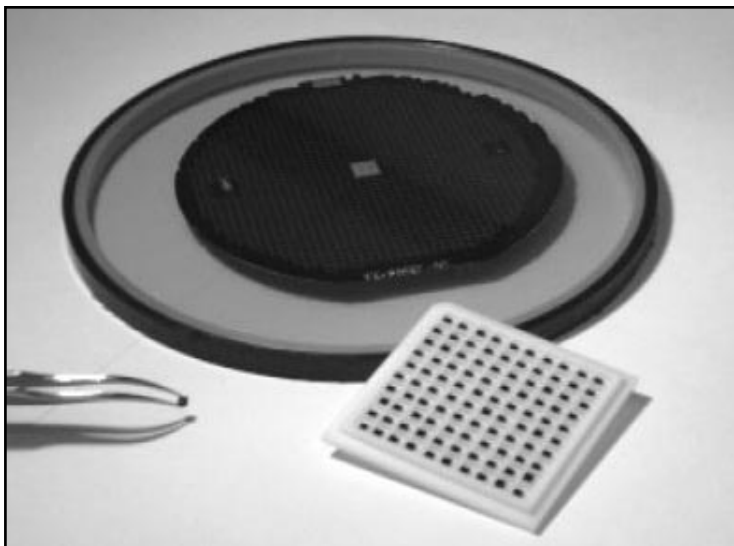


Description

The SM-5102 is a silicon micro-machined, piezoresistive pressure sensing chip. These devices are available in full-scale ranges from 5 to 300 PSI and are ideal for OEM and high volume applications.

Provided in die form, these sensors can be mounted on ceramic or PC board substrates as part of an OEM system. They also may be packaged into proprietary, or application specific sensor lines.

Die are probed, inked and diced, and shipped on tape or in waffle packs.



Features

- Low cost
- Gage and Absolute Versions
- Constant current or constant voltage drive
- Millivolt output
- 5, 15, 30, 60, 100 and 300 PSI ranges available.

Applications

- Altimeters
- Tire gauges
- Medical Instrumentation
- Industrial sensors
- Diving modules
- Home appliances

Characteristics

All parameters measured at 5 volts excitation at room temperature, unless otherwise specified.

Parameter	Min	Typ	Max	Units
Excitation Voltage	0	5.0	10.0	Volts
Excitation Current	0	1.5	3.0	mA
Span (FS Range) ¹				
5 PSI	75	100	125	mV
15 PSI	115	145	175	mV
30 PSI	130	165	195	mV
60 PSI	130	180	220	mV
100 PSI	130	200	250	mV
300 PSI	130	220	275	mV
Offset	-50	0	50	mV
TC Span ²		-22±5		%FS/100°C
TC Offset ²		±7		%FS/100°C
TC Resistance		28±5		%FS/100°C
Linearity ³	-0.3	±0.05	0.3	%FS
Bridge Impedance	2.7	3.3	4.0	k
Proof Pressure	3X			Rated FS Pressure
Burst Pressure	5X			Rated FS Pressure
Operating Temp	-40		85	°C
Storage Temp	-55		125	°C

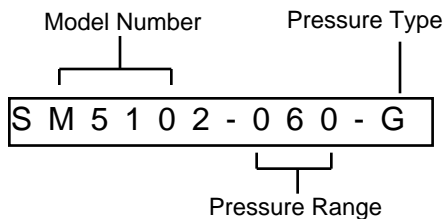
Notes

- 1) Measured at 5.0 V constant voltage excitation.
- 2) Measured from 0 to 70 °C
- 3) Best fit straight line.

Ordering Information

Pressure range
 005: 5 PSI
 015: 15 PSI
 030: 30 PSI
 060: 60 PSI
 100: 100 PSI
 300: 300 PSI

Pressure type
 A: Absolute
 G: Gage



Special configurations are available. Contact Silicon Microstructures for more information.

Figure 1: Layout

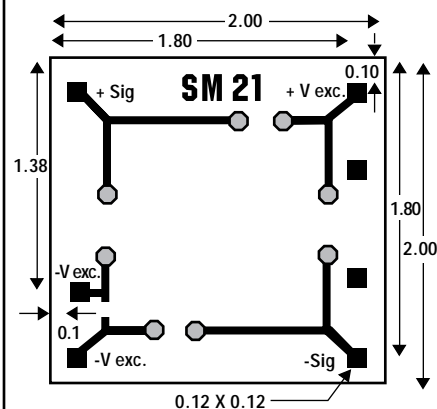


Figure 2: Side View

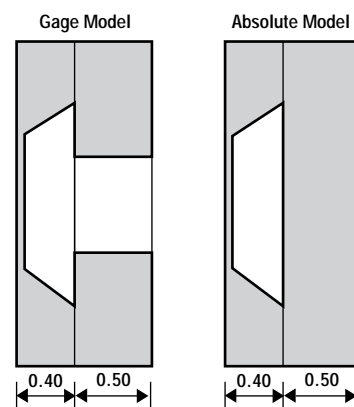
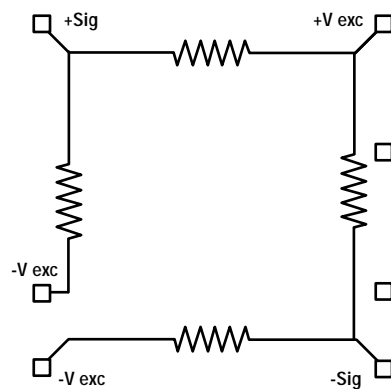


Figure 3: Schematic



NOTE: All dimensions in millimeters.



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Additional Products

- Accelerometers
- OEM Pressure Transducers
- Custom Designed Products
- Low Range Pressure Transducers