

### Silicon Pressure Sensor DIE

#### Description

The series of HSS sensor is a small size piezo-resistive pressure sensor wafer. The Die size is  $1 \times 1 \text{mm}^2$ . when the input voltage is 3VDC the sensor produce mV DC output voltage which is direct proportion of the input voltage. Pressure sensor wafer is the absolute pressure sensor, and we can also offer the differential pressure mode.

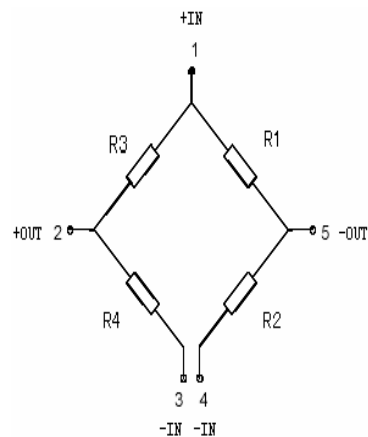
#### Features

- Solid, MEMS technique, high reliability
- Low cost, tiny size
- Standard pressure range: 0—100KPa; 0—150KPa; 0—700KPa; 0—1700KPa
- Nonlinearity:  $< 0.20\% \text{ FSO}$
- Silicon/silicon bonding wafer, high stability

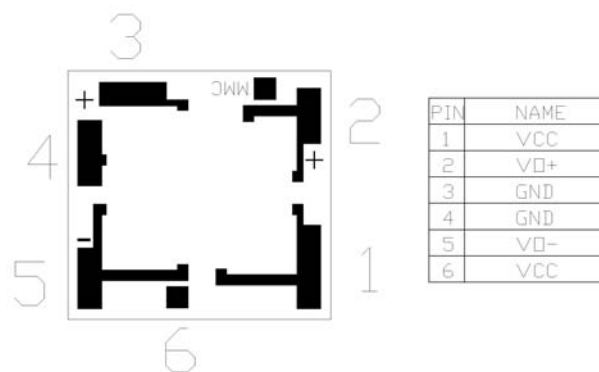
#### Application

- For high resolution absolute sensor systems
- Engine control
- Tyre pressure test
- Barometers, Altimeters, Variometers, Sphygmomanometer

#### Block Diagram



Chip dimensions:  $1 \times 1 \times 0.6 \text{mm}$



Bonding Area Size:  $0.3 \times 0.105 \text{mm}$

### Electrical Characteristics

(Reference conditions: Supply Voltage VS+ = 5 Vdc; Ambient Temperature Ta = 23°C )

		Min	Typ	Max	Unit	Remarks
Supply voltage			5.0		V	
Supply current			1		mA	
Output range (FS range)	100KPa	60	80	100	mV	
	150KPa	80	100	120	mV	
	200KPa	70	100	150	mV	
	350KPa	70	100	150	mV	
	700KPa	70	100	150	mV	
	1000KPa	70	100	150	mV	
	1.7MPa	80	120	180	mV	
	3.5MPa	100	150	200	mV	
Zero bit output		-35		35	mV	remark
Full temperature parame		-24	-19	-15.5	%FS/100°C	Stable input voltage
0temperature parameter		-7		+7	%FS/100°C	
Resistive temperature parameter		+24	+27.5	+33	%FS/100°C	
Linearity		-0.45	-0.15	+0.45	%FS	
Bridge impedance			5		K Ω	
Overfreight pressure		2X			Fixed FS	
Breach pressure		4X			Fixed FS	
Operation temperature		-40		+125	°C	
Storage temperature		-55		+150	°C	

#### Notes:

1. The Zero bit output voltage is  $\pm 50\text{mV}$  for 100KPa
2. Hope mainly produce the sensor pressure range: 100kpa, 700kpa, 1700kpa
3. Maximum difference in offset after one thermal cycle from  $-40^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$ .
4. Hope also provide the other pressure range sensor, please contact with Hope Microelectronics

### Full Scale Pressure

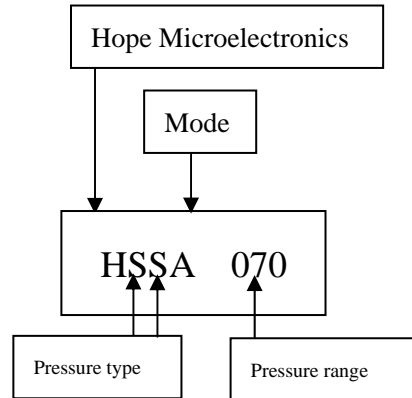
kPa	bar	mbar	PSI	atm	mmHg	mmH <sub>2</sub> O	kg/cm <sup>2</sup>
100	1	1000	15	1	750	10207	1
700	7	7000	100	7	5250	71451	7
1700	17	17000	250	17	12754	173524	17

### Pressure Ranges

KPa	HSSA
100	010
200	020
350	035
700	070
1000	100
1700	170
3500	350

**A: Absolute pressure**

### Part number System



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