NOVA SENSOR

P562

Medical Silicon Pressure Die

Description

NovaSensor's P562 piezoresistive pressure sensor is specifically designed for medical applications. Low linearity errors and low input and output impedance make the P562 an industry standard for disposable pressure sensor die. The sensor die is radiation tolerant for newer sterilization methods. Wire bonds are located on one side to minimize package width for DPT's and IUP's. Choose an open bridge wirebond configuration depending on your compensation circuit . Sensitivity can be easily scaled with external circuitry to meet the AAMI standard of 5 μV/V/mmHg sensitivity.

Applications

- Disposable pressure transducer (DPT)
- Intrauterine pressure (IUP)
- Biomedical instruments
- Infusion pumps

Features

- Highly reliable, silicon pressure sensor
- Low-cost for disposable applications
- 0 to 100 mmHg pressure range
- Radiation tolerant design
- Linearity errors less than 1% in physiological pressure range

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P562 Specifications

Parameter	Value	Units	Notes
General			
Pressure Range	100	mmHg	-1.9 psi (-0.13 bar)
Maximum Overpressure	125 (9 bar)	psi	Topside pressure
Electrical @ 72°F (25°C) unless noted			
Excitation	3.0	mA	3 VDC Maximum
Input Impedance	305 to 400	Ω	
Output Impedance	305 to 400	Ω	
Environmental			
Temperature Range			
Operating	32 to 158	°F	(0°C to 70°C)
Storage	-13 to 185	°F	(-25°C to 85°C)
Mechanical			
Weight	0.00004	lb	(0.02 grams)
Media Compatibility	Clean dry air, non-corro-sive gases		
Performance Parameters (1)			
Zero Offset	±4	mV/V	2
Sensitivity	44 ±11	µV/V/mmHg	
Linearity	1.5	%FSO	3
Pressure Hysteresis	0.1	%FSO	
Temperature Coefficient of Zero	30	µV/V/°C	4
Temperature	0.16	%/°C	4
Coefficient of Resistance			
Temperature Coefficient of Sensitivity	-0.11	%FSO/°C	4
Thermal Hysteresis of Zero	0.1	%FSO	4
Long Term Stability of FSO	0.1	%FSO	5

1. All values measured at 72°F (25°C) and 1 mA excitation, unless otherwise noted.
2. Zero psig.
3. Measured as the deviation at 300 mmHg from a line drawn from the output at zero pressure through the output at 100 mmHg.
4. Between 32°F and 158°F (0°C and 70°C).
5. Typical value over one year.

Ordering Information

Part Number:

51279 100mmHg Sensor

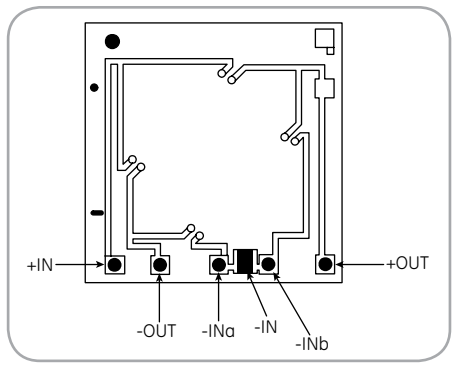
Minimum release quantity:
Two wafers or approximately 2,000 die.

Shipping and Handling

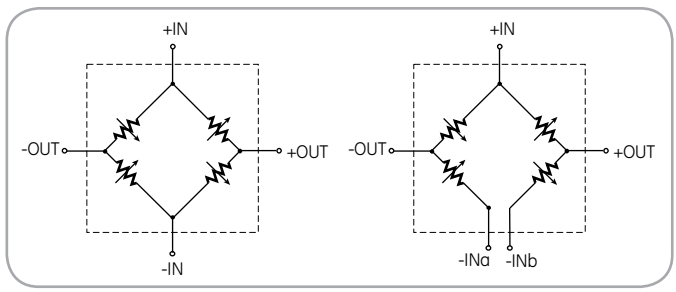
All wafers are shipped in protective containers. The wafers are sawn on sticky tape with plastic rings. All wafers are electrically probed and visually inspected. Samples from each wafer verify offset , full-scale output , and linearity. Electrical rejects are inked with red dots. Visual rejects are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

Warranty

NovaSensor 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. NovaSensor reserves the right to make changes without further notice to any products herein. NovaSensor makes no warranty, representation or guarantee regarding the suitability of its products for any particular application. Nova-Sensor 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 merchantability or fitness for a particular purpose shall apply.



Die dimensions: 0.08 in x 0.08 in x 0.01 in (2.1 mm x 2.1 mm x 0.4 mm)



P562 schematic and wirebond diagram

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