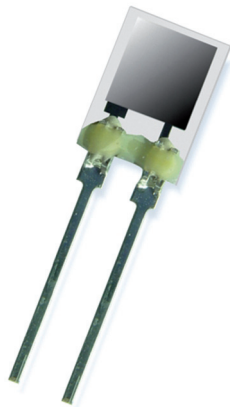


DATA SHEET

Capacitive humidity sensor KFS 33-LC

Description



Characteristic features

- Capacitive operating principle
- Mechanically robust
- Good linearity
- Dew formation resistant
- Very good price performance ratio
- Compact dimensions
- RoHS conformance

Areas of applications

- Consumer products, hygrometer, weather stations, room humidity measurement
- HVAC (Heating, ventilation and air conditioning)
- Humidity regulator for sanitary exhaust, air humidifiers and air dryers
- Medical applications
- Humidity measurement in vehicles

Technical data

Humidity sensor KFS 33-LC	
Measurement principle	Capacitive polymer humidity sensor
Humidity application range	0 ... 100 % relative humidity (max. dew point 60 °C)
Nominal capacitance	330 pF \pm 20 pF (at 23 °C and 55 % RH)
Temperature drift	0,16 pF / K (from 5 °C to 70 °C)
Temp. application range	-40 ... +120 °C
Linearity	< \pm 2,0 % RH (20 ... 90 % RH at 23 °C)
Slope	0,6 pF / % RH (20 ... 90 % RH)
tan. Delta	< 0,02
Hysteresis	\pm 3 % RH
Response time	< 15 sec
Frequency range	1 ... 100 kHz
Max. evaluation voltage	< 5 Vpp ~ (without DC-component)
Dimensions	5,0 x 7,0 x 1,5 mm
Connection	SIL-strip 2,54 mm
Article	Art.-No.:
Humidity sensor	KFS 33-LC

Features

The KFS 33-LC is a capacitive polymer-humidity sensor for general commercial applications. Highlighting features are the extremely favourable price-performance ratio, linear characteristics and good long-term stability.

The physical measurement principle is based on the characteristics of a hygroscopic material, which is used as the dielectric medium of a capacitor.

The water content in the polymer maintains an equilibrium with the relative humidity of atmosphere being measured. According to the water content, the dielectric constant of dielectric medium changes the E_r - value and therefore the capacitance of the sensor. By virtue of its constructional characteristics, the capacitance value almost linearly depends on the value of relative humidity.

The high nominal capacitance of 330 pF and good sensitivity enables a simple and stable evaluation electronics. The used polymer is resistant against dew formation and usual household chemicals like detergents. The sensor possesses a very good long-term stability and is ideally suitable for price sensitive applications, like ventilation and air conditioning.

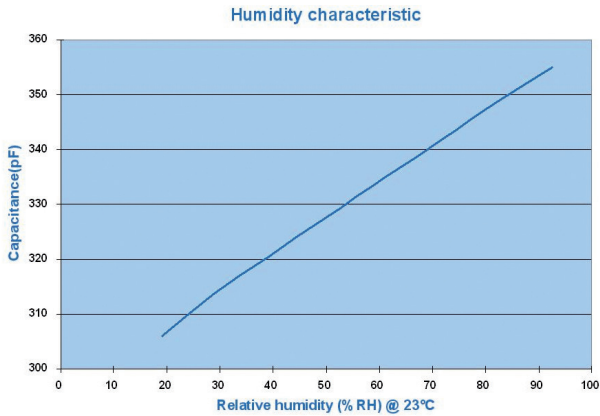
We also supply calibrated humidity modules with voltage output for simple integration with customised products.

DATA SHEET

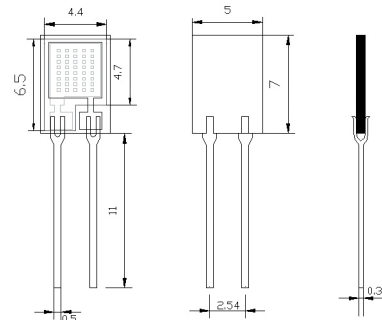
Capacitive humidity sensor



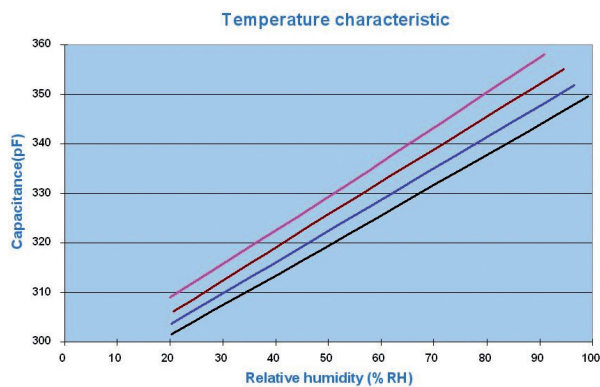
Humidity behaviour



Dimensions

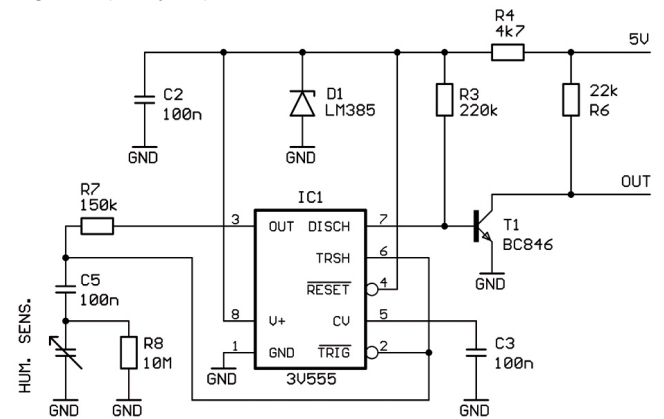


Temperature dependence

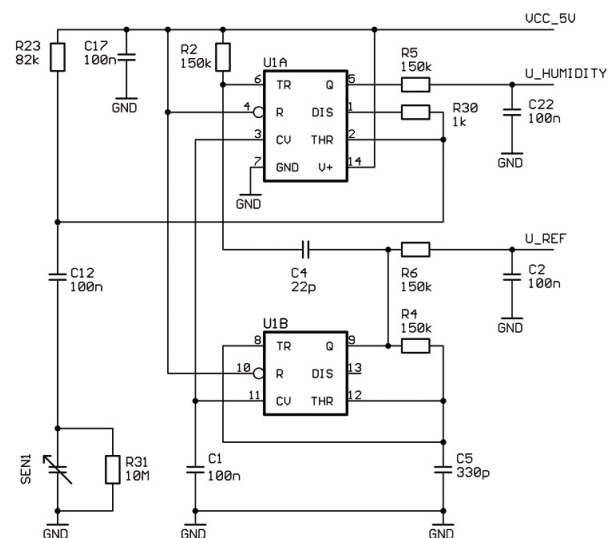


Application circuits

Digital frequency output



Analog differential output



Frequency dependence

