Vishay BCcomponents



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	< 3	
Between 43 % and 90 % RH	< 5	
Hysteresis (for RH excursion of 10 % to 90 % to 10 %)	≈ 3	%
Maximum AC or DC voltage	15	٧
Storage humidity range (RH)	0 to 100	%
Ambient temperature range:		
Operating	0 to + 85	°C
Storage	- 25 to + 85	°C
Weight	≈ 1.3	g

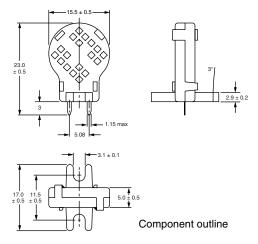
Note

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

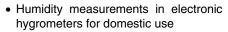
Component is 100 % lead (Pb)-free

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





· 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.

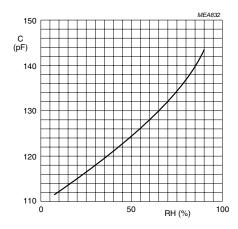
SOLDERING

Solderability: \leq 240 °C; \leq 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

Revision: 24-Jun-09

For technical questions, contact: nlr@vishay.com Document Number: 29001



Legal Disclaimer Notice

Vishay

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Material Category Policy

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Please note that some Vishay documentation may still make reference to RoHS Directive 2002/95/EC. We confirm that all the products identified as being compliant to Directive 2002/95/EC conform to Directive 2011/65/EU.

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Revision: 02-Oct-12 Document Number: 91000