



MPS-1300 series Silicon Pressure Sensor Die

■ Features

- Solid State, High Reliability
- Favorable Price
- Pressure Range: 100、200、300、500 PSI
- Gauge and Absolute Type
- Miniature Size
- Easily Embedded in OEM Equipment

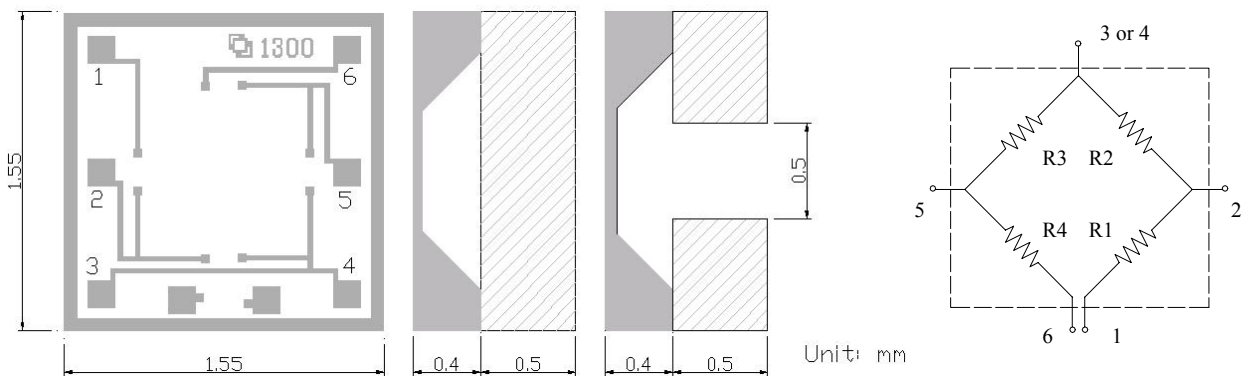
■ Applications

- Portable Tire Pressure Gauge
- Pneumatic Control; Leak Detection; Pressure Switch and Controller
- Tire Pressure Monitor System; Engine and Suspension Control
- Digital Pressure Gauge
- Medical Instrumentation

■ Descriptions

Metrodyne's MPS-1300 series piezoresistive pressure sensors are offered in a 1.6×1.6 mm die. The MPS-1300 produces a millivolt output that is proportional to input pressure, when excited with constant voltage (5Vdc) or constant current (1mA). It can be mounted on ceramic or PC board substrates by OEM manufactures. The MPS-1300 will provide very long-term stability and excellent repeatability.

■ Schematic and wire bond diagrams



Pad No.	Connection
1	-Vin
2	-Vout
3 or 4	+Vin
5	+Vout
6	-Vin

※ Positive output for pressure applied to the top (circuit) side of the sensor



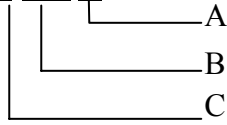
■ Specifications

Parameter	Min	Typ	Max	Units	Notes
General					
Pressure Range	100 · 200 · 300 · 500			PSI	
Maximum Overpressure			2X		Rated pressure
Operating Temperature Range	-40		125	°C	-40°F ~+257°F
Storage Temperature Range	-40		125	°C	-40°F ~+257°F
Operating humidity	15		85	%RH	No condensation
Dimension		1.6 × 1.6		mm × mm	
Media Compatibility	Clean, dry air & noncorrosive gases				
Performance⁽¹⁾					
Excitation voltage		5	15	Vdc	
Excitation current		1	3	mA	
Bridge resistance	4	5	6	kΩ	
Offset Voltage	-35		35	mV	
Full Scale Span Voltage					
100 PSI	70	120	170	mV	
200 PSI	45	90	135		
300 PSI	70	135	200		
500 PSI	70	135	200		
Linearity	-0.5		0.5	% Span	(2)
Temperature Coefficient of Zero Offset	-0.08		0.08	% Span/°C	(3)
Temperature Coefficient of Span	-0.16	-0.21 ⁽⁴⁾ ±0.05 ⁽⁵⁾	-0.26	%Span/°C	(3)
Temperature Coefficient of Resistance	0.17	0.2	0.23	%/°C	(3)
Notes :					
1. Unless otherwise specified, measurements were taken with a supply voltage of 5 Vdc at a temperature of 25±3°C and humidity ranging from 25% ~85% .					
2. Best fit straight line.					
3. Between 0 °C and 50 °C. Temperature coefficients are typical values.					
4. Measured only with constant voltage excitation (5V) .					
5. Measured only with constant current excitation (1mA) .					
Metrodyne Microsystem Corp. reserves the right to make changes to the product specification in this publication.					



Ordering information

MPS-1 3 0 8-100 G



A	Pressure type	B	Pressure range
G	Gauge	100	100 PSI
A	Absolute	200	200 PSI
		300	300 PSI
		500	500 PSI
C			
8	Temp. compensation		

Part No.	Type	Range	Feature	Note
MPS-1308-100G	Gauge	100 PSI	5kOhm	
MPS-1308-100A	Absolute	100 PSI	5kOhm	
MPS-1308-200G	Gauge	200 PSI	5kOhm	
MPS-1308-200A	Absolute	200 PSI	5kOhm	
MPS-1308-300G	Gauge	300 PSI	5kOhm	
MPS-1308-300A	Absolute	300 PSI	5kOhm	
MPS-1308-500G	Gauge	500 PSI	5kOhm	
MPS-1308-500A	Absolute	500 PSI	5kOhm	

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