



### HCH-1000-001



**HCH-1000 Series capacitive polymer humidity sensor, 2,54 mm [0.100 in] lead pitch SIP**

*Actual product appearance may vary.*

#### Features

- Polymer sensing offers enhanced resistance against contamination
- Reduced temperature dependence
- Semiconductor fabrication technology
- Uses glass wafer as substrate
- Enhanced sensitivity and accuracy, fast response
- Low hysteresis and long-term stability

#### Potential Applications

- Hygrometers, consumer goods
- Humidifiers and dehumidifiers
- Medical
- Automotive
- HVAC systems
- Weather stations

#### Description

The HCH-1000 Series humidity sensor is a capacitive polymer sensor designed for relative humidity measurement. The sensor converts humidity value into capacitance, which can be measured electronically. Polyimide is used as a humidity sensing material because of its inherent IC (Integrated Circuit) processing compatibility, reduced temperature dependence and enhanced resistance against contamination. The HCH-1000 Series is manufactured using semiconductor technology. The sensor consists of a grid top electrode, a polyimide layer, and a bottom electrode. The grid top electrode on the bottom electrode provides enhanced sensitivity when compared to that of a standard structure. A cased version, for dust protection, and an uncased version are available.

Product Specifications	
Package Type	2,54 mm [0.100 in] lead pitch SIP
Operating Temperature Range	-40 °C to 120 °C [-40 °F to 248 °F]
Operating Humidity Range	0% RH to 100% RH
Operating Frequency Range	1 kHz to 100 kHz
Hysteresis	±2% RH typ.
Normal Capacitance	330 ±20 pF typ. (at 55% RH)
Sensitivity	0.60 ±0.5 pF/%RH at 10% RH to 95% RH
Linearity	±2% RH typ.
Response Time	15 s at 30% RH to 90% RH
Temperature Coefficient	0.16± 0.01 pF/°C at 5 °C to 70 °C [41 °F to 158 °F]
Max. Supply Voltage	5 Vac (no dc voltage)
Max. Supply Current	20 •
Long-term Stability (Drift)	0.2% RH/year
Output Signal	Capacitance value
Covered Device	No
Moisture/Dust Filter	No
Combined Humidity and Temperature Sensor	No
Calibration and Data Printout	No
Series Name	HCH-1000
Availability	Global