



P14 FemtoCap-G_5

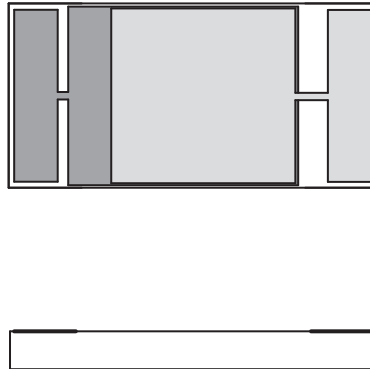
Capacitive Humidity Sensor

Optimal for automotive and white good applications

Benefits & Characteristics

- High chemical resistance
- Wide temperature range
- Resistance to condensation
- Fast recovery time
- Very low drift
- Excellent price-performance ratio
- Solderable and bondable (fully automated assembly)
- Customer-specific sensor available upon request

Illustration¹⁾



1) For actual size, see dimensions

Technical Data

Dimensions (L x W x H in mm):	4 x 2 x 0.4
Operating humidity range:	0 % RH to 100 % RH (maximal dew point +85 °C)
Operating temperature range:	-50 °C to +150 °C
Capacitance (C ₃₀):*	180 pF ±50 pF (at 30 % RH and +23 °C)
Typical sensitivity (at C ₃₀ = 180 pF):	0.3 pF/% RH (15 % RH to 90 % RH)
Loss factor:	< 0.01 (at 23 °C, at 10 kHz, at 90 % RH)
Linearity error:	< 1.5 % RH (15 % RH to 90 % RH at +23 °C after one point calibration)
Hysteresis:	< 1.5 % RH
Response time t ₆₃ :	< 3 s (50 % RH to 0 % RH at +23 °C)
Temperature dependence (typical):	$\Delta \% RH = (B1 \times \% RH + B2) \times T [^\circ C] + (B3 \times \% RH + B4)$ B1 = 0.0014 [1/ °C] B2 = 0.1325 [% RH/ °C] B3 = -0.0317 B4 = -3.0876 [% RH]
Measurement frequency:	1 kHz to 100 kHz (recommended 10 kHz)



Maximal supply voltage:	< 12 V _{pp} AC
Signal form:	alternating signal without DC bias
Connections:	SMD, automatic assembly compatible
Packaging:	packed in a blister of 5 pcs

* Customer-specific alternatives available

The calibration of the sensor must be done 5 days after soldering at the earliest.

Characteristic Curve

