



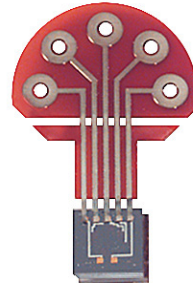
# PIEZORESISTIVE LOW COST PRESSURE SENSOR

# SERIES 1 TAB

## ABSOLUTE PRESSURE

The TAB 1 pressure measuring cells are designed to measure absolute pressure. They can be soldered on a glass feed through and welded in an oil filled housing as for industrial transmitters.

TAB (Tape Automated Bonding) is a special process for contacting the diffused resistors on the chip. The resistor aluminum contacts are provided with 0,1 mm thick gold bumps. The pretinned ends of the copper strips on the flexible circuit material are soldered to these goldbumps. Each contact is able to withstand a force of more than 1 Newton. TAB bonded cells withstand extreme conditions in shock or vibration. TAB bonded cells may be surrounded by high viscosity gels or mouldings in water depth instruments without danger of contact braking as with wire bonded cell.



Series 1 TAB

### Specifications. Excitation I = 1 mA

|                              |                       |     |                |     |     |     |     |     |
|------------------------------|-----------------------|-----|----------------|-----|-----|-----|-----|-----|
| Pressure Ranges (FS)         | 10                    | 20  | 50             | 100 | 200 | 400 | 600 | bar |
| Signal Output typ.           | 225                   | 225 | 225            | 225 | 225 | 225 | 225 | mV  |
| Overpressure                 | 20                    | 30  | 75             | 150 | 300 | 600 | 800 | bar |
| Bridge Resistance @ 25 °C    | 3,5 kΩ                |     | ± 20%          |     |     |     |     |     |
| Constant Supply              | 1 mA nominal          |     | 3 mA max.      |     |     |     |     |     |
| Operating Temperature        | -20...100 °C          |     |                |     |     |     |     |     |
| Storage Temperature          | -40...120 °C          |     |                |     |     |     |     |     |
| Material of Flexible Circuit | Polyimide             |     |                |     |     |     |     |     |
| Weight                       | 2 g                   |     |                |     |     |     |     |     |
| Volume Displacement          | < 0,1 mm <sup>3</sup> |     |                |     |     |     |     |     |
| Accuracy <sup>(1)</sup>      | 0,5 %FS typ.          |     | 1 %FS max.     |     |     |     |     |     |
| Offset à 25 °C               | < 5 mV                |     |                |     |     |     |     |     |
| Temperature Error            |                       |     |                |     |     |     |     |     |
| - Zero                       | 0,1 mV/°C typ.        |     | 0,2 mV/°C max. |     |     |     |     |     |
| - Sensitivity                | 0,02 %/°C typ.        |     | 0,03 %/°C max. |     |     |     |     |     |
| Long Term Stability typ.     | 2 mV                  |     |                |     |     |     |     |     |
| Time Constant                | < 10 μs               |     |                |     |     |     |     |     |

<sup>(1)</sup> Including linearity, hysteresis and repeatability. Linearity calculated as best straight line through zero.

Note: To be sure that the sensors reach the Offset and Temperature Error performance, the sensor must be tested and the compensation resistors may have to be added.

