



P14-W_5

Capacitive Humidity Sensor

Optimal for various humidity applications

Benefits & Characteristics

- High chemical resistance
- Wide temperature range
- Resistance to condensation
- Fast recovery time
- Very low drift
- High humidity stability
- Customer-specific sensor available upon request

Illustration¹⁾



1) For actual size, see dimensions

Technical Data

	Wired	SMD
Dimensions (L x W x H / H2 in mm):	5 x 3.81 x 0.4 / 0.8	6.35 x 2.54 x 0.4
Capacitance at 30 % RH and +23 °C (C ₃₀):*	150 pF ±50 pF	180 pF ±50 pF
Typical sensitivity at C ₃₀ = 150 pF/ 180 pF (15 % RH to 90 % RH):	0.25 pF/% RH	0.3 pF/% RH
Operating humidity range:	0 % RH to 100 % RH (maximal dew point +85 °C)	
Operating temperature range:	-50 °C to +150 °C	
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 :	< 5 s (50 % RH to 0 % RH at +23 °C)	
Temperature dependence (nominal):	$\Delta \% RH = (B1 \times \% RH + B2) \times T [^{\circ}C] + (B3 \times \% RH + B4)$ 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	



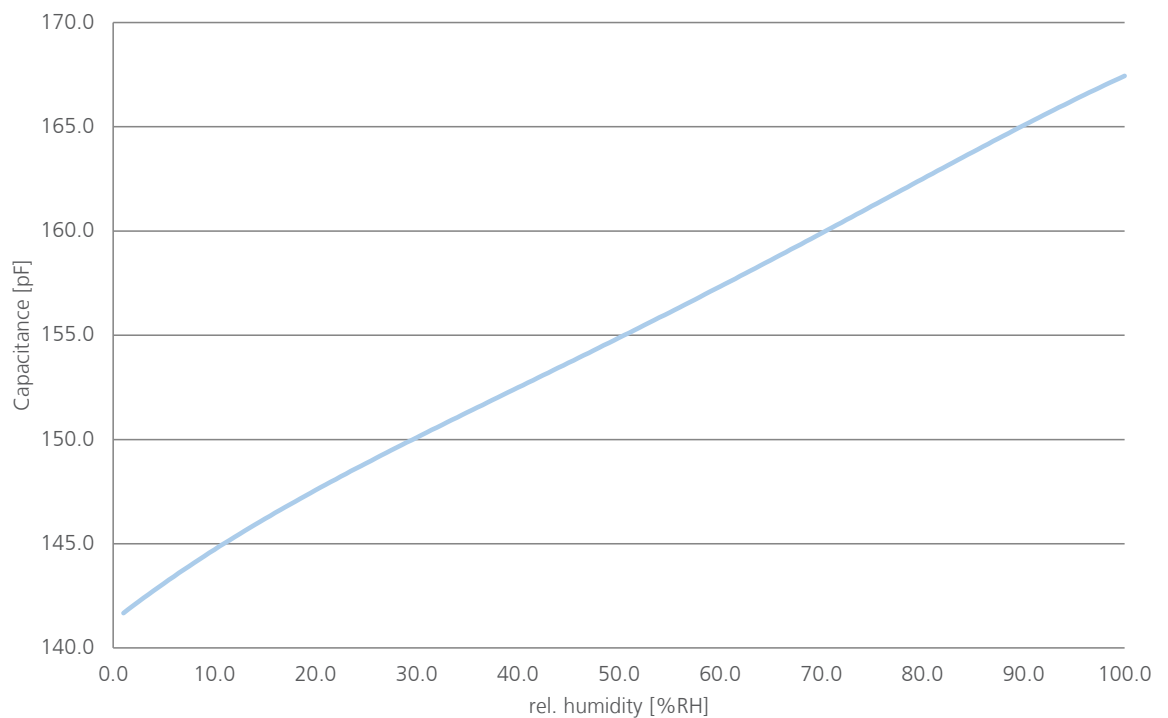
Signal form:	alternating signal without DC bias
Connections:*	CuP-SiL-wire post-plated with Sn, 10 mm or Au/Cu-wire, Ø 0.4 mm, 10 mm, or SMD, automatic assembly compatible
Packaging:	packed in a blister of 5 pcs

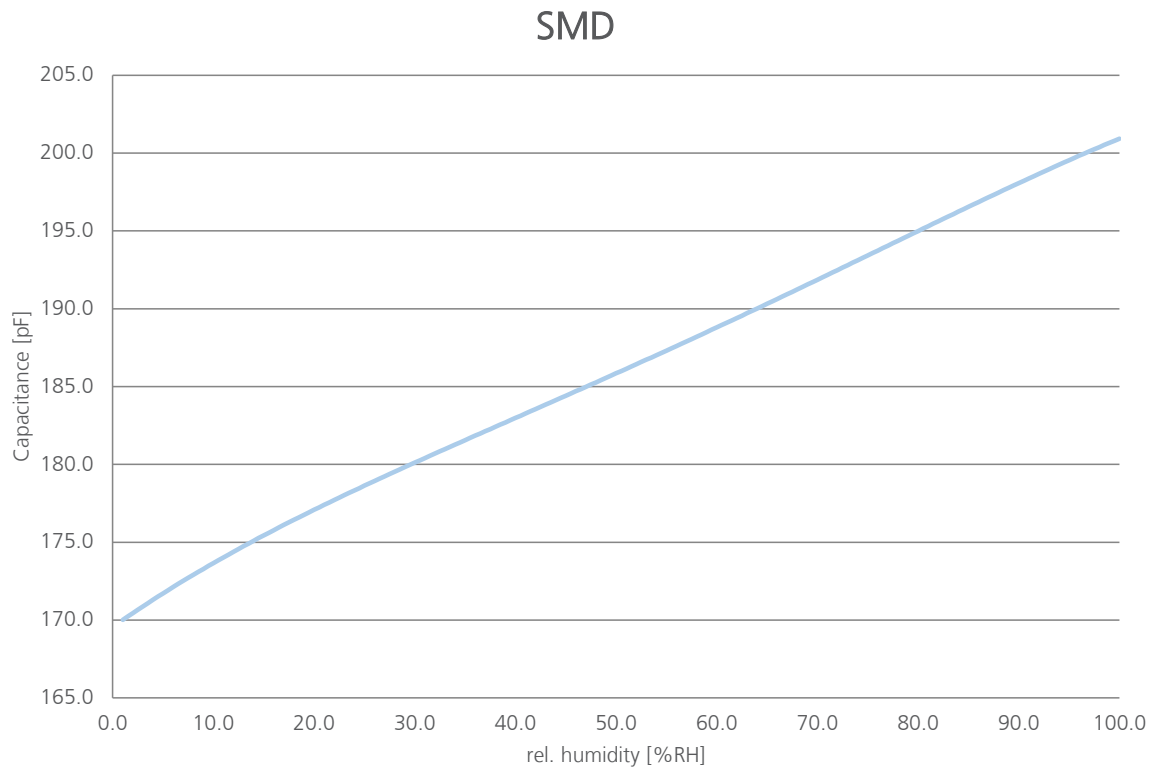
* [Customer-specific alternatives available](#)

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

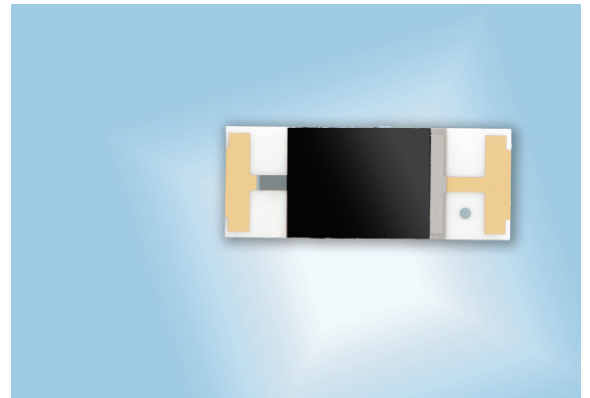
Characteristic Curve

Wired





Product Photos



Order Information - Au/Cu-wire, Ø 0.4 mm, 10 mm

Order code	P14-W_5 (150pF ±50pF)
Mouser Product number	153413
	916-153413



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All mechanical dimensions are valid at 25 °C ambient temperature, if not differently indicated • All data except the mechanical dimensions only have information purposes and are not to be understood as assured characteristics • Technical changes without previous announcement as well as mistakes reserved • The information on this data sheet was examined carefully and will be accepted as correct; No liability in case of mistakes • Load with extreme values during a longer period can affect the reliability • The material contained herein may not be reproduced, adapted, merged, translated, stored, or used without the prior written consent of the copyright owner • Typing errors and mistakes reserved • Product specifications are subject to change without notice • All rights reserved

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[P14-W_5 \(150pF +/-50pF\)](#)