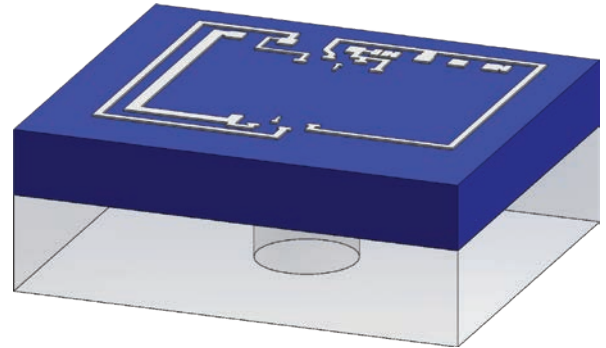




P2705

Miniature Low Pressure MEMS Sensor Die



NovaSensor's P2705 die products utilize four piezoresistors combined in a Wheatstone bridge circuit. When excited by constant voltage, the P2705 die produces a differential millivolt output signal directly proportional to the applied pressure. Available as gage, the P2705 sensor die also features high sensitivity, excellent overload capability, and small temperature hysteresis over a wide temperature range. The product is 100% visually inspected and electrically probed. Samples from each wafer are tested over temperature for resistance, sensitivity, linearity, offset, and hysteresis.

Applications

- Respiratory ventilators
- Sleep apnea
- Spirometers
- HVAC
- Process Control

Features

- High sensitivity low footprint MEMS pressure sensor die
- Available as a gage version
- Available with glass or no glass option (consult NovaSensor for more information)
- Standard pressure ranges: 2.5 kPa to 5 psi
- NovaSensor's proprietary SenStable® process produces excellent long-term stability
- Dimensions 1.85 x 1.5 x 0.86 mm (with glass)
- Over 5x proof pressure and 100x burst pressure

P2705 Specifications

Product Number	Full Pressure	Proof Pressure	Burst Pressure	Sensitivity (4) (mV/V/kPa)
51600	2.5 kPa	35 kPa	700 kPa	2-4
51601	1 psi	35 kPa	700 kPa	2-4
51605	2.5 psi	17.5 psi	250 psi	1.2-2.2
51606	5 psi	35 psi	250 psi	0.9-1.5
51608 (no glass)	2.5 kPa	35 kPa	700 kPa	2-4

Parameter	Value	Units	Notes
Electrical @ 72°F (25°C) unless noted			
Excitation (DC)	3.3, 5	Volt	Maximum 8 VDC
Bridge Resistance	5000 ±20%	Ohm	
Environment			
Operating Temp.	-40 to 125	°C	
Storage Temp.	-55 to 150	°C	
Mechanical			
Dimensions	1.85 x 1.5 x 0.86	mm	L x W x H, with glass
Media Compatibility	Clean dry air, non-corrosive gases		

Performance Parameters (1)	Value for 51600, 51601, 51608	Value for 51605, 51606	Units	Notes
Zero Offset	± 10	± 10	mV/V	2
Pressure Non Linearity (BFSL)	± 0.3	± 0.35	%FSO	3
Pressure Hysteresis	± 0.1	± 0.1	%FSO	4
Temperature Coefficient of Zero	± 10	± 10	µV/V/°C	4, 5
Temperature Coefficient of Resistance	0.08	0.08	%/°C	4, 5
Temperature Coefficient of Sensitivity	-.18 to -.25	-.18 to -.25	%/°C	4, 5
Zero Thermal Hysteresis	± 0.5	± 0.25	%FSO	4, 5

1. All values measured at 25°C and 5 VDC excitation, unless otherwise noted. Samples from each wafer are used to verify bridge resistance, offset, span, linearity and die performance in the temperature range between 0°C to 70°C.
2. Parameter is 100% measured at wafer probing at normal conditions.
3. Best fit straight line.
4. Typical value.
5. Between 0°C to 70°C.

P2705 Specifications

Shipping and Handling

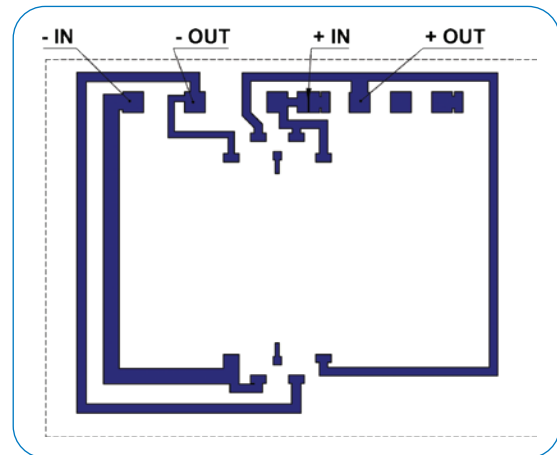
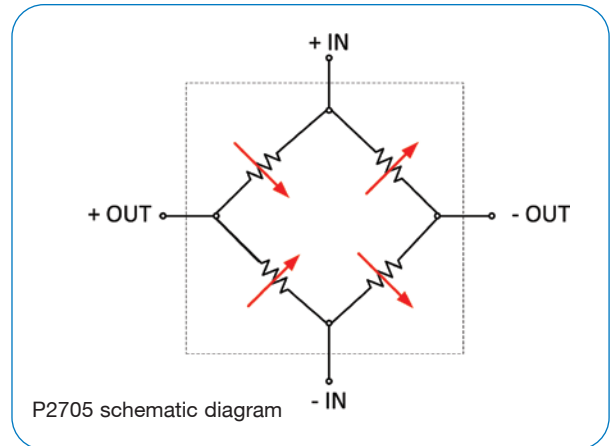
All wafers are shipped in protective containers. The wafers are sawn on sticky tape with plastic rings or metal frames. All wafers are electrically probed and visually inspected. Electrical rejects and visual rejects are marked with colored dots. Each wafer will have the following information: Lot number, wafer number, device part number and the number of good die.

Ordering Information

Contact Amphenol Sales

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. NovaSensor 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 of fitness for a particular purpose shall apply.



Bond pad size L x W (0.1 mm x 0.1 mm)

