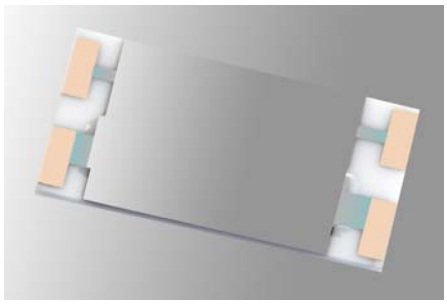
P14 Femto-Thermo
Capacitive Humidity- and Temperature Sensor

Product

The P14 Femto-Thermo is a miniaturized form of our successful P14 SMD Thermo. The favourable one chip solution consists of a capacitive humidity sensor, based upon the famous P14 sensor, together with a Pt1000-sensor, at the same time. The achieved outstanding accuracy due to optimal thermal coupling makes your application top of the edge in the industry. The intrinsic high chemical resistance of the P14 together with its very high dew point temperature and operating temperature clearly put this sensor clearly to best in class.

Advantages

- Application in dew point applications and humidity generators
- Heat and measure fast
- Heat and measure comfortably even under dewing conditions
- Humidity sensor + Pt1000-element on one chip
- Outstanding accuracy due to optimal thermal coupling
- High resistance to various chemicals
- Dewing resistant – fast recovering time after dewing, also at very high dewpoint temperatures
- High operating temperature
- Linear characteristic curve
- RoHs conform



Technical Data

Humidity Sensor:	Capacitive Polymer Humidity Sensor
Temperature Sensor:	Pt1000 Ω DIN Kl. B
Mechanical Dimensions:	B=2 x L=4 x H=0,38 mm
Humidity Operating Range:	0 ... 100% RH (max. dewpoint 85°C)
Operating Temperature Range:	-50 ... +150 deg C
Capacitance:	180 pF ± 50 pF (at 23°C and 30% RH)
Sensitivity:	0,3 pF / % RH (15 ... 90% RH)
Loss factor:	< 0,01 (at 23°C, at 10 kHz, at 90% RH.):
Nonlinearity:	< ± 1,5% RH (15 ... 90% RH at 23°C, after one point calibration)
Hysteresis: 1h, 20% RH at 23°C → 1h, 85% RH at 70°C → 1h, 20% RH at 23°C	< 1,5% RH
Response Time T_{63}:	< 3 s (50% RH → 0% RH) at 23°C
Frequency Range:	1... 100 kHz (recommend 10 kHz)
Maximum Operating Voltage:	< 12 Vpp AC
Signal Form:	alternating signal without DC bias
Connectors:	SMD, reflow compatible

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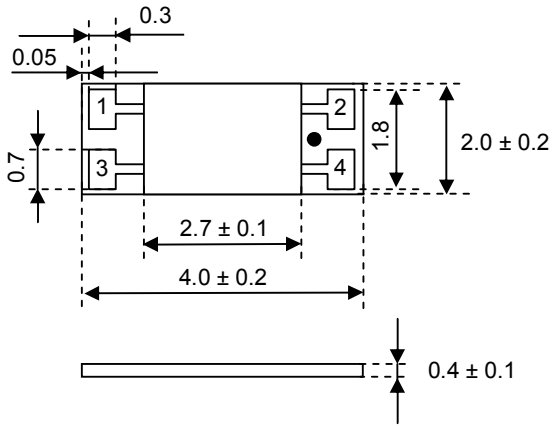
HUMIDITY

FLOW

TEMPERATURE

Construction Sizes

Dimension in mm



1 Humidity Sensor
2 Humidity Sensor
3 Temperature Sensor
4 Temperature Sensor

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