Sensor Co.,LTD

PRODUCT OVERVIEW

PRESSURE MEASUREMENT

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PB351 Sputtered Thin Film

Metal Base Pressure Sensitive Chip

Characteristics

☆Sputtered film technology ensures good long-term stability and high reliability

☆Wide working temperature range, low temp. drift, high overload capacity

☆Integrated structure, suitable for a variety of fluid media

☆17-4PH stainless steel material with strong corrosion resistance

☆Small size: outer diameter of strain surface& at the step is 7mm & 9.5mm respectively, height is 5mm, weight is 1g

Applications

☆Aerospace & ship

☆Rail Transit

☆Construction machinery

☆Gasoline direct injection & diesel high pressure common rail direct injection

☆Petroleum and Chemicals

☆Gas and liquid pressure measurement in industrial automation control and other fields

☆Pressure transmitters, pressure testing instruments

Profiles

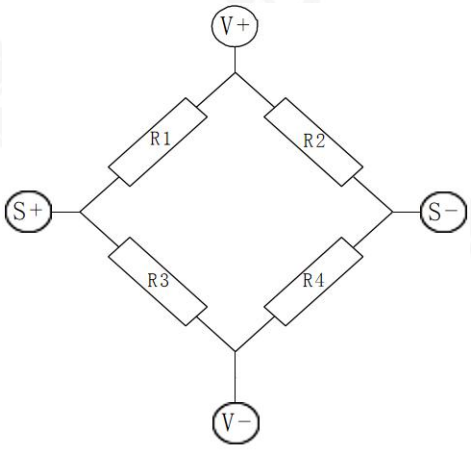
PB351 metal-based pressure-sensitive chip adopts MEMS technology, and the strain resistance is directly done on the 17-4 PH stainless steel substrate. Through the elastic deformation of the substrate, the chip outputs a mV voltage signal that is linearly related to the measured pressure, and realizes fast and accurate measurement.

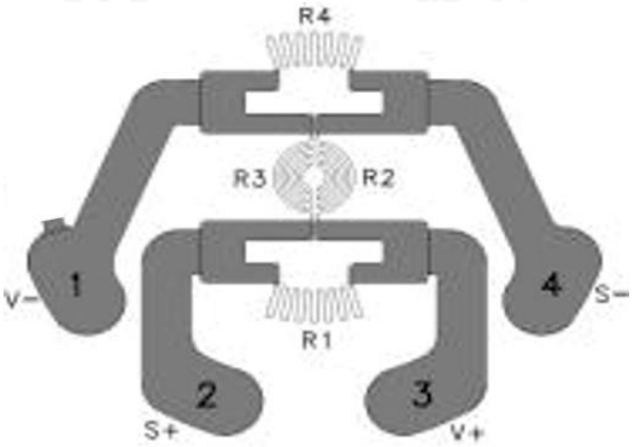
This product is specially designed for OEM manufacturers and integrators who have high-standard requirements of sensor, high reliability and stability. The output of the chip is a mV voltage signal, and customers can process the signal according to their actual requirements.

Specifications

Parameter	PB351
Measuring range(MPa)	0.5MPa~250MPa
Measuring medium	Gases, liquids compatible with stainless steel
Pressure type	Gauge pressure, absolute pressure
Accuracy	±0.03%F.S, ±0.05%F.S, ±0.1%F.S, ±0.2%F.S, ±0.5%F.S, ±1%F.S
Working temp.	-40~+105℃ or by customized
Long-term stability	±0.2%F.S/year
Nonlinear	±0.1%F.S, ±0.15%F.S, ±0.2%F.S, ±0.3%F.S, ±0.4%F.S, ±0.5%F.S, ±0.6%F.S
Hysteresis	±0.1%FS
Repeatability	0.1%FS
Sensitivity	1.3±0.10mV/V, 1.4±0.25mV/V, 1.5±0.10mV/V, 1.7±0.20mV/V
Burst pressure	1000%~4000%F.S (the max is ≤400MPa)
Allowable overload	150%~200%F.S or by customized
Zero point temp. drift	±0.01%F.S/℃
Full range temp. drift	±0.03%F.S/℃
Response time	≤0.1ms
High reliability	Resistant to 10 million shocks, can be continuously pressurized
Insulation resistance	≥1000MΩ/500VAC
Material	17-4PH
Dimensions	Strain surface outer diameter is 7mm The outer diameter at the step is 9.5mm Height is 5mm

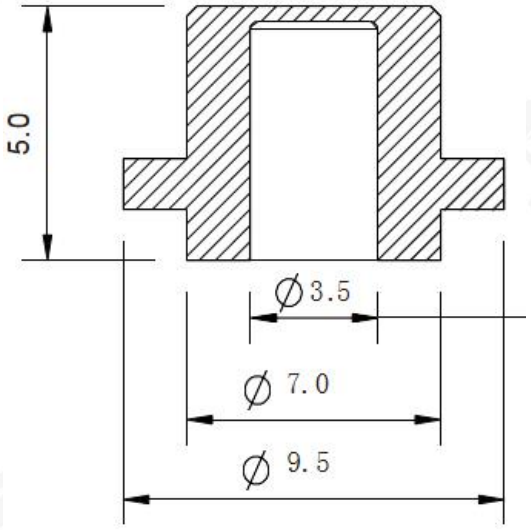
Circuit Principle and Pin Definition

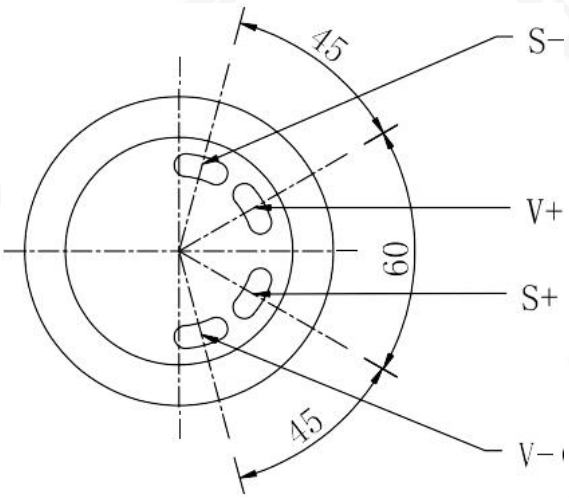




Pin No.	1	2	3	4
Function Code	V-	S+	V+	S-
Function Definition	Power -	Signal +	Power +	Signal -

Dimensions and Wiring





Pressure Rating, Sensitivity and Pressure Resistance Range

Pressure (MPa)	Sensitivity (mV/V)	Nonlinearity (±%F.S)	Overload pressure (rated pressure)	Burst pressure (rated pressure)
0.5	1.4±0.25	0.50	×2	×30
0.7	1.4±0.25	0.50	×2	×3
1.0	1.3±0.10	0.60	×2	×40
1.6	1.5±0.10	0.60	×2	×40
2.0	1.7±0.20	0.40	×2	×40
2.5	1.7±0.20	0.30	×2	×40
4	1.7±0.20	0.30	×2	×20
5	1.7±0.20	0.20	×2	×20
6	1.7±0.20	0.20	×2	×20
10	1.7±0.20	0.20	×2	×20
16	1.7±0.20	0.20	×2	×10
25	1.7±0.20	0.15	×2	×10
40	1.7±0.20	0.15	×2	×10
60	1.7±0.20	0.15	×2	⩽400MPa
100	1.5±0.10	0.10	×1.5	⩽400MPa
160	1.5±0.10	0.10	×1.5	⩽400MPa
250	1.5±0.10	0.10	⩽300MPa	⩽400MPa

Order Information

Item \ PB351 (Model)	D	066	11
Accuracy	A= 0.03%FS C= 0.1%FS E= 0.5%FS	B= 0.05%FS D= 0.2%FS F =1%FS	
Pressure Measurement	055= 0.5MPa 165= 1.6MPa 046= 4 MPa 106= 10 MPa 406= 40 MPa 706= 70 MPa 257= 250 MPa	075= 0.7MPa 205= 2 MPa 056= 5 MPa 166= 16 MPa 506= 50 MPa 107= 100 MPa	105= 1 MPa 255= 2.5MPa 066= 6 MPa 256= 25 MPa 606= 60 MPa 167= 160 MPa
Temperature range	11= 0~85℃ 22=-10~105℃ 32= -25~105℃ 42= -40~105℃ 52= -55~105℃		

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