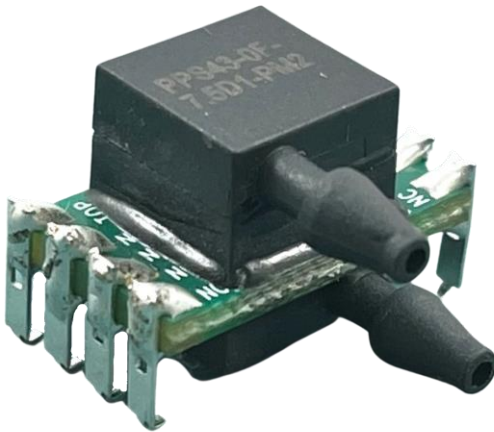


## Digital Board Level Pressure Sensor



- Differential/Gauge Pressure Sensor
- -20°C - 65°C Operating Temperature
- Compact Size – 8 Pin DIP
- $\pm 0.25\%$  Linearity FS
- 14 Bit Digital Front End
- Pressure Range: 0-10PSI
- Resolution: .01 %
- Output - .5-4.5V
- Accuracy:  $\pm 1.5\%$   
(includes-Hysteresis, NL, TC, 0-60C)

### DESCRIPTION

The PPS43 is an amplified digitally compensated pressure sensor in a compact 8-pin package. This silicon pressure sensor was designed for harsher pressure applications.

The PPS43 series utilizes MEMS piezo-resistive sensors pressurized on the passive backside of the pressure die and is isolated from the substrate with a silicon gel for long term stability, water ingress resistance, and accuracy.

Please contact the factory for Custom design availability.

### APPLICATIONS

- Flow Meters
- Gas chromatography
- HVAC
- Pneumatic Controls
- Aviation
- Medical Equipment

## Maximum Environmental Ratings

Operating Temperature ..... -20°C to 65°C  
Storage Temperature Range .....-20°C to 65°C

Proof pressure ..... 2.5x full scale pressure  
Burst pressure ..... 4x full scale pressure

### Package

The PPS43 is housed in an 8 PIN industrial plastic package with DIP or SMT leads. The covers are ABS plastic. There are several port options.

### Stability

The silicon MEMS pressure sensor has a SiO<sub>2</sub> base and is mounted to a ceramic base with RTV and is sealed with a ceramic cover. The special die attach material helps reduce the mechanical stress which results in greater stability over time and temperature.

Additional stability is gained from factory stabilization of all sensors.

### Pressure port

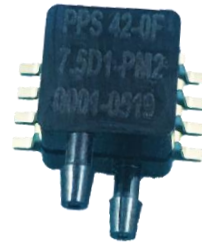
The PPS43-2 has a strong polyethylene barbed port to protect against undue stress during manufacturing.

### Media

The pressure port is tolerant to most media including but not limited to air, gas, and most non-corrosive media.

### Wetted parts

The wetted surfaces are silicon, RTV, epoxy, polyethylene and high temperature polyimide.



**Automated Oil/Gas Valves**



**Process Equipment**

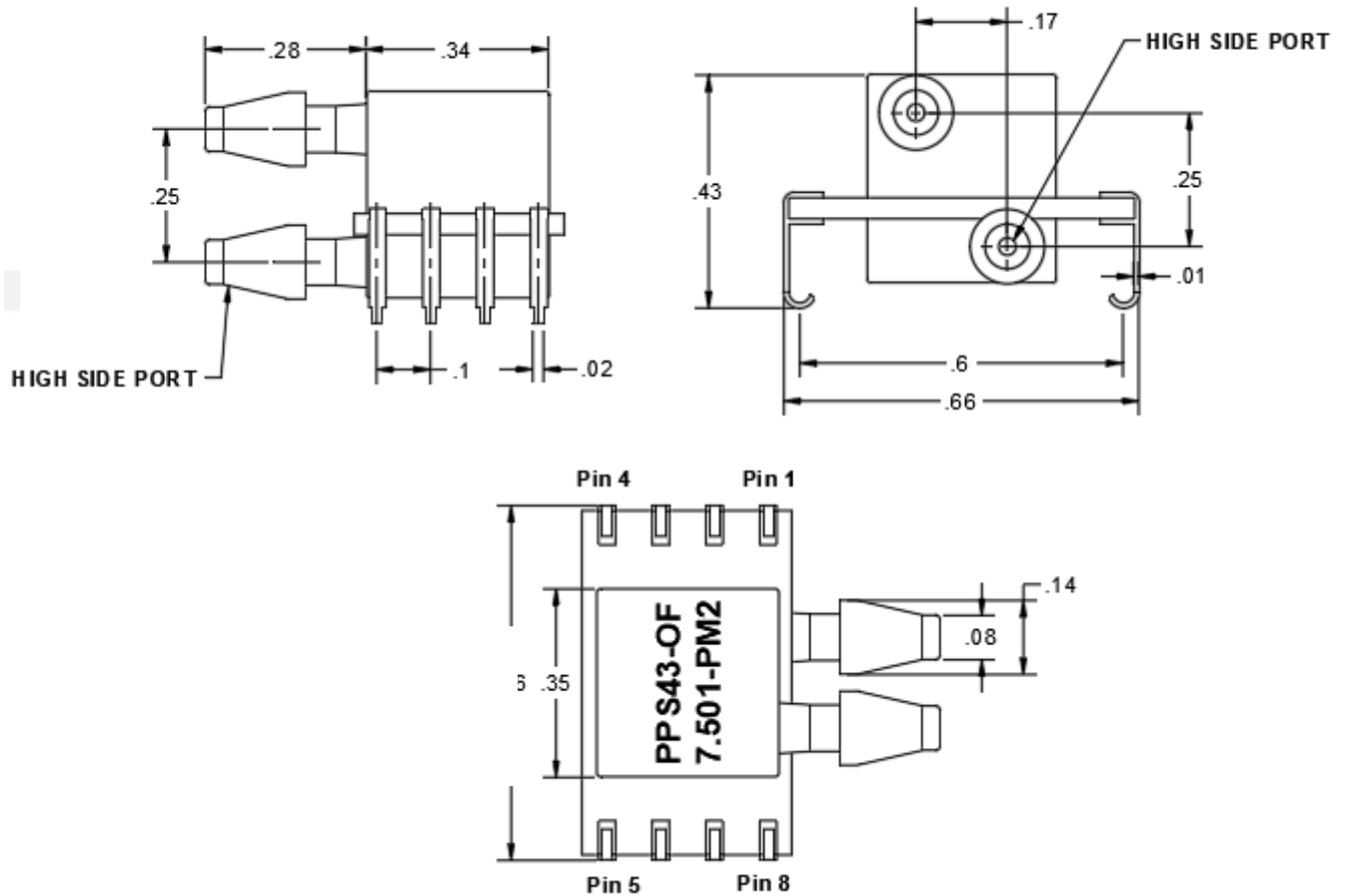
## PPS43-1 Analog Output Operational Characteristics

$V_+ = 5V$ ,  $V_- = 0V$ , Temperature = 25°C

PARAMETER	SYMBOL	Min	Typ	Max	UNITS
Supply Voltage (note 3)	$V_{DD}$	3	5	5.2	V
Operating Temperature	$T_s$	-20		65	°C
Supply Current (Note 1)	$I_{DD}$	70	120	2500	μA
Output	V	.5		4.5	V
Compensated Temperature Range	C	0		60	°C
<b>Accuracy</b>					
Total Error Band		-1.5		1.5	%Full Scan
Non-Linearity (Note 2)		-0.25		0.25	%Full Scan
Response Time	$t_R$	1	2	20	ms
<b>Analog-to-Digital</b>					
Resolution			14 Bit		Full Scale
<b>Pin Connections</b>					
Supply	Pin	2			Positive Supply Voltage
GND	Pin	4			Ground
Output	Pin	3			Analog Output (.5-4.5V)
N/A	Pin	1, 5-8			No Connection

Notes: 1) Measured at zero pressure. 2) Defined as best straight line 3) 3V Supply is an option.

### Surface Mount J-Clips



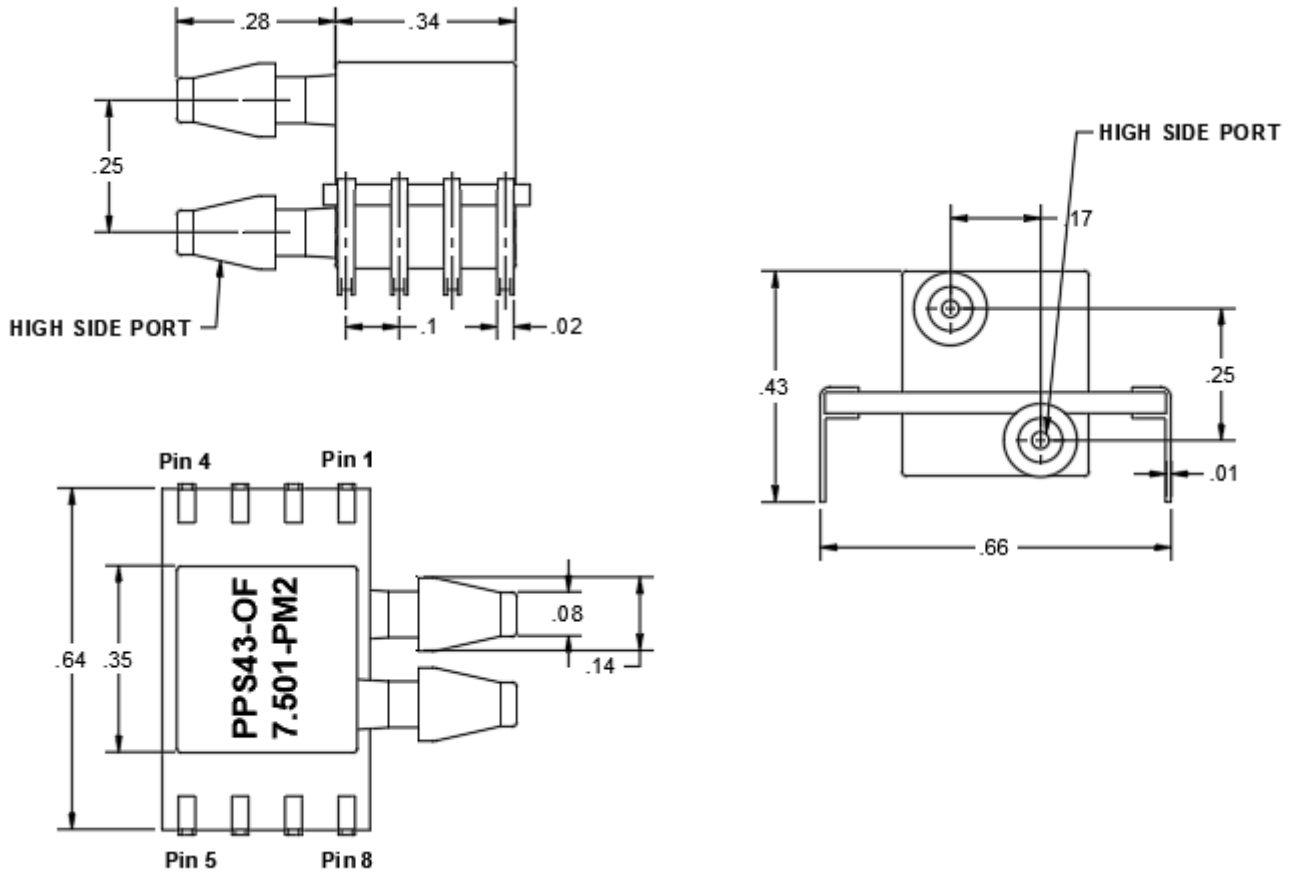
Pin Configuration			
No.	Function	No.	Function
1	NC	5	NC
2	V <sub>supply</sub>	6	NC
3	GND	7	NC
4	OUT: .5-4.5V	8	NC

**Notice:**

Phoenix Sensors LLC reserves the right to make changes to the product contained in this publication. Phoenix Sensors LLC assumes no responsibility for the use of any circuits described herein, conveys no license under any patent or other right, and makes no representation that the circuits are free of patent infringement. While the information in this publication has been checked, no responsibility, however, is assumed for inaccuracies.

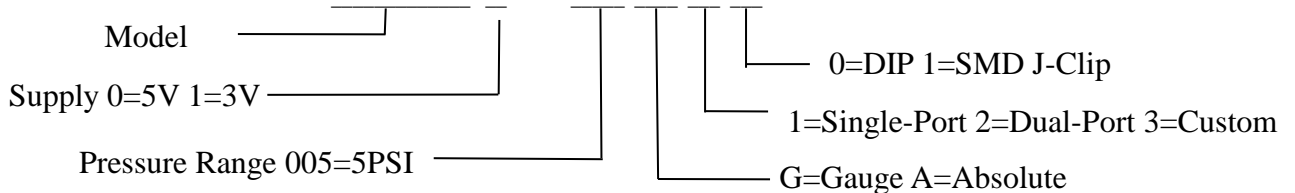
Phoenix Sensors LLC does not recommend the use of any of its products in life support applications where the failure or malfunction of the product can reasonably be expected to cause failure of a life-support system or to significantly affect its safety or effectiveness. Products are not authorized for use in such applications.

**Through Hole Mount - DIP**



**Part Number Configuration**

**PPS43-1 - 005 G 2-0**



Ph:(480) 462-1810 [sales@PhoenixSensors.com](mailto:sales@PhoenixSensors.com)

**Notice:**

Phoenix Sensors LLC reserves the right to make changes to the product contained in this publication. Phoenix Sensors LLC assumes no responsibility for the use of any circuits described herein, conveys no license under any patent or other right, and makes no representation that the circuits are free of patent infringement. While the information in this publication has been checked, no responsibility, however, is assumed for inaccuracies.

Phoenix Sensors LLC does not recommend the use of any of its products in life support applications where the failure or malfunction of the product can reasonably be expected to cause failure of a life-support system or to significantly affect its safety or effectiveness. Products are not authorized for use in such applications.