

# Humidity Sensor



QUICK REFERENCE DATA		
PARAMETER	VALUE	UNIT
Humidity range (RH)	10 to 90	%
Capacitance at + 25 °C; 43 % RH; 100 kHz	122 ± 15 %	pF
Tan δ at + 25 °C; 100 kHz; 43 % RH	≤ 0.035	
Sensitivity between 12 and 75 % RH	0.4 ± 0.05	pF/%RH
Frequency	1 to 1000	kHz
Temperature dependence	0.1	%RH/K
Response time in minutes (to 90 % of indicated RH change at + 25 °C, in circulating air): between 10 and 43 % RH between 43 and 90 % RH	< 3 < 5	
Hysteresis (for RH excursion of 10 to 90 to 10 %)	≈ 3	%
Maximum AC or DC voltage	15	V
Storage humidity range (RH)	0 to 100	%
Ambient temperature range:		
operating	0 to + 85	°C
storage	- 25 to + 85	°C
Drop test:		
height of free fall	1	M
Mass	≈ 1.3	G

**Note:**

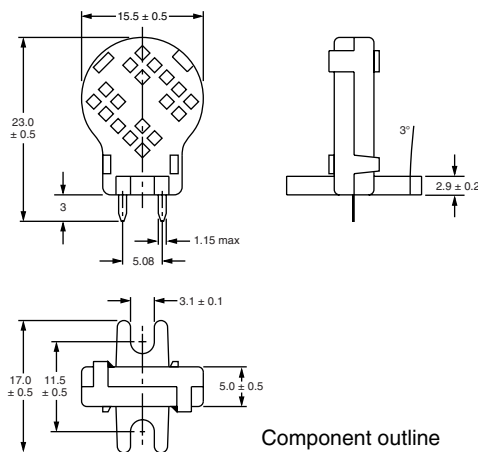
Unless otherwise stated, measurements are in accordance with "IEC publication 60539"

Component is 100 % lead (Pb)-free

Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC

Stability is in accordance with "CECC 43000" and "IEC 60068-2"

**DIMENSIONS** in millimeters



**APPLICATIONS**

- Humidity measurements in electronic hygrometers for domestic use
- Self-regulating air humidifiers, etc.



**DESCRIPTION**

This capacitive atmospheric humidity sensor consists of a non-conductive foil, which is covered on both sides with a layer of gold. The dielectric constant of the foil changes as a function of the relative humidity of the ambient atmosphere and, accordingly, the capacitance value of the sensor is a measure for relative humidity. The foil is clamped between contact springs and assembled in a plastic housing. It is provided with two connecting pins which fit printed-circuit boards with a grid pitch of 2.54 mm, provision is also made for fastening with 3 mm bolts. The characteristics are not affected by incidental water condensation on the sensor foil. It should not be exposed to either acetone or chlorine vapours.

**MOUNTING**

The device can be soldered directly on to a printed-circuit board or fastened with 3 mm bolts.

**SOLDERING**

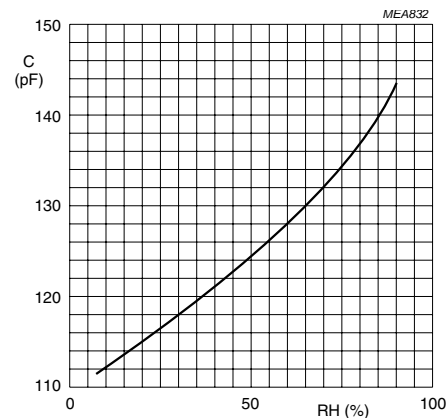
Solderability: ≤ 240 °C; ≤ 4 s

Resistance to heat: ≤ 240 °C; ≤ 4 s

**ROBUSTNESS OF TERMINATIONS**

Tensile strength: 10 N

**ELECTRICAL CHARACTERISTICS**



Typical capacitance as a function of relative humidity



## Notice

Specifications of the products displayed herein are subject to change without notice. Vishay Intertechnology, Inc., or anyone on its behalf, assumes no responsibility or liability for any errors or inaccuracies.

Information contained herein is intended to provide a product description only. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document. Except as provided in Vishay's terms and conditions of sale for such products, Vishay assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of Vishay products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Vishay for any damages resulting from such improper use or sale.