

Low Pressure Silicon Die

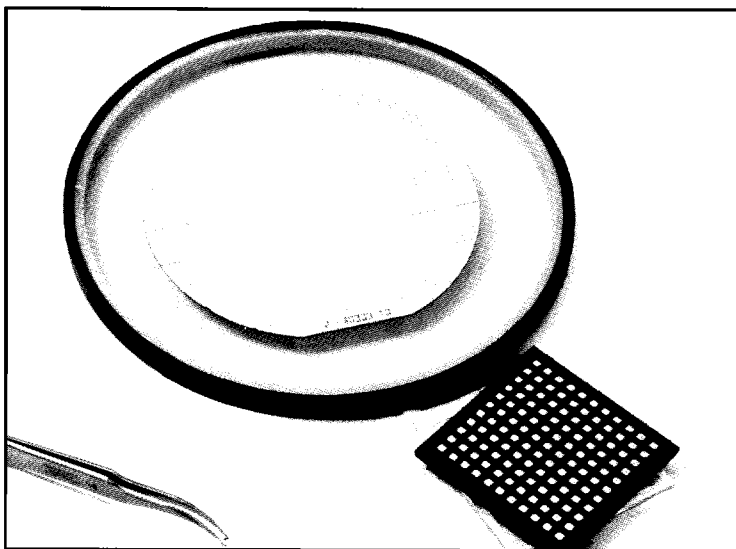
Model 5103

Description

The **5103** is a silicon micro-machined, piezoresistive low pressure sensing chip. These devices are available in full-scale ranges from 0.3 to 3.0 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.



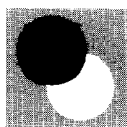
Features

- Low pressure 0.3 to 3.0 PSI
- High performance at low pressures
- Constant current or constant voltage drive
- Low cost
- High millivolt output

Applications

- Air flow
- Level detection
- HVAC
- Instrumentation
- Gas analysis

SILMS002



**SILICON
MICROSTRUCTURES**
INCORPORATED

Characteristics

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

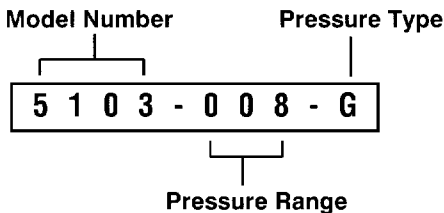
Parameter	Min	Typ	Max	Units
Excitation Voltage	0	5.0	10.0	Volts
Excitation Current	0	1.5	3.0	mA
Span (FS Range) ¹				
0.3 PSI	25	50	75	mV
0.8 PSI	25	50	75	mV
1.5 PSI	25	50	75	mV
3.0 PSI	25	50	75	mV
Offset	-50	0	50	mV
TC Span ²		-22±5		%FS/100°C
TC Offset ²		±12		%FS/100°C
Linearity ³	-0.3	±0.1	0.3	%FS
Bridge Impedance	2.7	3.3	4.0	kΩ
TC Resistance		28±5		%FS/100°C
Proof Pressure	3X			Rated FS Pressure
Burst Pressure ⁴	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) Defined as the best fit straight line; 0.3 PSI linearity is ±0.5% FS (max).
- 4) Burst Pressure in excess of 20X when topside pressured

Ordering Information

Pressure range	Pressure type	Model Number	Pressure Type
003: 0.3 PSI	G: Gage		
008: 0.8 PSI			
015: 1.5 PSI			
030: 3.0 PSI			



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



46725 Fremont Boulevard
Fremont CA 94538 USA
TEL: 510-490-5010
FAX: 510-490-1119

Figure 1: Layout

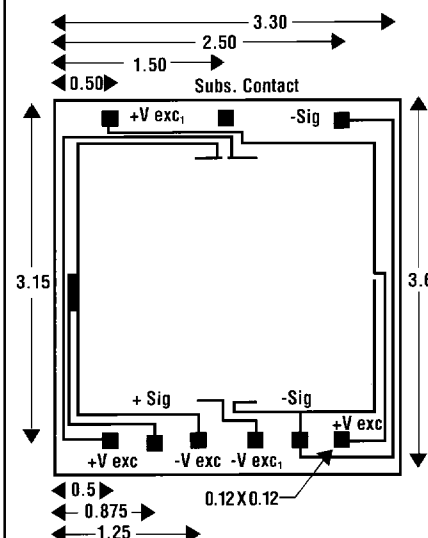


Figure 2: Side View

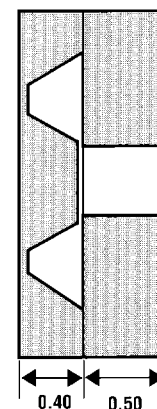
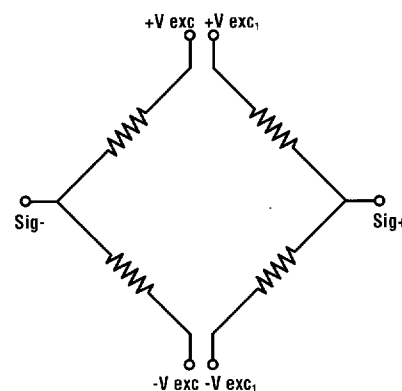


Figure 3: Schematic



NOTE: Dimensions in millimeters

Additional Products

- Accelerometers
- OEM Pressure Transducers
- Custom Designed Products
- Surface Mount Pressure Sensors