



MPS-1210 series
Silicon Pressure Sensor Die

■ **Features**

- Solid State, High Reliability
- Favorable Price
- Pressure Range: 1, 2, 5.8, 15, 30 PSI
- Gage and Absolute Types
- Miniature Size
- Easily Embedded in OEM Equipment

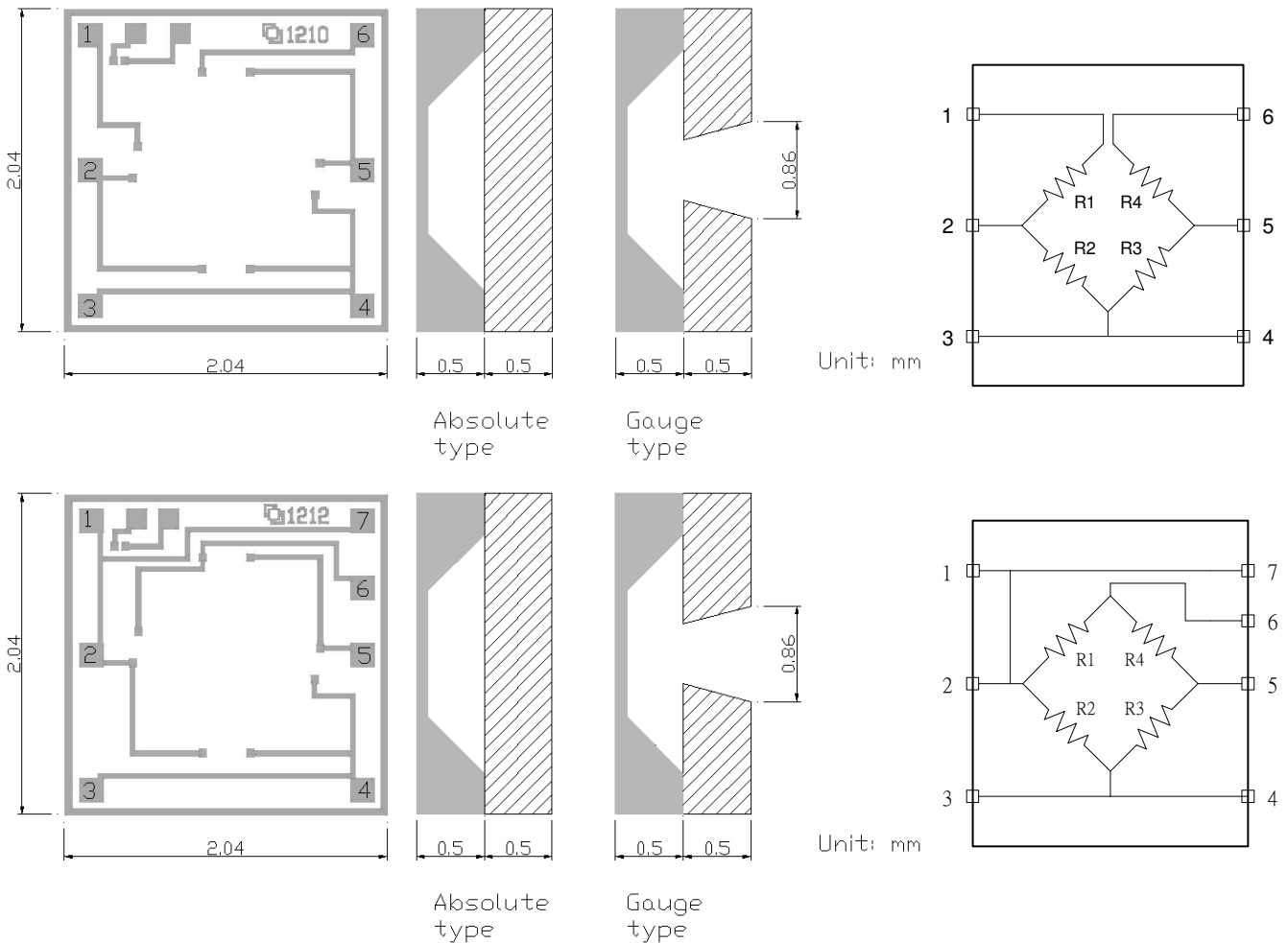
■ **Applications**

- Altimeters · Barometer
- Automatic machine
- Industrial control
- Medical Instrumentation
- Digital Pressure Gauge
- Pressure Switch

■ **Descriptions**

Metrodyne's MPS-1210 piezoresistive pressure sensors are offered in a 2.04 × 2.04 mm die. The MPS-1210 produces a millivolt output that is proportional to input pressure, when excited with 5 Vdc or 1 mA. It can be mounted on ceramic or PC board substrates by OEM manufactures. The MPS-1210 will provide very long-term stability and excellent repeatability.

■ **Schematic and wire bond diagrams**





● MPS-1210 series

Pad No. (MPS-1210)	Pad No. (MPS-1212)	Pressurized on topside	Pressurized on backside
1		+Vout	-Vout
2	1,2,7	+Vin	+Vin
3 or 4	3 or 4	-Vout	+Vout
5	5	-Vin	-Vin
6	6	+Vout	-Vout

※ For absolute type sensor, it is only pressurized on topside.

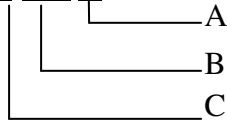
■ Specifications

Parameter	Min	Typ	Max	Units	Notes
General					
Pressure Range	1、2、5.8、15、30			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		2.0 × 2.0		mm × mm	
Media Compatibility	Clean, dry air & noncorrosive gases				
Performance⁽¹⁾					
Excitation voltage	2	5	15	Vdc	
Excitation current	0.4	1	3	mA	
Bridge resistance	4	5	6	kΩ	
Offset Voltage	-25		25	mV	
Full Scale Span Voltage					
1 PSI	20	30	40	mV	
2 PSI	20	30	40		
5.8 PSI	50	75	100		
15 PSI (MPS-1211)	130	170	210		
15 PSI (MPS-1210、MPS-1212)	70	100	130		
30 PSI	80	110	140		
Linearity				% Span	(2)
1、2 PSI	-0.7	0.15	0.7		
15 PSI (MPS-1211)	-0.5	0.22	0.5		
5.8、15 (MPS-1210、MPS-1212)、30 PSI	-0.3	0.05	0.3		
Temperature Coefficient of Zero Offset (TCO)				% Span/°C	(3)
1、2 PSI	-0.22		0.22		
5.8、15、30 PSI	-0.08		0.08		
Temperature Coefficient of Span (TCS)	-0.16	-0.21 ⁽⁴⁾	-0.26	%Span/°C	Const. Voltage excitation (3)
	-0.05	0.025 ⁽⁵⁾	0.05		Const. Current excitation (3)
Temperature Coefficient of Resistance (TCR)	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 2 1 0-006 G



A	Pressure type	B	Pressure range	C	
G	Gauge	001	1 PSI	0	Normal
A	Absolute	002	2 PSI	1	High sensitivity
		006	5.8 PSI	2	Pads for dual die bonding
		015	15 PSI		
		030	30 PSI		

Part No.	Type	Range	Feature	Note
MPS-1210-001G	Gauge	1 PSI	5kOhm	
MPS-1212-001G	Gauge	1 PSI	5kOhm	Pads for dual die bonding
MPS-1210-002G	Gauge	2 PSI	5kOhm	
MPS-1212-002G	Gauge	2 PSI	5kOhm	Pads for dual die bonding
MPS-1210-006G	Gauge	5.8 PSI	5kOhm	
MPS-1212-006G	Gauge	5.8 PSI	5kOhm	Pads for dual die bonding
MPS-1210-015G	Gauge	15 PSI	5kOhm	
MPS-1210-015A	Absolute	15 PSI	5kOhm	
MPS-1211-015G	Gauge	15 PSI	5kOhm	High sensitivity
MPS-1211-015A	Absolute	15 PSI	5kOhm	High sensitivity
MPS-1212-015G	Gauge	15 PSI	5kOhm	Pads for dual die bonding
MPS-1212-015A	Absolute	15 PSI	5kOhm	Pads for dual die bonding
MPS-1210-030G	Gauge	30 PSI	5kOhm	
MPS-1210-030A	Absolute	30 PSI	5kOhm	
MPS-1212-030G	Gauge	30 PSI	5kOhm	Pads for dual die bonding
MPS-1212-030A	Absolute	30 PSI	5kOhm	Pads for dual die bonding

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