

Plastic Package Pressure Sensor (P/N: WPAS01)

Manual

Version: 1.0
Date: 2021-05-11

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Zhengzhou Winsen Electronics Technology CO., LTD.

WPAS01 Plastic Package Pressure Sensor

Description

WPAS01 is a plastic package pressure sensor packaged using high-precision MEMS pressure sensitive chips and mature production processes. The standard pin structure is convenient for customers to use, while providing low-cost plastic sealed pressure sensor solutions for OEM customers. The WPAS02 series plastic sealed pressure sensors are only suitable for dry and non corrosive gases. Different ranges and output methods can be customized according to customer requirements.



Fig 1

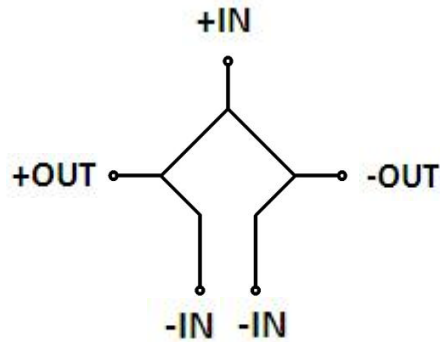
Characteristic

- Package: SOP8
- Wide Pressure Range: -40° ~ 125°
- Suitable for module assembly
- High Accuracy: $\pm 0.2\%FS$
- Low Cost
- High Reliability

Application

- Process control system
- Pressure calibration instrument
- Medical instruments
- Environment Monitoring
- Consumer Product
- Sport Product
- Sphygmomanometer

Equivalent Circuit



Technical Datasheet

Detection range	-100kPa~0~200kPa···1.7MPa	
Pressure Type	Absolute Pressure	
Excitation	5V	
Impedance	4kΩ~6KΩ	
Electronic Connection	PINS	
Working Temperature	-40℃~125℃	
Storage Temperature	-55℃~150℃	
Response Time	≤1ms	Up to 90%FS
Detection Medium	Dry and non corrosive gas	
Mechanical Vibration	20g (20~5000HZ)	
Impact	100g (10ms)	
Lifespan	10×10 ⁶ (Pressure Cycle)	

Detection Range

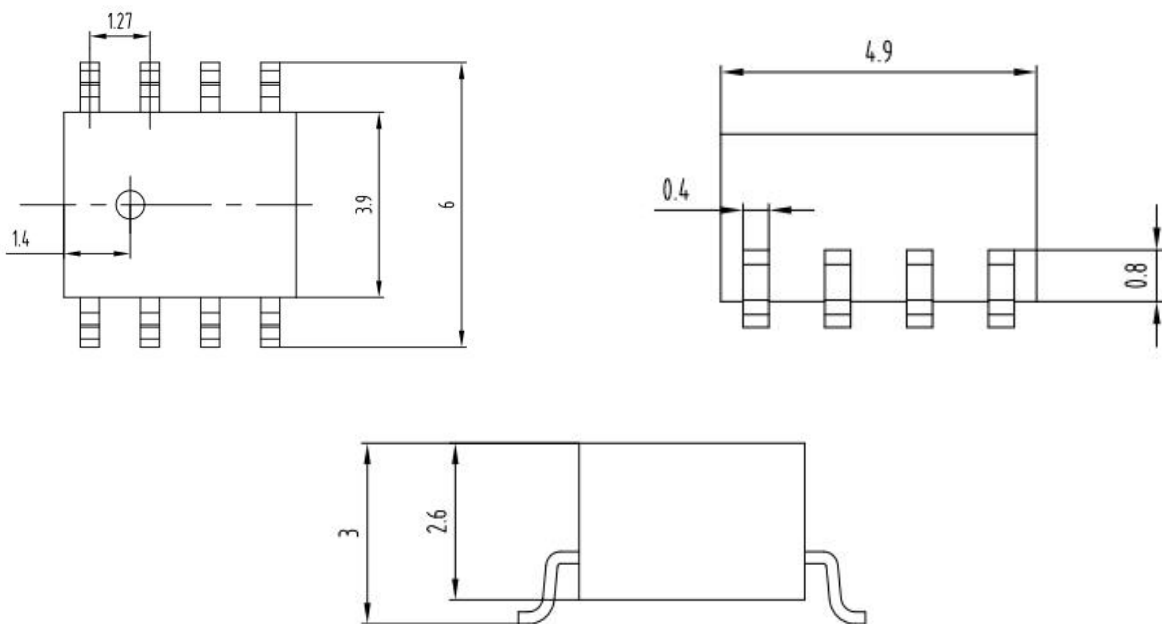
Range	Pressure Type	Overload Pressure	Burst Pressure
100k	A	200% FS	400% FS
200	A	200% FS	400% FS
350k	A	200% FS	400% FS
700k	A	200% FS	400% FS
1M	A	200% FS	400% FS
1.7M	A	200% FS	400% FS

Parameters						
Item	Condition	Miniest	Typical	Max	Unit	Note
Non-linear		-0.45	-0.15	0.45	%FS	Note (1)
Hysteresis		-0.05	±0.03	0.05	%FS	
Repeatability		-0.08	±0.03	0.08	%FS	
Zero Point Output		-40	-	+40	mV	
Full-Range Output Coefficient	1MPa	80	120	180	mV	Note (2)
	1.7MPa	100	150	200		
	Others	70	100	150		
Zero Temperature Coefficient		-7	-	7	%FS	
Full range temperature Coefficient		-24	-19	-15.5	%FS	
Heat Hysteresis		-0.075	±0.05	0.075	%FS	Note (3)
Stability		-0.3	±0.2	0.3	%FS/Year	

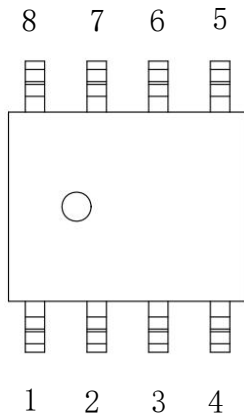
Notes:

- (1)Based on BFSL least square method.
- (2)Full range output of products with customized detection range is not include .
- (3)After high and low temperature, return to the reference temperature.

Structure & Dimension



Electrical Connection



- 1、3、6、7 Empty
- 2 +OUT
- 4 -IN
- 5 -IN
- 6 -OUT
- 8 +IN

Cautions

- The detection range should be within $\pm 30\%$ FS for over range or down range application,.
- Please confirm the system's max overload. The maximum overload of the system should be less than the overload protection limit of the sensor, otherwise it may reduce the lifespan or bring damage to the core .
- The material and manufacturing process of the negative pressure core are different from the positive pressure core, the gauge pressure core cannot be used to replace the negative pressure core.
- Please carefully read the manual before installation, to avoid damage to the product caused by wrong installation.
- Incorrect may cause danger and personal injury.