OEM pressure sensor
Ceramic thick-film technology
Model SCT-1

Applications
- Applications with limited mounting space
- Design-in solutions
- Automotive industry
- Pneumatics

Special features
- Unamplified mV/V signal
- Temperature compensation directly on the sensor
- Condensation-resistant sensor surface
- Excellent media compatibility

Description

Resistance to humidity and condensation
Due to the special, full-surface passivation of the sensor's surface, the sensor is impervious to humidity or condensation.

Flexible connection possibilities
A high variety of electrical connections enables an easy sensor integration.

State-of-the-art production standards
The production is carried out on state-of-the-art manufacturing lines with high capacity, high levels of automation and high process reliability. The sensors are manufactured in lot sizes of 500 pieces.

Monolithic ceramic
With the monolithic body of the ceramic thick-film sensor a high long-term stability is achieved.
Specifications

Measuring ranges

<table>
<thead>
<tr>
<th>Relative pressure [bar]</th>
<th>Measuring range</th>
<th>Overpressure limit</th>
<th>Burst pressure</th>
<th>Measuring range</th>
<th>Overpressure limit</th>
<th>Burst pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 ... 2</td>
<td>1 ... 4</td>
<td>0.2 ... 10</td>
<td>0.2 ... 20</td>
<td>0 ... 20</td>
<td>0.2 ... 10</td>
<td>0.2 ... 20</td>
</tr>
<tr>
<td>0 ... 5</td>
<td>1.5 ... 4</td>
<td>1.0 ... 20</td>
<td>1.0 ... 50</td>
<td>0 ... 100</td>
<td>1.7 ... 2.7</td>
<td>1.7 ... 2.7</td>
</tr>
<tr>
<td>0 ... 10</td>
<td>2 ... 4</td>
<td>2.0 ... 20</td>
<td>2.0 ... 50</td>
<td>0 ... 100</td>
<td>2.0 ... 20</td>
<td>2.0 ... 50</td>
</tr>
</tbody>
</table>

Other measuring ranges on request.

Output signals

<table>
<thead>
<tr>
<th>Measuring range [bar]</th>
<th>Output signal [mV/V] (unamplified)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 ... 2</td>
<td>1 ... 4</td>
</tr>
<tr>
<td>0 ... 5, 0 ... 10</td>
<td>1.5 ... 4</td>
</tr>
<tr>
<td>0 ... 20, 0 ... 50</td>
<td>2 ... 4</td>
</tr>
<tr>
<td>0 ... 100</td>
<td>1.7 ... 2.7</td>
</tr>
</tbody>
</table>

Electrical connection

- Bondable pads, grid dimension 2.54 or 1.27
- Solderable pads, grid dimension 2.54 or 1.27
- Flex with solder pins

Others on request

Power supply

DC 1 ... 20 V

Settling time (10 ... 90 %)

< 1 ms

Limit frequency (mechanical)

15 kHz

Condensation resistance

In accordance to test as per IEC 68-2-30, test Db, variant 2

Test level: 25 ... 55 °C

6 cycles

Permissible temperature ranges

Medium: -40 ... +125 °C
Ambient: -40 ... +125 °C
Storage: -40 ... +125 °C

Service life

> 10 million load cycles

Zero offset

-0.2 ... 0 mV/V

Bridge resistance

7.5 ... 15 kΩ

Temperature error

Temperature compensation directly on the sensor

Compensated temperature range: -25 ... +105 °C

Mean temperature coefficient

- Zero point: < 0.2 % of span/10 K
- Span: < 0.3 % of span/10 K (at 0 ... 2 bar)
- Span: < 0.2 % of span/10 K

Accuracy at reference conditions

Including non-linearity, hysteresis, non-repeatability (corresponds to measured error per IEC 61298-2).

- Measuring range 0 ... 2 bar
  Typical: < 0.40 % of span
  Maximum: < 0.75 % of span

- Measuring ranges 0 ... 5 to 0 ... 50 bar
  Typical: < 0.25 % of span
  Maximum: < 0.50 % of span

- Measuring range 0 ... 100 bar
  Typical: < 0.40 % of span
  Maximum: < 0.75 % of span

Material, wetted parts

Ceramic (96% Al₂O₃)

Reference conditions (per IEC 61298-1)

Temperature

15 ... 25 °C

Atmospheric pressure

860 ... 1,060 mbar

Humidity

45 ... 75 % relative

Power supply

DC 10 V

Mounting position

any
Dimensions in mm

Bondable pads, grid dimension 2.54
Solderable pads, grid dimension 2.54

Bondable pads, grid dimension 1.27
Solderable pads, grid dimension 1.27

Flex with solder pins

Customer-specific solutions on request
Detailed mounting instructions on request.

Ordering information
Measuring range / Output signal / Electrical connection