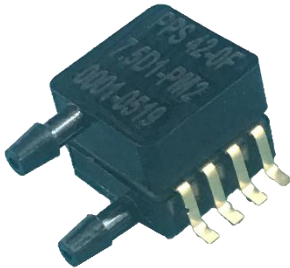




### Digital Board Level Pressure Sensor



- Differential/Gauge Pressure Sensor
- -20°C - 85°C Operating Temperature
- Compact Size – 8 Pin DIP
- ± 0.25% Linearity FS
- 14 Bit Digital Front End
- Pressure Range: 2-150PSI
- Resolution: .01 %
- Output - .5-4.5V
- Accuracy: ± 1.5 %  
(includes-Hysteresis, NL, TC, 0-60C)

#### DESCRIPTION

The PPS42 is an amplified digitally compensated pressure sensor in a compact 8-pin package. This silicon pressure sensor was designed for harsher pressure applications.

The PPS42 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 85°C  
Storage Temperature Range .....-40°C to 90°C

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

### Package

The PPS42 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

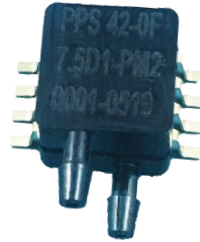
The PPS42-2 has a strong polyethylene barbed port to protect against undue stress during manufacturing.

### 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**

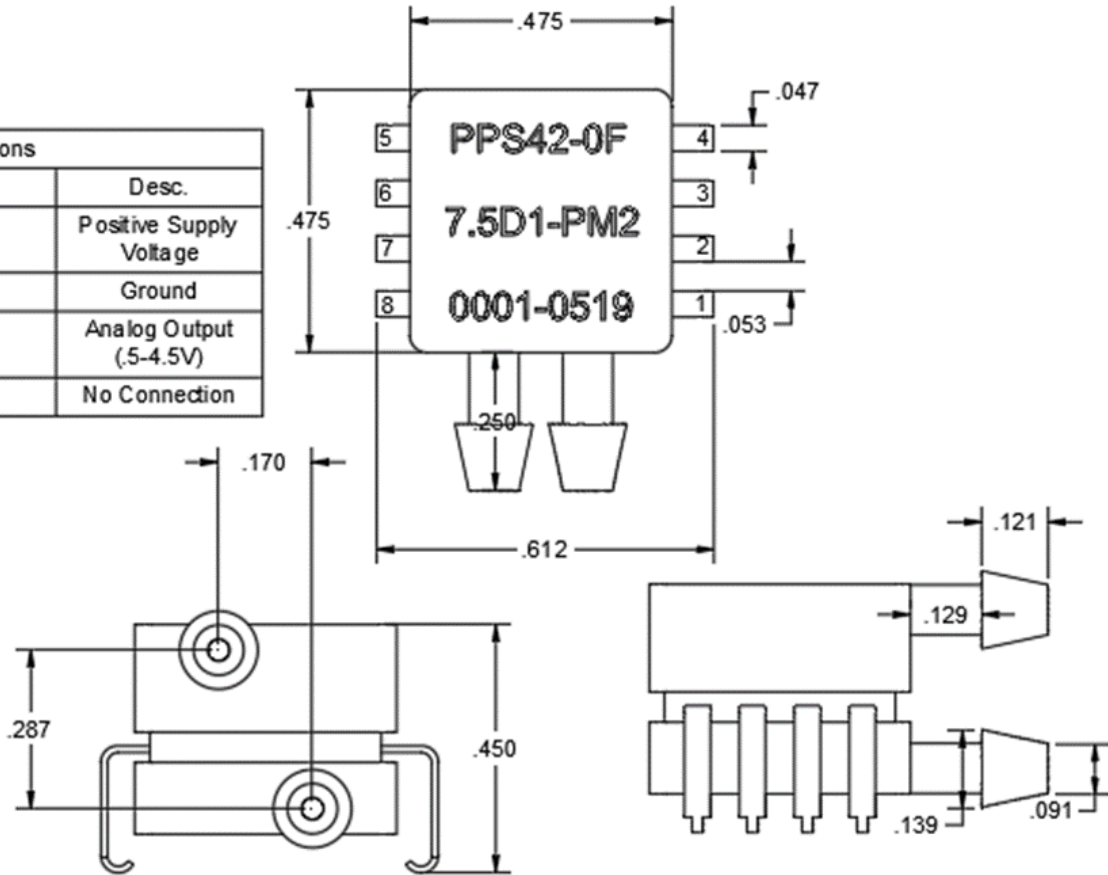
## PPS42-1 Analog Output Operational Characteristics

$V_+ = 5V$ , $V_- = 0V$ , Temperature = 25°C					
PARAMETER	SYMBOL	Min	Typ	Max	UNITS
Supply Voltage (note 3)	$V_{DD}$	3	5	5.2	V
Operating Temperature	$T_s$	-10		60	°C
Supply Current (Note 1)	$I_{DD}$	70	120	2500	μA
Output	V	.5		4.5	V
Compensated Temperature Range	C	0		60	°C
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 Connections		
Pin	Use	Desc.
2	Supply	Positive Supply Voltage
4	GND	Ground
3	Output	Analog Output (.5-4.5V)
1, 5-8	N/A	No Connection

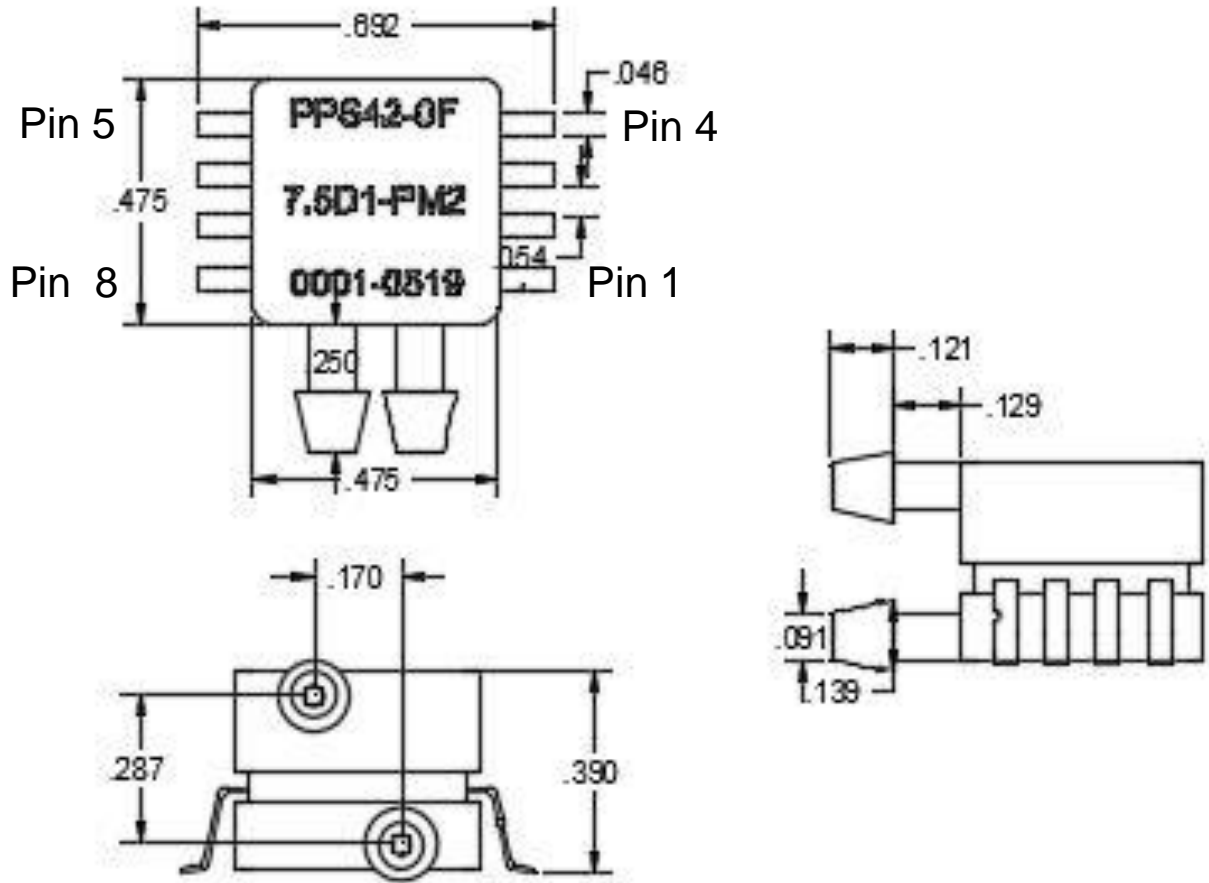


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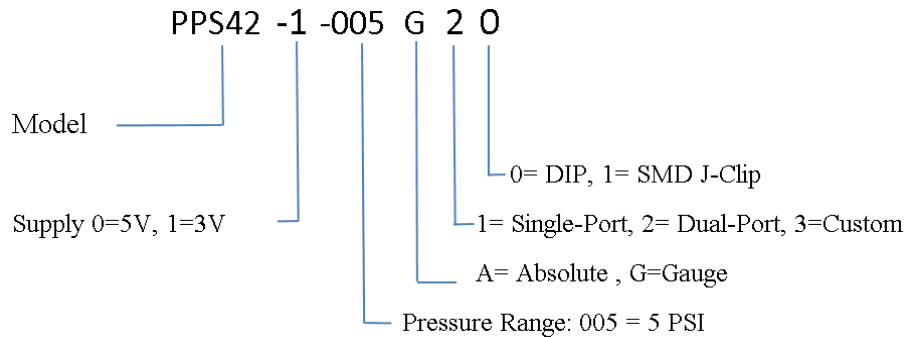
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**Surface Mount Goldwing Package**



**Part Number Configuration**



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