

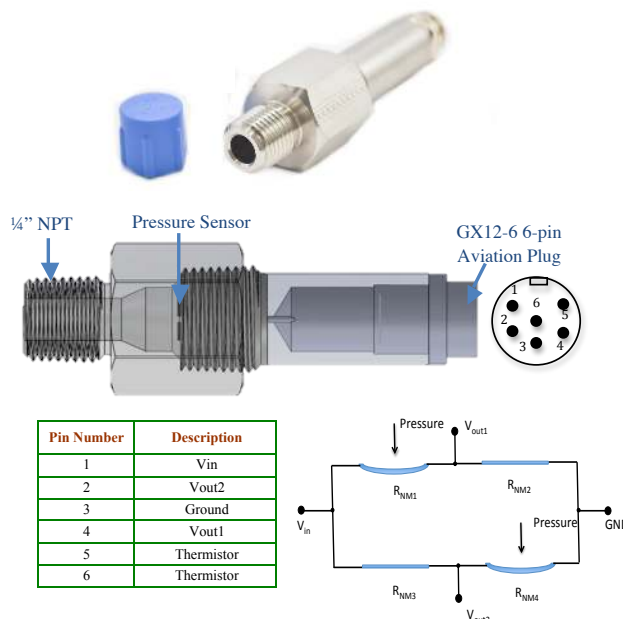


Semiconductor Nano&Micro Membrane based Pressure Sensors

Product Description

Semiconductor Nano&Micro Membrane (NMM) sensor materials are thin, flexible, mechanically and chemically robust materials that can be patterned as two dimensional multi-sensor element arrays using silicon on insulator and CMOS-compatible MEMs technologies. NMM sensors and arrays can be embedded into small probes or conformally attached onto vehicle and model surfaces for dynamic and static pressure measurements as follows.

- Frequency bandwidth: DC to 1MHz
- Pressure measurement accuracy: 0.5% full scale
- Temperature range: -196°C to 100°C
- Miniaturized sensor package

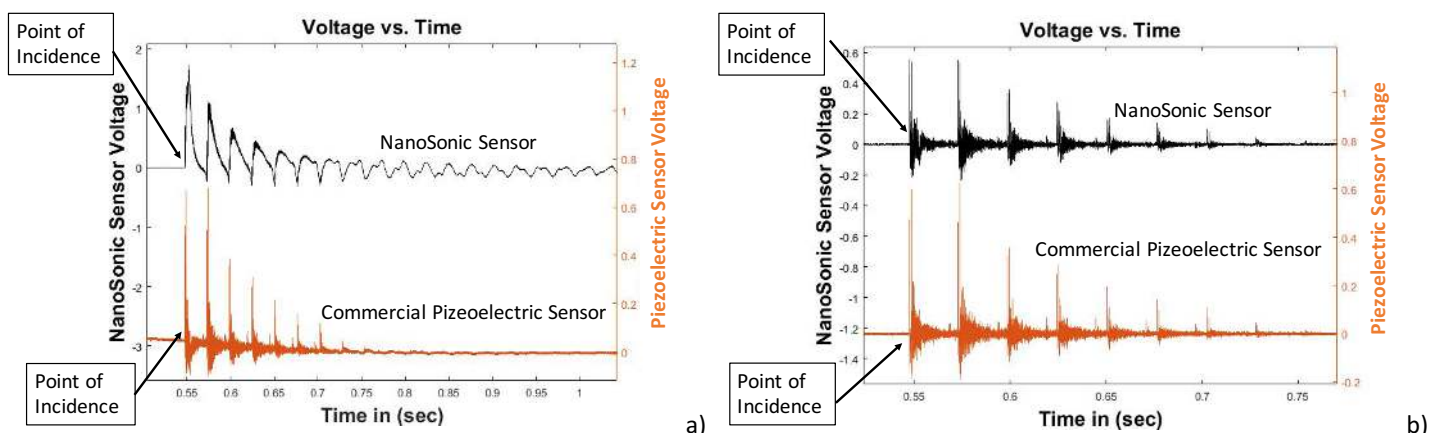


Pressure Sensor Housing and Pin Description

Applications

Semiconductor NMM pressure sensors can be used for industrial process monitoring, distributed pressure mapping, and instrumentation of transonic, supersonic and hypersonic wind tunnel models.

Exemplary Shock Tube Test



Comparison of the NanoSonic NMM Sensor and the Commercial Piezoelectric Sensor Outputs in a Recent Shock Tube Test. Data is High Pass Filtered above 1Hz (a) and 500Hz (b). The Measured Mach Number is 1.23.



NMM Pressure Sensor Ordering Code Matrix

NPS - Nanomembrane Pressure Sensor							
Code	Sensor Package Type						
CP	Pressure sensor on cylindrical package						
FP	Pressure sensor on flexible package						
Code	Measurement Range						
1	1 psi (0.07bar)						
5	5 psi (0.35bar)						
20	20 psi (1.4bar)						
100	100 psi (7bar)						
Code	Temperature Range						
A	0°C – 80°C						
B	-60°C – 100°C						
C	-196°C – 100°C						
Code	Frequency Response						
1	DC to 100kHz						
2	DC to 1MHz						
3	DC to 5MHz						
Code	Temperature Compensation						
SENC	Single element, non-compensated						
WBC	Wheatstone bridge compensated						
WBT	Wheatstone bridge and thermistor						
Code	Backing Substrate						
1	Stainless Steel						
2	Polyimide						
3	Aluminum						
4	Ceramic						
Code	Output						
R	Resistance 0~1kohm						
V	Voltage 0-5V						
C	Current 0-10mA						
W	Wireless 2.4 GHz						
Example	Cryogenic, Temperature Compensated, Ultrahigh Frequency Pressure Sensor on Stainless Steel Cylindrical Package with Voltage Output and 20 psi Pressure Range						
NPS -	CP	20	C	3	WBC	1	V

Product Information

For additional product information, please contact a NanoSonic sales representative.

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