

GMP01-WA01 Silicon Pressure Sensor

General Introduction

GMP01-WA01 is an absolute type silicon pressure sensor especially designed for applications requiring highly-precision pressure measurement from 30 to 110kPa. The pressure sensor is based on the industry-recognized piezo-resistive technology featuring long-term stability and EMC robustness. Its small size, $0.9 \times 0.9 \text{ mm}^2$, benefits the miniature packages.

Features

- Operation range: 30~110kPa
- Absolute type sensor
- Constant current or constant voltage drive
- Small size: $0.9 \times 0.9 \text{ mm}^2$
- Low cost

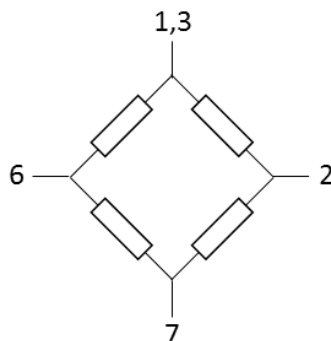
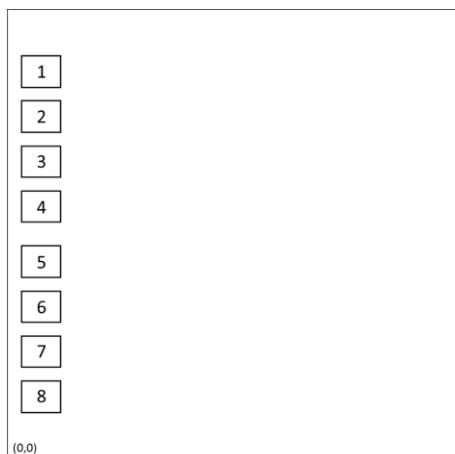
Applications

- Ascending/descending speed estimation
- Altimetry and barometry
- Activity tracking for health care applications
- Indoor navigation for floor/elevator detection
- GPS applications

Specifications

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Operation voltage	Vin		—	3	5	V
Operation current	I0		—	0.5	1	mA
Bridge impedance			5	5.4	6	kΩ
Pressure range			30		110	kPa
Full scale span	FS	Vin=3V		120		mV
Offset		1ATM (~100kPa)	70	110	150	mV
Linearity			-0.3	±0.15	+0.3	%FS
TC span		Constant voltage	-0.17	-0.22	-0.27	%FS/°C
		Constant current	-0.08	±0.02	+0.08	%FS/°C
TC offset			-0.08	-0.05	+0.08	%FS/°C
Burst pressure					3X	Rated FS
Temperature range			-40	25	+85	°C
Storage temperature			-40		+125	°C

Pads layout and definition



- Die size: 0.9mm×0.9mm (without scribe line)
- Pad size: 80μm×64μm
- Scribe line: 100μm

Pin#	Name	Description	X	Y
1	Vin	Power supply in	67	775
2	Vout+	Output voltage +	67	685
3	Vin	Power supply in	67	595
4	NC	No connection inside	67	505
5	NC	No connection inside	67	395
6	Vout-	Analog output voltage -	67	305
7	GND	Ground pad	67	215
8	NC	No connection inside	67	125