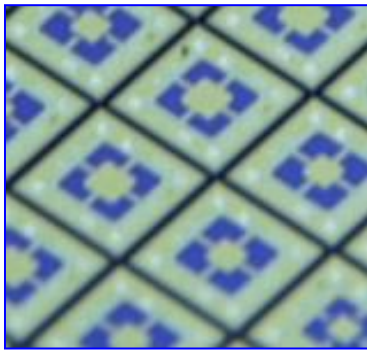




Over 150 million die shipped per year

# Low Pressure Sensor Die FS 10mbar SF055104



The SF055104 die is a new generation of low-pressure die particularly suited for low-pressure differential sensing.

This innovative design can be driven to higher pressures with good linearity performance, or further amplified for lower pressure sensitivity.

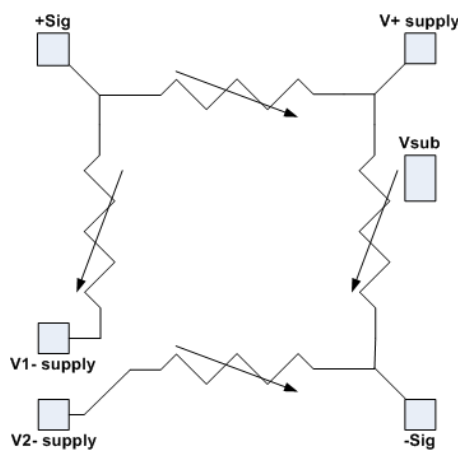
In addition to these standard pressure ranges, the SF055104 is available for higher full-scale ranges on a special order basis.

## Features:

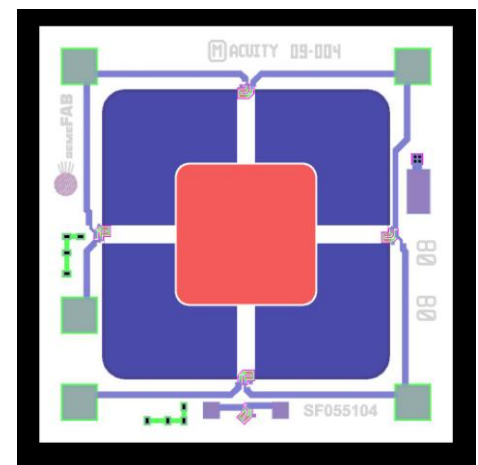
- Small Footprint (1.9mm x 1.9mm)
- 10mbar Full Scale
- Improved Zero Stability
- Reduced g-Sensitivity
- Reduced Sensitivity to Humidity
- Excellent Linearity

## Applications:

- Medical Ventilation & Respiration
- HVAC & Air Flow Control
- Industrial Pressure & Flow Control



**Equivalent Circuit Diagram**



**Pin-out of Semefab Low Pressure Die**



SF055104

Low Pressure Sensor Die  
FS 10mbar

ELECTRICAL CHARACTERISTICS:

Specification		Low Pressure Sensor SF055104				Note
Mechanical		Min	Nominal	Max	Unit	
Stepping size	X	1.899	1.900	1.901	mm	
	Y	1.899	1.900	1.901	mm	
Unconstrained wafer thickness	Z	0.401	0.406	0.411	mm	
<b>Electrical</b>						
<b>Resistance</b>						
Bridge resistance - 3.5k		3.2	3.5	3.9	kohms	1
TCR		2400	2800	3100	ppm/degreeC	2
Resistance Ratiometricity		-1.0	0.1	1.0	%	3
<b>Offset</b>						
Offset - no pressure		-100	0	25	mV	1
Offset ratiometricity		-0.2	0	0.2	mV/V	3
TCO		-20	2	20	microV/V/degreeC	2
<b>Leakage</b>						
Leakage current - individual		0.1	2.5	20	nA	4
<b>Sensitivity</b>						
Sensitivity		30	55	82	mV	5
TCS		-2000	-1700	-1400	ppm/degreeC	2
Pressure nonlinearity		-0.3	0.1	0.3	%	6
Pressure nonlinearity - F/B		-1.0	0.1	1.0	%	7
<b>Mechanical Pressure</b>						
Full Scale Pressure Ranges			10		mBar	8
Overpressure		>10X			FS Pressure	9
		>5X			FS Pressure	10

**Note**

- 1 Measured at 5 volts
- 2 Measured at +5V and -2.5V drive, normalized by volt drive
- 3 Measured at 2.5 and 5.0 volts
- 4 Measured from N+ substrate contact to any Resistor Pad at 9V
- 5 Full scale output at 5 volt drive and rated pressure
- 6 1/2 TBNL (Terminal Base Nonlinearity at 0, 50%, and 100% FS)
- 7 Ratio of sensitivity with +FS and -FS pressures applied
- 8 For custom pressure ranges, consult with Semefab
- 9 Will not break through after 100 cycles of 0 to 10xFS in 1 sec
- 10 Will not break through after >1 million cycles of 0 to 5xFS in 1 sec