OEM pressure sensor with 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
- Production to ISO 9001 and ISO/TS 16949
- 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>Measuring range</th>
<th>0 ... 2</th>
<th>0 ... 5</th>
<th>0 ... 10</th>
<th>Overpressure limit</th>
<th>5</th>
<th>10</th>
<th>20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burst pressure</td>
<td>6</td>
<td>12</td>
<td>25</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overpressure</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>20</td>
<td>40</td>
<td>100</td>
<td>200</td>
</tr>
<tr>
<td>Burst pressure</td>
<td>50</td>
<td>120</td>
<td>250</td>
<td></td>
<td></td>
<td></td>
<td></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
- Flex for Molex connector, model 5597

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
25 °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 °C to +105 °C

Mean temperature coefficient
- Zero point: < 0.2 % of span/10 K
- 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).

<table>
<thead>
<tr>
<th>Measuring range 0 ... 2 bar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Typical: &lt; 0.40 % of span</td>
</tr>
<tr>
<td>Maximum: &lt; 0.75 % of span</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Measuring ranges 0 ... 5 to 0 ... 50 bar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Typical: &lt; 0.25 % of span</td>
</tr>
<tr>
<td>Maximum: &lt; 0.50 % of span</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Measuring range 0 ... 100 bar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Typical: &lt; 0.40 % of span</td>
</tr>
<tr>
<td>Maximum: &lt; 0.75 % of span</td>
</tr>
</tbody>
</table>

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

Flex for Molex connector, model 5597

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

Ordering information
Measuring range / Output signal / Electrical connection

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