10	%FS	
Sensitivity Matching	-2.00	±0.20	+2.00	%FS	1, 5
<b>Impedance (SM5611)</b>					
Z Input	1.80	3.00	3.80	kΩ	
Z Output	2.70	3.30	3.80	kΩ	
<b>Impedance (SM5612)</b>					
Z Input	4.50	8.00	25.00	kΩ	
Z Output	2.00	2.50	3.80	kΩ	
<b>Temperature Range</b>					
Calibration	0		60	°C	
Operating	-40		125	°C	
Storage	-55		125	°C	
<b>Dynamic Characteristics</b>					
Proof Pressure	3X or 225 PSI, whichever is less			FS Pressure	
Burst Pressure	5X or 225 PSI, 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
3. Measured over a temperature range of 0 to 60 °C.
4. Best fit straight line
5. Sensitivity matching relates to part-to-part matching



Circuit Configuration for SM5611

<b>Model 5611 Pin-out</b>	<b>Model 5612 Pin-Out</b>
1 -Signal Out	1 -Signal Out
2 -Iexc	2 -Vexc
3 +Signal Out*	3 +Signal Out*
4 +Iexc	4 +Vexc
5 Gainset Resistor	5
6 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: Constant Current  
2: Constant Voltage

Pin Configuration  
3: Pins opposite direction of tube  
5: Surface mountable Pins opposite side of tubes

Tube Length  
L: Long (0.480" +/- 0.005")  
N: No Tube  
S: Short Tube (0.330" +/- 0.005")

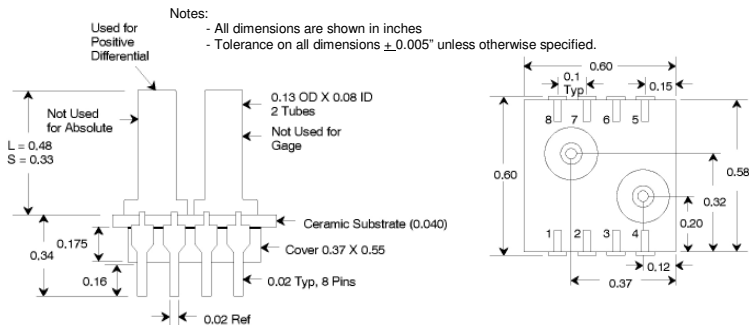
Pressure Type  
A: Absolute (1 Tube)  
D: Differential (2 Tubes)  
G: Gage (1 Tube)

Model Number: **SM5612 - 005 - D - 3 - L**

Excitation: 005  
Pressure range: D  
Pressure Type: 3  
Tube Length: L

**Pressure Ranges**

PSI	5611/ 5612
15	015
30	030
60	060
100	100





#### **NOTICE**

Information in this document is provided solely to enable software and system implementers to use Silicon Microstructures, Inc. products and/or services. No express or implied copyright licenses are granted hereunder to design or fabricate any silicon-based microstructures based on the information in this document.

Silicon Microstructures, Inc. makes no warranty, representation, or guarantee regarding the suitability of its products for any particular purpose, nor does Silicon Microstructures, Inc. assume any liability arising out of the application or use of any product or silicon-based microstructure, and specifically disclaims any and all liability, including without limitation consequential or incidental damages. Parameters that may be provided in Silicon Microstructures, Inc. data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. Silicon Microstructures, Inc. assumes no responsibility for any inaccuracies and/or errors in this publication. All operating parameters, must be validated for each customer application by customer's technical experts. Silicon Microstructures, Inc. does not convey any license under its patent rights nor the rights of others. Silicon Microstructures, Inc. makes no representation that the circuits are free of patent infringement. Silicon Microstructures, Inc. products are not designed, intended, or authorized for use as components in systems intended for surgical implant into the body, or other applications intended to support or sustain life, or for any other application in which the failure of the Silicon Microstructures, Inc. product could create a situation where personal injury or death may occur. Should Buyer purchase or use Silicon Microstructures products for any such unintended or unauthorized application, Buyer shall indemnify and hold Silicon Microstructures, Inc. and its officers, employees, subsidiaries, affiliates, and distributors harmless against all claims, costs, damages, and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if such claim alleges that Silicon Microstructures, Inc. was negligent regarding the design or manufacture of the part. Silicon Microstructures, Inc. reserves the right to make changes without further notice to any products herein

Silicon Microstructures, Inc.™ and the Silicon Microstructures, Inc. logo are trademarks of Silicon Microstructures, Inc. All other service or product names are the property of their respective owners.  
© Silicon Microstructures, Inc. 2001-2007. All rights reserved.



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

**Телефон:** 8 (812) 309 58 32 (многоканальный)

**Факс:** 8 (812) 320-02-42

**Электронная почта:** [org@eplast1.ru](mailto:org@eplast1.ru)

**Адрес:** 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.