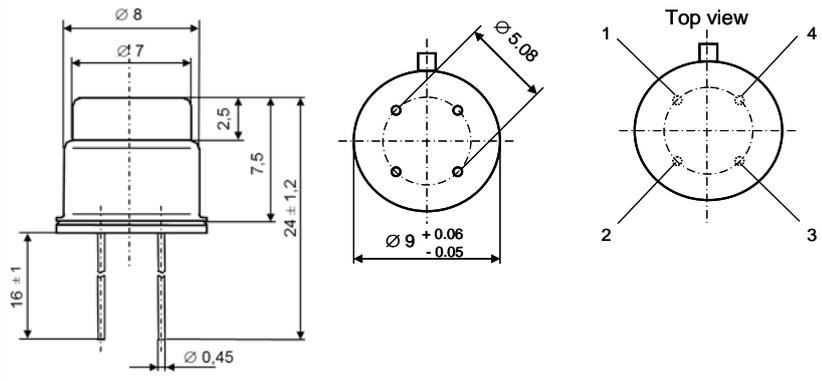
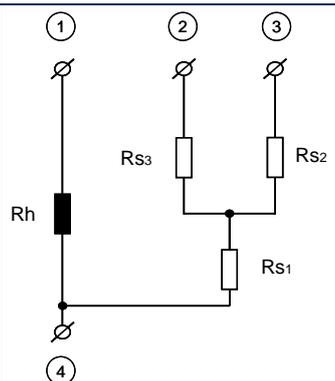
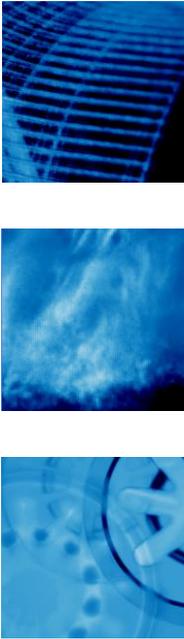


# UST Triplesensor<sup>®</sup> gas sensor element 3A4P10 2T

## Technical data

|   |   |  |   |
|---|---|--|---|
| <b>Gas sensor</b>   |   | UST Triplesensor <sup>®</sup> gas sensor element   |  <p>Figure 1: Gas sensor element with 2T-cap – similar to figure</p> |
| <b>Type of sensor</b>                                       | <b>3A4P:</b>  | UST Triplesensor <sup>®</sup> gas sensor element with the following gas sensitive layers (metal oxides): <ul style="list-style-type: none"> <li>• 2000C2+: detection of easily oxidizable gases CO, C<sub>2</sub>H<sub>5</sub>OH, ...</li> <li>• 3000C2+: detection of heavily oxidizable gases CH<sub>4</sub>, C<sub>3</sub>H<sub>8</sub>, ...</li> <li>• 5000C2+: detection of reducible gases NO<sub>2</sub>, O<sub>3</sub>, ...</li> </ul> |   |
| <b>Chip</b>   |   | Size = (B x L: 2.0 x 2.3) mm <sup>2</sup>  |   |
| <b>Heater resistance at 0 °C</b>                            | <b>10</b>   | R <sub>H0</sub> = (10.0 ± 0.5) Ω   |   |
| <b>Housing</b>  | <b>2T:</b>  | Sensor in a 4-Pin-TO39-housing with a stainless steel cap (2T) with stainless steel mesh and glass filter (standard version)   |   |
| <b>Dimensions</b>   |  <p>Not to scale.</p>  |  |   |
| <b>Pin assignment</b>                                       |  <p>Rs<sub>1...3...</sub> resistance sensitive layers<br/>R<sub>h</sub>... heater resistance</p>                     |  |   |
| <b>Operating parameters</b>                                 | Heater temperature T <sub>H</sub> = (320... 450 ± 15) °C, power rate P <sub>H</sub> up to ≈ 450mW   |  |   |
| <b>Permitted/possible case temperature during operation</b> | TO39 housing 2T/T: up to 150°C (short time)   |  |   |
|   | R <sub>S1</sub> = (50... 3500) kΩ (gas sensitive layer 2000C2+),<br>R <sub>S2</sub> = (30... 3000) kΩ (gas sensitive layer 5000C2+),<br>R <sub>S3</sub> = (30... 3500) kΩ (gas sensitive layer 3000C2+) |  |   |



## Technical data

Typical sensor characteristics to selected test gases

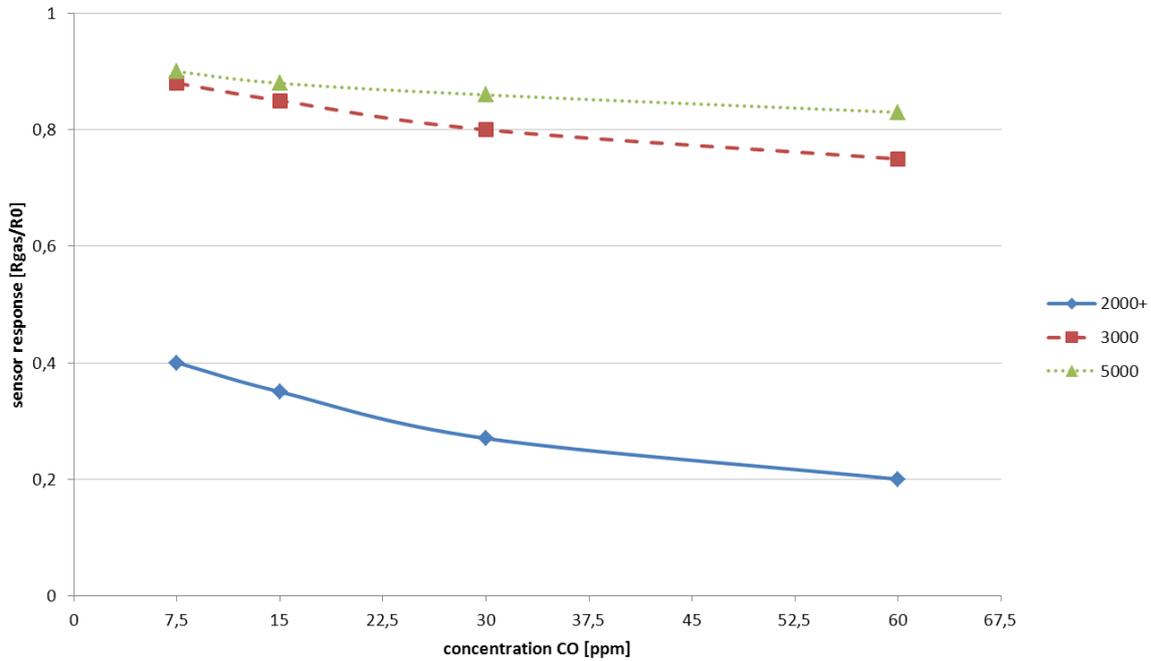


Figure 2: Typical sensor response of the 3 sensitive layers of the 3A4P-Gas sensor element on exposure to CO ( $T_H=320\text{ °C}$ )

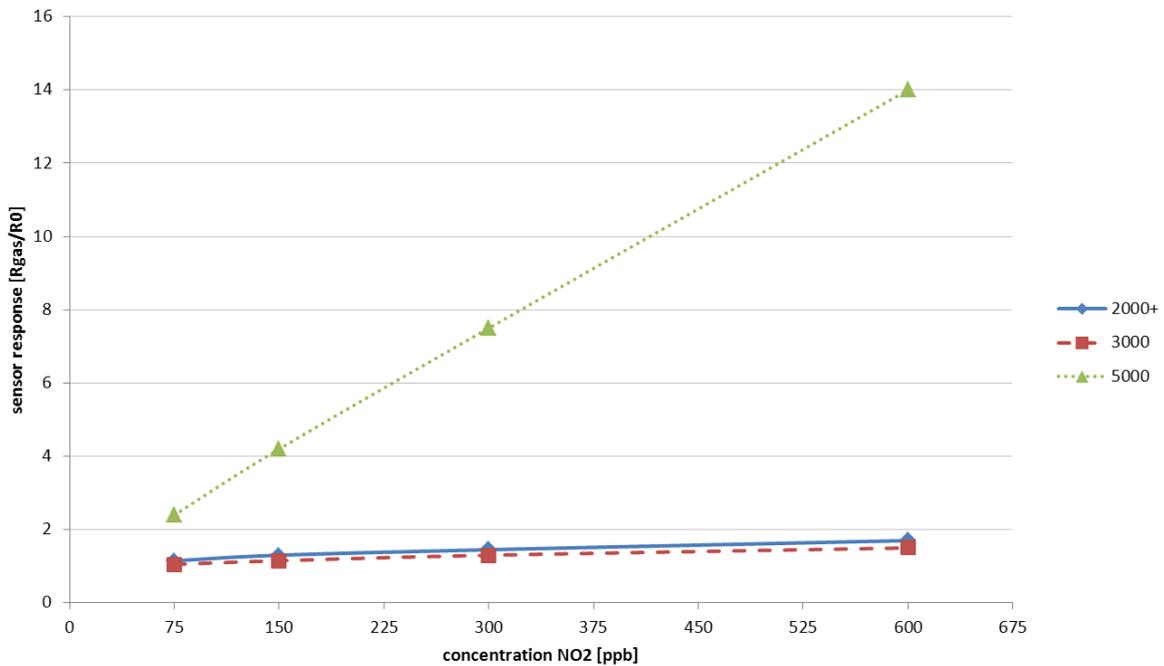


Figure 3: Typical sensor response of the 3 sensitive layers of the 3A4P-Gas sensor element on exposure to NO<sub>2</sub> ( $T_H=320\text{ °C}$ )

## Technical data

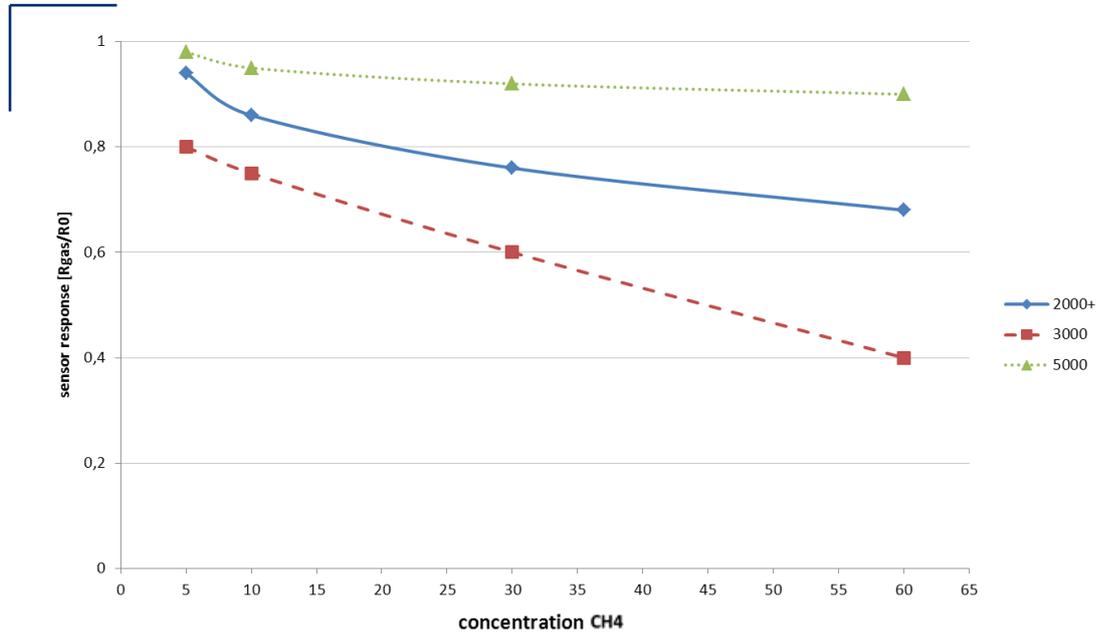


Figure 4: Typical sensor response of the 3 sensitive layers of the 3A4P-Gas sensor element on exposure to CH<sub>4</sub> (T<sub>H</sub>=420 °C)

|   |   |
|---|---|
| <b>Allowable storage and transportation temperature</b> | -25 °C ... +70 °C   |
| <b>Allowable storage and transportation humidity</b>    | 20 % ... 80 % relative humidity   |
| <b>Allowable storage conditions</b>                     | Storage environment free of any contaminations, particularly protected against chemical substances, such as Silicone etc. |
| <b>Net weight</b>                                       | ca. 0,35 g  |
| <b>Conformity</b>                                       | 2011/65/EU: Restriction of the use of Hazardous Substances Directive (RoHS)   |

### Important remarks:

Any contamination of the sensor must be avoided. The application, transport and storage environment has to be free of any contamination, particularly protected against chemical substances, e.g. silicones. In particular directly contact with substances containing, silicones, sulphurous substances or non-desorbing components or contaminations (e.g. smoke, fumes, oils, greases or evaporating liquids) may cause damaging the sensor or to changes in the sensor resistance and/or in the sensor characteristics.

The mentioned values and data are recommended values which include the fault tolerances of measuring under diffusion conditions.

For sensor control, pre-processing of the sensor signals, storage of the calibration data and data communication UST Umweltsensortechnik GmbH offers a specific electronic module.

### Please ask us for customized solutions.

Patent applications : DE102004060101 B4 / DE102006033528 B3 / EP1602924 B1.

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