

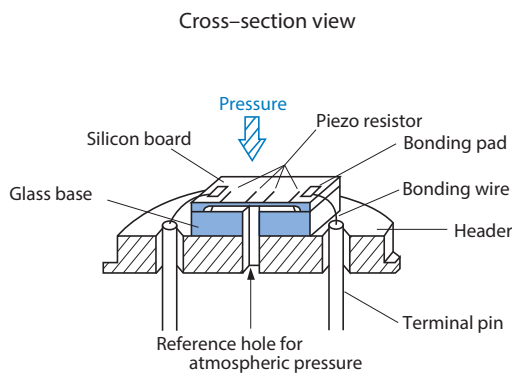
■ Semi conductor type pressure sensors

〈Operation〉

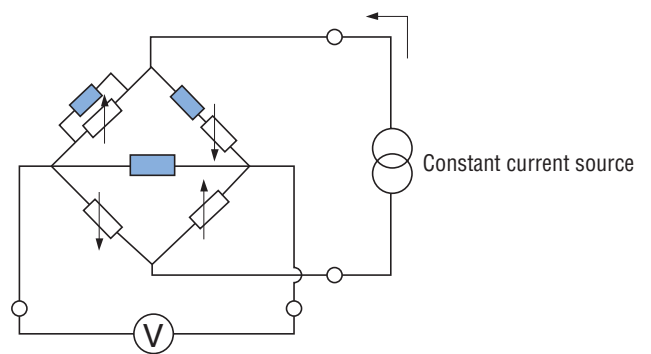
1. The pressure sensor utilizes the piezoresistive properties of a semiconductor which exhibits change in the resistance when stress is applied.
2. The pressure sensing chip is made of a single crystal silicone and measures approximately $4 \times 3 \times 1.7$ mm. The chip has a diaphragm which deforms when pressure is applied.
3. Piezoresistors are created on the surface of the single crystal silicone by a heat diffusion process and sense stress when pressure acts on the diaphragm.
4. There are four piezoresistors forming a wheatstone bridge which is excited by constant current. When pressure is applied, voltage signals proportional to the pressure can be obtained from the output terminals.

〈Output〉

The output obtained is change in the voltage that is proportional to the applied pressure and is approximately 100 mV at the rated pressure. Measurement accuracy is increased by adding temperature compensation resistors which are contained in the pressure sensor.



Electrical schematics



- ▭ : Piezoresistive element
- : Temperature compensation resistor




SCIGATE AUTOMATION (S) PTE LTD
 No.1 Bukit Batok Street 22 #01-01 Singapore 659592
 Tel: (65) 6561 0488 Fax: (65) 6562 0588
 Email: sales@scigate.com.sg Web: www.scigate.com.sg
 Business Hours: Monday - Friday 8.30am - 6.15pm