

AP681

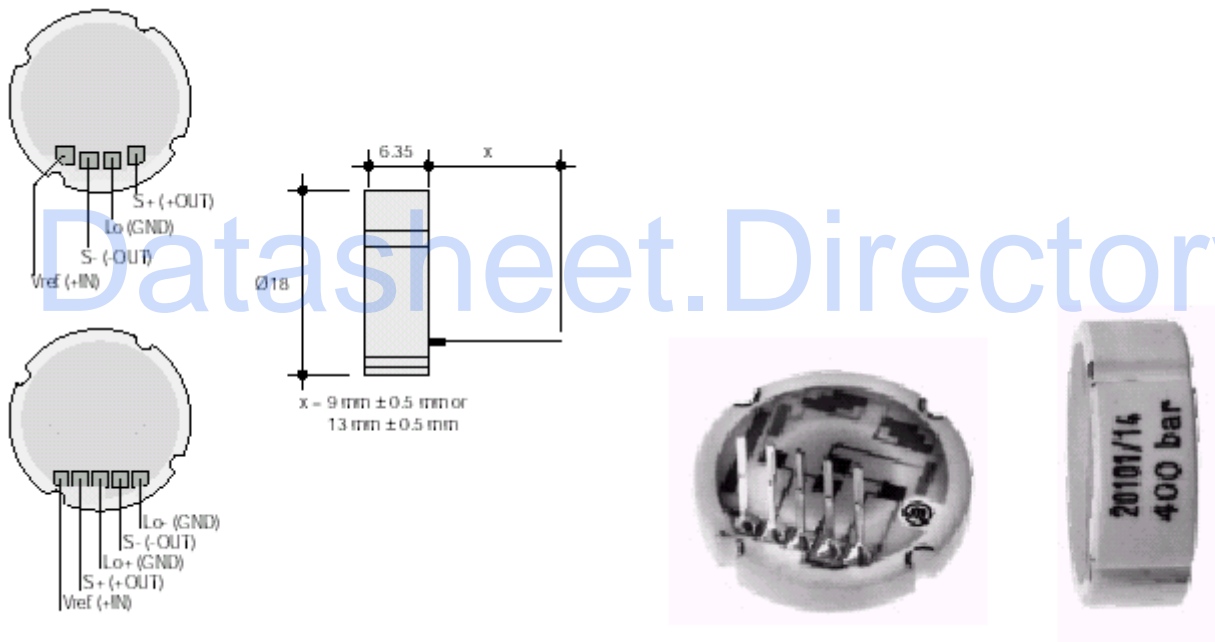
Piezoresistive pressure sensor

The sensors of the series AP681 ff are piezoresistive pressure sensors based on ceramic. The measuring bridge is printed directly on one side of the ceramic diaphragm by means of thick film technology. The rear part of the diaphragm can be exposed directly to the medium to be measured. Because of the excellent chemical resistance no additional protection is normally required.

Thanks to the reinforced outer area (monolithic structure) the sensor can be mounted directly in a case by using an o-ring or else it can be mounted to a metal fitting.

The sensors are designed in such a way so that temperature changes and overloading do not cause any loss in reliability. The use of ceramic ensures high linearity across the entire range of measurement and reduces effects of hysteresis to minimum.

The AP681 sensors are thermal compensated by laser adjustable PTC resistors. The zero point can be adjusted on customer specifications.



- Compensated sensors
- Design according to customer's specification
- Wide range of temperature
- Easy mounting
- High linearity

AP681

Technical data

Pressure ranges

| | | | | | | | | | |
|-----------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Range (bar) | 1 | 2 | 5 | 10 | 20 | 50 | 100 | 200 | 400 |
| Overloading (bar) | 3 | 7 | 12 | 25 | 50 | 120 | 250 | 400 | 600 |
| Thickness (mm)±0.02 | 6.35 | 6.35 | 6.35 | 6.35 | 6.35 | 6.35 | 6.35 | 6.35 | 6.35 |
| Typical sensitivity (mv /v) | 2.0...3.5 | 2.0...3.4 | 2.0...3.5 | 2.7...4.0 | 3.0...4.2 | 2.7...4.0 | 2.1...3.1 | 1.8...3.3 | 1.4...2.9 |

| | | |
|--|--------------|--|
| Supply voltage | 5...30 | VDC stabilized |
| Bridge resistance | 11±20% | k Ω |
| Zero point (tolerance) | ±0.1 | mV/V @ 25°C |
| Linearity, hysteresis and repeatability | ≤ ±0.2...1.5 | %FS terminal based Depending pressure range |
| Stability | ≤ ±0.3 | %FS/y @25 °C |
| Operating temperature range | -40...+135°C | |
| Thermal span shift | ≤ -0.010 | %FS/K typ. 0...70°C |
| | ≤ -0.012 | %FS/K typ. -25...0/70...85°C |
| | ≤ -0.014 | %FS/K typ. -40...-25/85...135°C |
| Thermal zero shift | ≤ ±0.02 | %FS/K |
| | ≤ ±0.01 | %FS/K (on request) |
| Material | Ceramic | AL2O3 |
| Dimensions | | 18.0×6.35mm |
| Electrical connection | | Pins (other on request) |
| All data are based on a reference temperature or 25°C. | | |
| Other pressure and temperature ranges on request. | | |

| | | | | | | | |
|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| AP681..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Option 1: pressure range | | | | | | | |
| 0.1 bar..... | | | | | | | .001 |
| 0.2 bar..... | | | | | | | .002 |
| 0.5 bar..... | | | | | | | .005 |
| 0.10 bar..... | | | | | | | .010 |
| 0.20 bar..... | | | | | | | .020 |
| 0.50 bar..... | | | | | | | .050 |
| 0.100 bar..... | | | | | | | .100 |
| 0.200 bar..... | | | | | | | .200 |
| 0.400 bar..... | | | | | | | .500 |
| others on request (*) | | | | | | | 999 |
| Option 2: offset adjustment | | | | | | | |
| 0mV/V +/- 0.2mV/V..... | | | | | | | 0 |
| others on request(*)..... | | | | | | | 9 |
| Option 3: sensitivity adjustment | | | | | | | |
| Without..... | | | | | | | 0 |
| With on request..... | | | | | | | 9 |
| Option 4: TC-Zero adjustment | | | | | | | |
| TK-0 < +/- 0.02%FS/K..... | | | | | | | 1 |
| TK-0 < +/- 0.01%FS/K..... | | | | | | | 2 |
| Others on request (*)..... | | | | | | | 9 |
| Option 5: linearity, hysteresis, repeatability | | | | | | | |
| < +/- 0.2... 1.5%FS..... | | | | | | | 0 |
| selected on request(*)..... | | | | | | | 9 |
| Option 6: electrical connection | | | | | | | |
| 4 pins (2.54mm pitch)..... | | | | | | | .01 |
| 4 pretinned soldering pads (2.54mm pitch)..... | | | | | | | .02 |
| Flexprint NOMEX 50.8 mm -4 plog/4pins..... | | | | | | | .04 |
| Ribbon cable 50.8mm -4 pins..... | | | | | | | .05 |
| Tin only on Lo (-)..... | | | | | | | .20 |
| Tin only on S (+)..... | | | | | | | .21 |
| Others on request (*)..... | | | | | | | 99 |
| Option 7: additional coating | | | | | | | |
| Without..... | | | | | | | .01 |
| Parylene..... | | | | | | | .02 |
| Others on request (*)..... | | | | | | | 99 |