

- **OEM PRESSURE TRANSDUCER FULLY TEMPERATURE COMPENSATED AND CALIBRATED**

DESCRIPTION

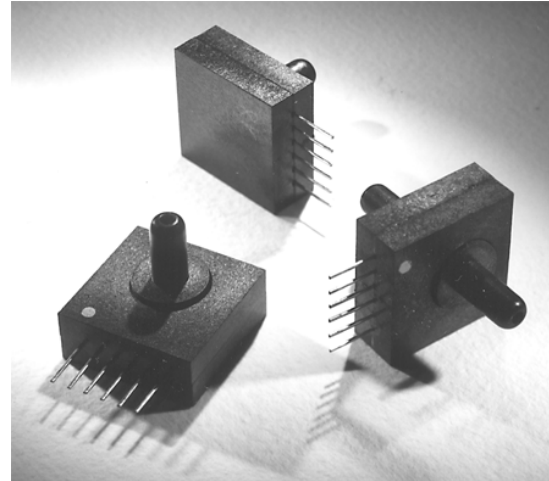
Pressure sensor models SM5501 and SM5502 are fully temperature-compensated and calibrated. Each sensor is housed in a rugged plastic enclosure.

Each series covers a wide range of full-scale pressures. Differential, gage and absolute measurement configurations are available for a wide variety of applications.

Factory calibration provides either a gain-set resistor (Model SM5501) or a fixed 50mV full-scale output (Model SM5502). By eliminating the need for customer gain adjustments, these parts are truly interchangeable and offer remarkable assembly-cost savings for a wide variety of OEM industrial, medical and consumer products.

Rugged pins, sealed into the package to prevent breakage, allow simple placement in PC boards using standard 0.1 inch center-to-center pin spacing. Full high-temperature plastic enclosure prevents substrate drift and eases handling.

Custom pressure ranges available in high-volume applications.



FEATURES

- 5, 15, 30, 60, and 100 PSI Ranges Available
- Fully Temperature-compensated
- Thoroughly Calibrated and Interchangeable
- Both Constant Voltage or Constant Current Drive Configuration Available
- Differential, Gage or Absolute Measurement
- Calibrated to Better than 2%

APPLICATIONS

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

SM5501/SM5502

www.DataSheet4U.com

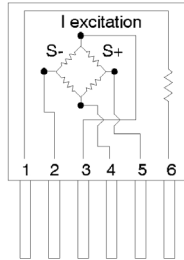
CHARACTERISTICS FOR SM5501/SM5502 - SPECIFICATIONS

Test Conditions: Model SM5501 w/excitation = 1.500mA @ 25 °C, Model SM5502 w/excitation = 10.00Vdc @ 25 °C, unless otherwise specified.

	Min.	Typ.	Max.	Units	Notes
Excitation					
Current (SM5501)	0.00	1.50	3.00	mA	
Voltage (SM5502)	0.00	10.00	20.00	V	
Output					
Span (SM5501)	50.0	100.0	175.0	mV	1
Span (SM5502)	49.5	50.0	50.5	mV	
Offset	-1.00	+0.20	1.00	mV	
Temperature Performance					
TC Span	-1.20	+0.20	1.20	%FS/100°C	2,3
TC Offset	-1.20	+0.20	1.20	%FS/100°C	2
Temp Hysteresis	-0.15	+0.05	0.15	%FS	
Accuracy					
Linearity	-0.15	+0.05	0.15	%FS	4
Repeatability	-0.15	+0.05	0.15	%FS	
Pressure Hysteresis	-0.15	+0.05	0.15	%FS	
Impedance (SM5501)					
Z Input	2.20	3.00	3.80	kΩ	
Z Output	2.90	3.30	3.80	kΩ	
Impedance (SM5502)					
Z Input	4.50	8.00	25.00	kΩ	
Z Output	2.00	2.50	3.80	kΩ	
Temperature Range					
Calibration	0		70	°C	
Operating	-40		85	°C	
Storage	-55		125	°C	
Dynamic Characteristics					
Proof Pressure	3 Times full-scale output or 225 PSI, whichever is less				
Burst Pressure	5 Times full-scale output or 225 PSI, whichever is less				

Notes:

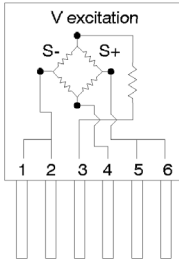
- Gain-set resistor for constant current (SM5501); see application note AN5500.
- Measured over a temperature range of 0 to 70 °C. For explanation of RMS error, see application note AN5500.
- FS denotes full scale output
- Best fit straight line



Model SM5501
Constant Current

- 1 Rs (Span Cal)
- 2 -Signal Out
- 3 I excitation
- 4 Ground
- 5 +Signal Out*
- 6 Rs (Span Cal)

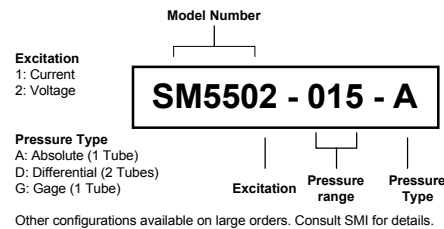
*Output increases as top-port pressure is increased



Model SM5502
Constant Voltage

- 1 -Signal Out
- 2 -Signal Out
- 3 V excitation
- 4 Ground
- 5 +Signal Out*
- 6 +Signal Out*

ORDERING INFORMATION:

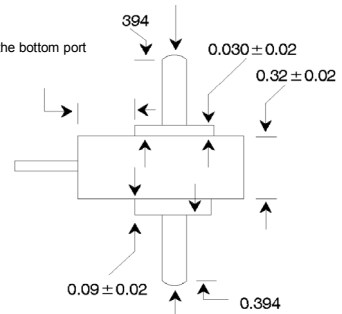
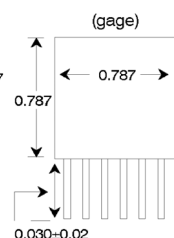
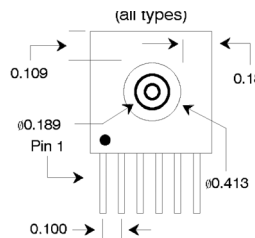


Pressure Ranges

PSI	5501/ 5502
5	005
15	015
30	030
60	060
100	100

Notes:

- All dimensions are shown in inches
- Tolerance on all dimensions ±0.005" unless otherwise specified.
- Side view for gage/absolute parts is same as the differential without the bottom port



Notice:

Silicon Microstructures, Inc. reserves the right to make changes to the product contained in this publication. Silicon Microstructures, Inc. assumes no responsibility for the use of any circuits described herein, conveys no license under any patent or other right, and makes no representation that the circuits are free of patent infringement. While the information in this publication has been checked, no responsibility, however, is assumed for inaccuracies.

Silicon Microstructures, Inc. does not recommend the use of any of its products in life support applications where the failure or malfunction of the product can reasonably be expected to cause failure of a life-support system or to significantly affect its safety or effectiveness. Products are not authorized for use in such applications.

Rev 1.2 8_02

© 2001-2002

Silicon Microstructures, Inc. ♦ 1701 McCarthy Blvd. ♦ Milpitas, CA 95035 USA
Tel: 408-577-0100 ♦ Fax: 408-577-0123 ♦ Sales@Si-Micro.Com ♦ WWW.Si-Micro.Com

www.DataSheet4U.com