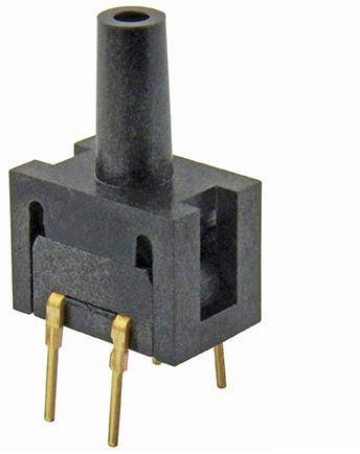
PPS45 Series

Digital Board Level Pressure Sensor



- Differential/Gauge Pressure Sensor
- Wet/Wet capability (i.e., liquids on both ports)
- -40°C - 85°C Operating Temperature
- Available in both SIP and DIP packages
- ± 1% Linearity FS
- 14 Bit Digital Front End
- Pressure Range: 0-250PSI
- Resolution: .01 %
- Output - .5-4.5V
- Accuracy: ± 1.5 %
  (includes-Hysteresis, NL, TC, 0-60C)

DESCRIPTION

The PPS45 Miniature Pressure Sensors series are small and cost effective. They work with wet or dry media. The PPS45 uses a piezoresistive micromachined sensing technology which allows for high performance, reliability, and accuracy. When pressure is applied, the resistance changes and the sensors provides a millivolt output signal that is proportional to the input pressure.

The low lower PPS45 series is designed to work from 1-250psi between -40-85C (-40-185F). They work with wet or dry media with a wide variety of pressure port types.

Please contact the factory for Custom design availability.

APPLICATIONS

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

Maximum Environmental Ratings

Operating Temperature ……..... -40°C to 85°C
Storage Temperature Range ……..-40°C to 85°C

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

Application Information

Package

The PPS45 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 SiO2 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 PPS45-2 has a strong polyethylene barbed port to protect against undue stress during manufacturing.

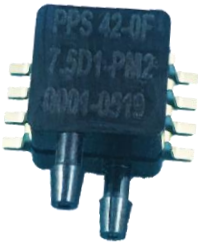
Automated Oil/Gas Valves

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.



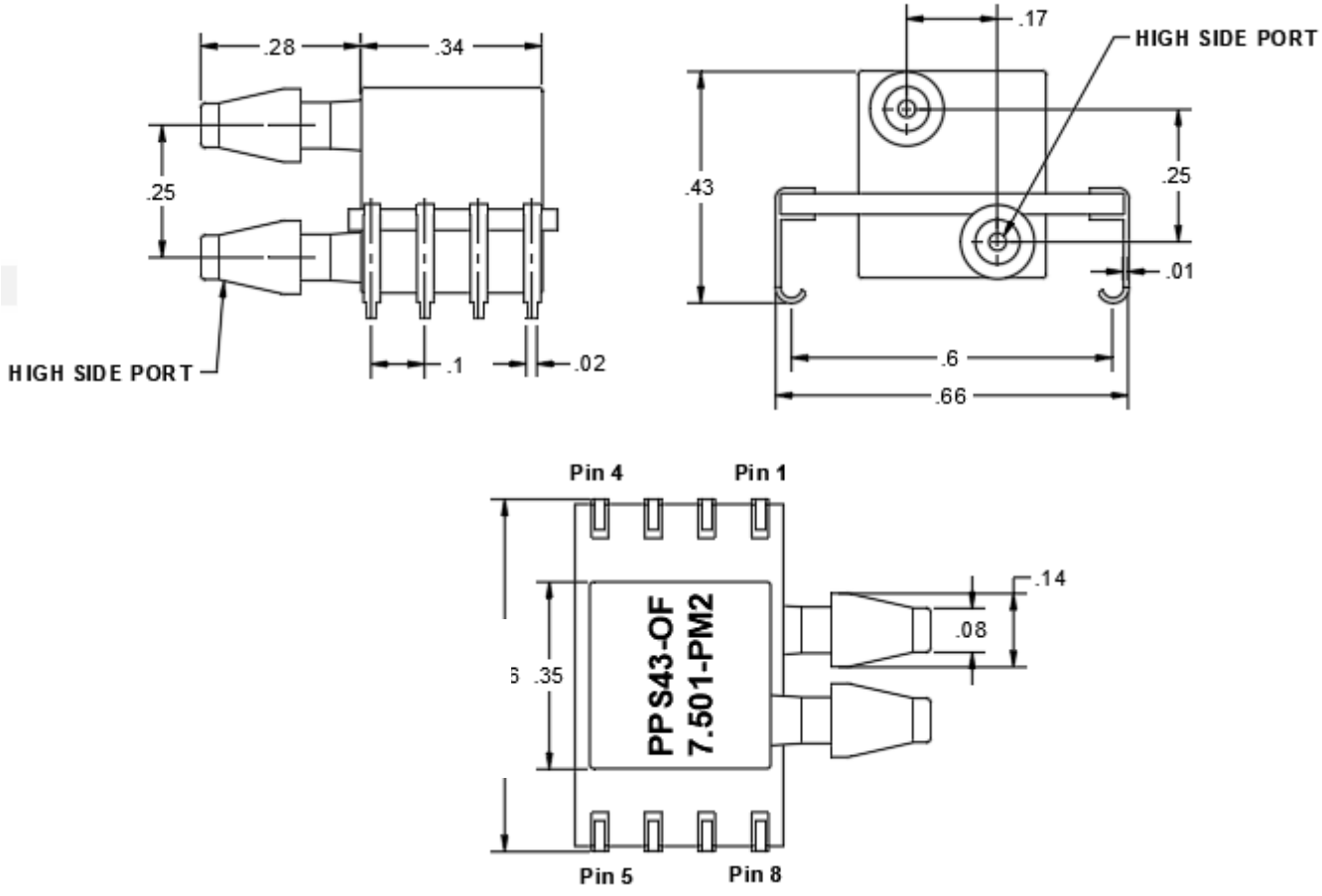
Process Equipment

PPS45-1 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	ºC
Supply Current (Note 1)	I_{DD}	70	120	2500	µA
Output	V	.5		4.5	V
Compensated Temperature Range	C	0		60	ºC
Accuracy					
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
Analog-to-Digital					
Resolution			14 Bit		Full Scale
Pin Connections					
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.

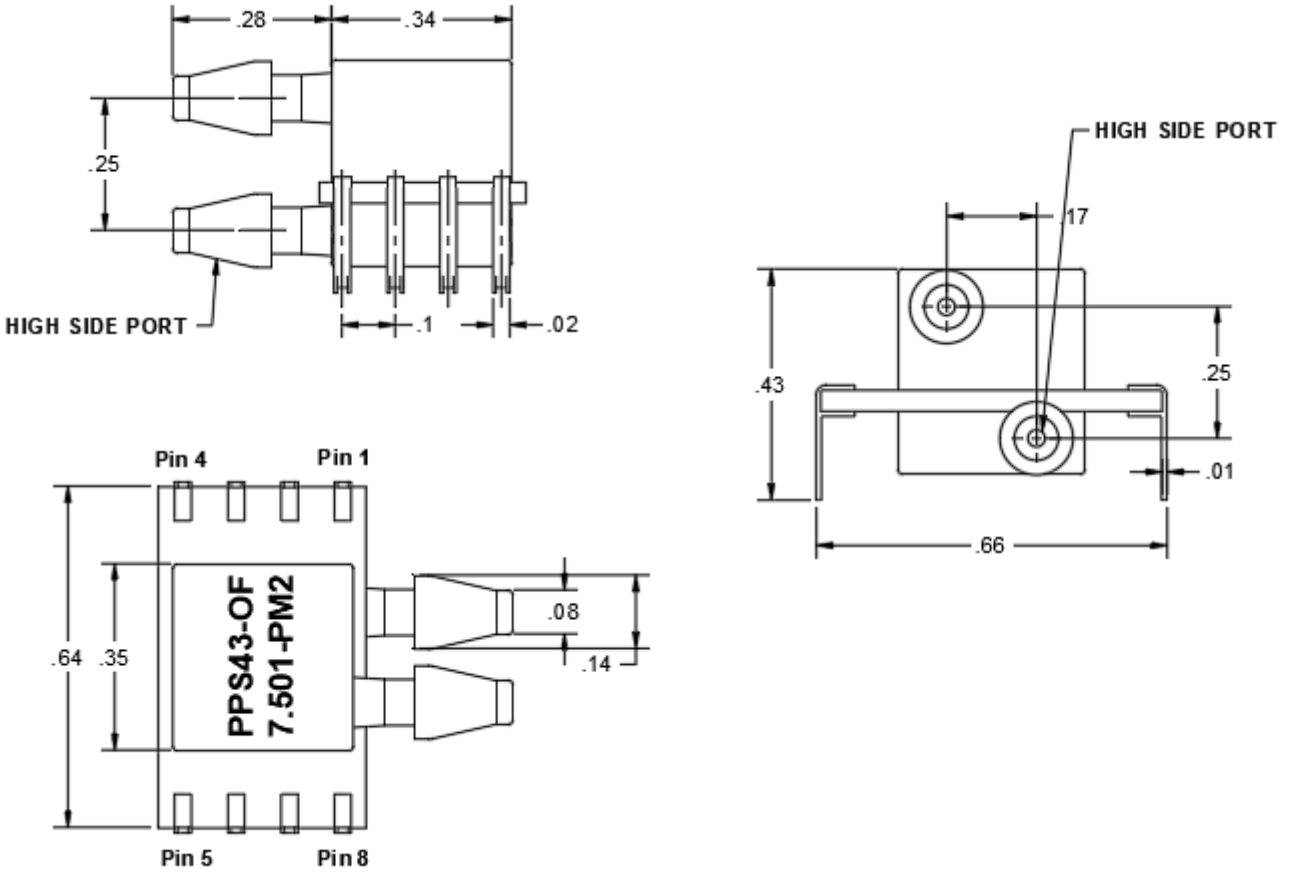
Surface Mount J-Clips



Pin Configuration			
No.	Function	No.	Function
1	NC	5	NC
2	Vsupply	6	NC
3	GND	7	NC
4	OUT: .5-4.5V	8	NC

Mechanical Dimensions Inches [mm]

Through Hole Mount - DIP



Part Number Configuration

PPS45- 1 - 005 G 2-0

- Model
- Supply 0=5V 1=3V
- Pressure Range 005=5PSI
- G=Gauge A=Absolute
- 1=Single-Port 2=Dual-Port 3=Custom
- 0=DIP 1=SMD J-Clip

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