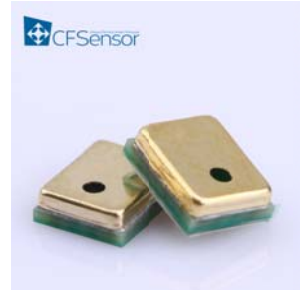


## XGZP130 Pressure Sensor

### Features

- Ranges : -100~10kPaG...1000kPaG(-15~3PSI...150PSIG)
- MEMS Technology/MEMS
- Absolute, Gauge, Vacuum/
- PCB package/PCB
- For non-corrosive gas or liquid
- Small size, cost effective



### Applications

- For Medical field, such as electronic blood pressure meter, breathing and oxygen generating equipment etc.
- For Automotive electronics field, such as tire pressure gauge, MAP sensor etc.
- For Other fields, such as sport equipment, household electrical appliances, etc.

### Introduction

XGZP130 is a surface mounting pressure sensor based on CFSensor silicon based piezoresistive pressure sensor die. The pressure sensing chip is composed of a springy diaphragm and four resistors integrated in the diaphragm. Four piezo-resistors form a Wheatstone bridge structure. When the springy diaphragm is pressured, Wheatstone bridge produces a linear millivolt voltage that is proportional to input pressure.

With small PCB as package base, XGZP130 is easy for users to install through board surface assembly.

With good repeatability, linearity, stability and sensibility, XGZP13 is very facile for users to calibrate output & thermal drift and make temperature compensation by using exterior operational amplifier or integrated circuit.

### Electric Performance

- Power Supply:  $\leq 15\text{VDC}$  or  $\leq 3.0\text{mADC}$
- Input Impedance:  $4\text{k}\Omega \sim 6\text{k}\Omega$
- Output Impedance:  $4\text{k}\Omega \sim 6\text{k}\Omega$

- Insulation Resistance: 100M  $\Omega$ , 100VDC
- Over Pressure: 2X Rated Pressure

## Construction

- Sensing Die: Silicon
- Die Mounting Glue: Silicone Glue
- Potting Glue: Silicon Glue
- Leading Wire: Gold Wire
- Pin: Gold Plating
- Package Housing: PCB board and PPS cover board
- Net Weight: Approx. 0.3g

## Basic Condition

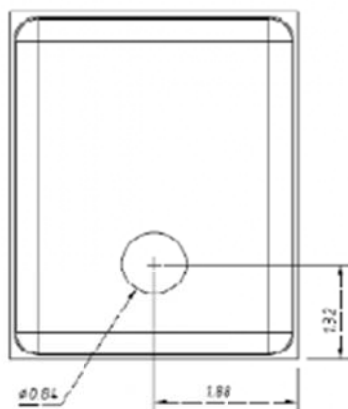
- Medium: Gas (Clean, dry air and Non-corrosive gases), Purified water and non-corrosive liquid.
- Medium Temp: (25 $\pm$ 1) $^{\circ}$ C / (77 $\pm$ 1.8) $^{\circ}$ F
- Environment Temp.: (25 $\pm$ 1) $^{\circ}$ C / (77 $\pm$ 1.8) $^{\circ}$ F
- Shock: 0.1g (1m/s<sup>2</sup>) Max
- Humidity: (50% $\pm$ 10%) RH
- Power Supply: (5 $\pm$ 0.005) VDC

## Specifications

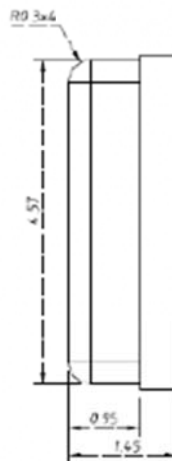
Specifications	Min.	Typ.	Max	Unit
Range	-100, 10, 20, 40, 100, 200, 350, 1000			kPa
	-15, 1.5, 2.9, 5.8, 15, 30, 50, 150			PSI
	-750, 75, 150, 300, 750, 1500, ...			mmHg
Ambient Temp.	-30/-22		+100/212	$^{\circ}$ C/ $^{\circ}$ F
Storage Temp.	-40/-40		+150/302	$^{\circ}$ C/ $^{\circ}$ F
Bridge Resistance/	4	5	6	k $\Omega$
Offset	-5		+10	mV
FS Output ( $\leq$ 20kPa)	30	45	60	mV

FS Output (40kPa)	50	75	100	mV
FS Output ( $\geq 100\text{kPa}$ )	60	90	150	mV
Temp. Coefficient of Resistance	1800	2400	3000	ppm/ $^{\circ}\text{C}$
TSO(Temp. Coefficient of Offset)	-0.05①		0.05①	%FS/ $^{\circ}\text{C}$
	-0.25②	-0.21②	-0.17②	%FS/ $^{\circ}\text{C}$
TCS(Temp. Coefficient of Span)	-0.05①		0.05①	%FS/ $^{\circ}\text{C}$
	-0.05②		0.05②	%FS/ $^{\circ}\text{C}$
Non-linearity		0.2	0.3	%FS
Hysteresis	-0.3		0.3	%FS
<b>Note:</b> ① Excitated by constant voltage ② Excitated by constant current Testing at basic condition. ( $(5\pm 0.005)\text{VDC}/(25\pm 1)^{\circ}\text{C}$ )				

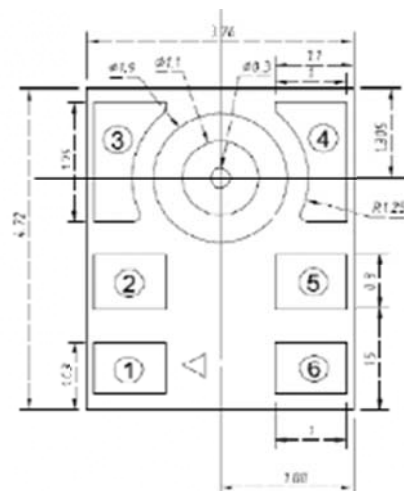
### Structure: unit (mm)



Top view

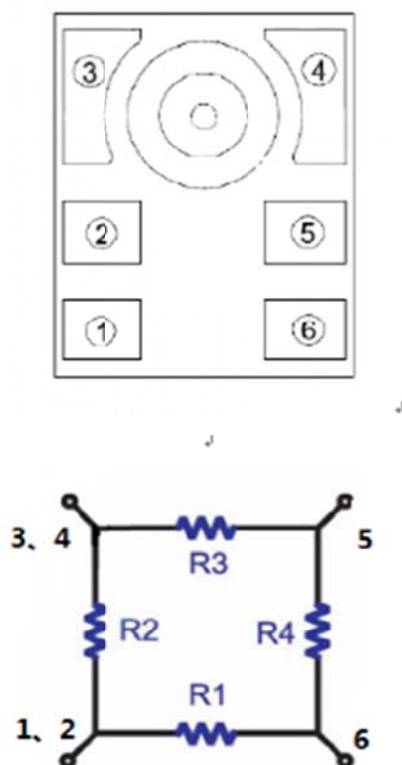


side view



bottom view

## Equivalent circuit diagram



	1	2	3	4	5	6
Definition	$V_{o-}$	$V_{o-}$	$V_{s+}$	$V_{s+}$	$V_{o+}$	GND

## Order Guide

XGZP130	Piezo-resistive Pressure Sensor	
	Range	Pressure Range
	010	$[-10 \sim 10]\text{kPa}$

	020	[-20 ~ 20]kPa
	040	[-40 ~ 40]kPa
	101	[-100 ~ 100]kPa
	201	[-100 ~ 200]kPa
XGZP130	040	the whole spec