NOVA® SENSOR

P1303

NovaSensor Low Pressure Silicon Pressure Sensor Die

Features

- High reliability, solid state silicon pressure sensors
- Available in differential version
- Standard pressure range: 2.5 KPa (10 inH_2O)
- Nonlinearity < 0.5% FSO
- 5X overpressure limit

Applications

- Process control systems
- HVAC
- Respirators
- Cabin pressure

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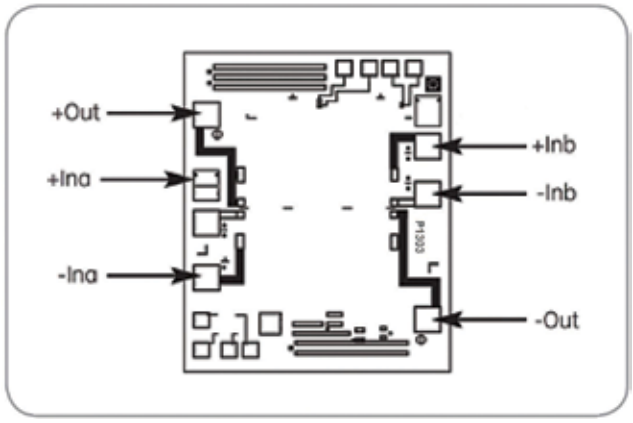
P1303 Specifications

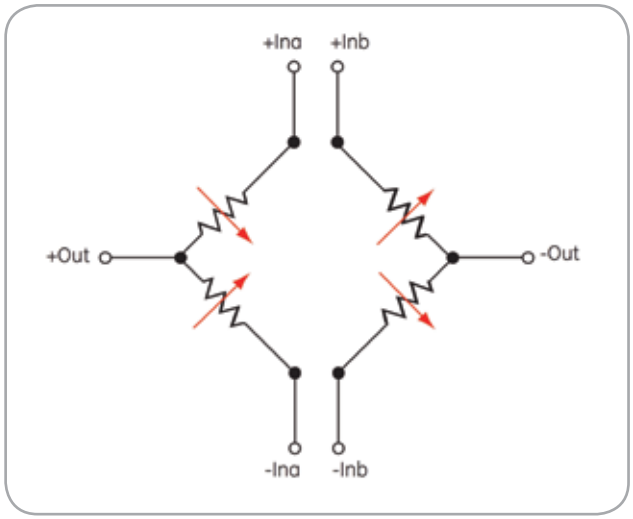
Description

The P1303 piezoresistive pressure sensors are offered in a miniature 2.7 mm x 3.2 mm (0.10 in x 0.12 in) die. When excited with 1.5 mA, the P1303 produces a millivolt output that is proportional to input pressure. The P1303 is available as a differential and gage sensor. With NovaSensor's SenStable® process, the P1303 will provide very good long-term stability and excellent repeatability.

Schematic Diagrams



Die dimensions: 2.7 mm x 3.2 mm x 0.4 mm
(0.10 in x 0.12 in x 0.02 in)



P1303 schematic diagrams

Die Height (H)

No glass 0.4 mm

Parameter	Value	Units	Notes
General			
Pressure Range	2.5	KPa	10 inH_2O
Electrical @ 25°C (72°F) unless noted			
Excitation	1.5	mA	10 VDC Maximum
Input Impedance	5000±20%	Ω	
Output Impedance	5000±20%	Ω	
Environmental			
Temperature Range			
Operating	-40 to 125	°C	(-40°C to 257°F)
Storage (undiced)	-55 to 150	°C	(-55°C to 302°F)
Mechanical			
Weight	<0.01	g	
Media Compatibility	Clean dry air, non-corrosive gases		
Performance Parameters (1)			
	Value (5)	Units	Notes
Zero Offset	±75	mV	1
Full Scale Output (FSO)	40 to 90	mv	2.5 kPa
Linearity (2.5 kPa)	±0.5	%FSO	2
Pressure Hysteresis	±0.2	%FSO	
Temperature Coefficient of Zero	±30	µV/V/°C	3
Temperature Coefficient of Resistance	0.29	% /°C	3
Temperature Coefficient of Sensitivity	-0.2	%FSO/°C	3
Thermal Hysteresis of Zero	0.25	%FSO	3
Long-term Stability	0.2	%FSO	4

1. 0 KPaG for differential or gage sensors.
2. Best fit straight line.
3. Typical value between 0°C and 70°C (32°F and 158°F).
4. Typical value over one year.
5. All values measured at 25°C (77°F) and 1 mA excitation, unless otherwise noted.

Shipping and Handling

All wafers are shipped in protective containers. The wafers are sawn on sticky tape with rings. All wafers are electrically probed and visually inspected. Samples from each wafer verify offset, FS output, and linearity. Electrical rejects are inked with red dots. Visual rejects are inked with black or blue dots. Each wafer will have the following information: Lot number, wafer number, device number, and the number of good dice.

Warranty

Amphenol Advanced Sensors warrants its products against defects in material and workmanship for 12 months from the date of shipment. Products not subjected to misuse will be repaired or replaced. Amphenol Advanced Sensors reserves the right to make changes without further notice to any products herein. Amphenol Advanced Sensors makes no warranty, representation or guarantee regarding the suitability of its products for any particular application. Amphenol Advanced Sensors does not assume any liability arising out of the application or use of any product or circuit and specifically disclaims, and all liability, without limitation consequential or incidental damages. The foregoing warranties are exclusive and in lieu of all other warranties, whether written, oral, implied or statutory. No implied statutory warranty of merchantiablity or fitness for a particular purpose shall apply.

Ordering Information

Part Number	Description
51513	2.5 KPa D/G (10 in H_2O), no glass

Minimum Release Quantity: Approximately 400 die (1 wafer)

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www.amphenol-sensors.com

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