

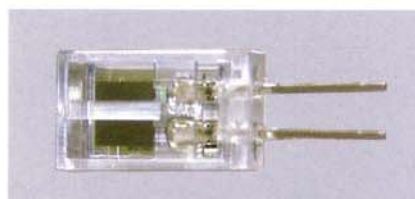
## JSY-HC-2 / JSY-HC-2C

JSY-HC is a highly accurate humidity sensor manufactured via the semiconductor process. JSY-HC-2's dielectric material ensures stability in high and low level humidity due to its optimized moisture absorption rate and excellent electrical insulation properties.



JSY-HC-2 features an electrode structure and polymer with an optimized moisture absorption ratio and fast response time, stable hysteretic property, and excellent linearity and accuracy.

- High accuracy & repeatability
- Good resistance
- Small size construction
- Fast response time
- Good linearity
- Long-Term stability
- Low-temperature coefficient
  
- Hygrometer
- Automotives
- Agricultural, Industrial Control Devices
- Humidifiers and Dehumidifiers
- HVAC System
- Medical Applications
- Weather Stations, Consumer Electronics



	JSY-HC-2	JSY-HC-2C
Nominal Capacitance (at 25°C, 55%RH)	180 ± 10pF	
Sensitivity(20~95%RH)	0.34 pF/%RH	
Response time t80	< 15sec.	
Linearity	< ±2%RH	
Hysteresis	2%RH	
Temperature coefficient	0.07 pF/°C	
Working range	0~100%RH, -40~120°C	
Operating voltage (no DC Voltage)	AC 5V (Max.)	
Operating frequency	1~100kHz (Recommended 20kHz)	
Long-term stability (at 20~30°C)	drift <0.2%RH/year	
Package type	without Case	with Case

## JSY-HC-2 / JSY-HC-2C

### Typical Characteristics

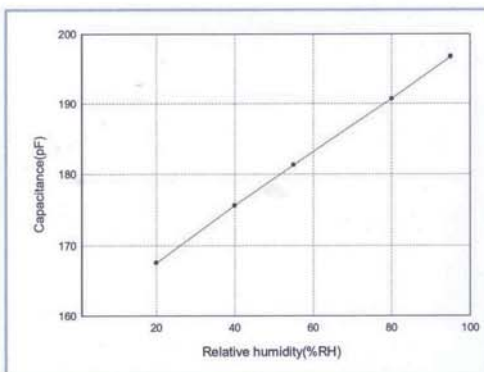
Between 10~95%RH range, capacitance changes average about 28.9 pF and linearity characteristics has less than  $\pm 2\%$ RH error range.

$$C_m = 180 \text{ pF} + \text{Sens.} \cdot (\text{RH}_m - 55)$$

$C_m$  : Capacitance as a variation of relative humidity

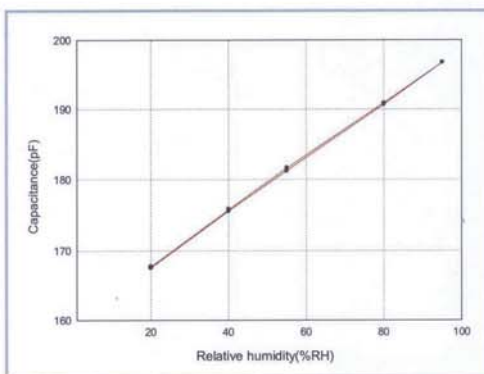
Sens. : Sensitivity of SY-HC-2

RH<sub>m</sub> : Measured humidity



### Hysteretic Characteristics

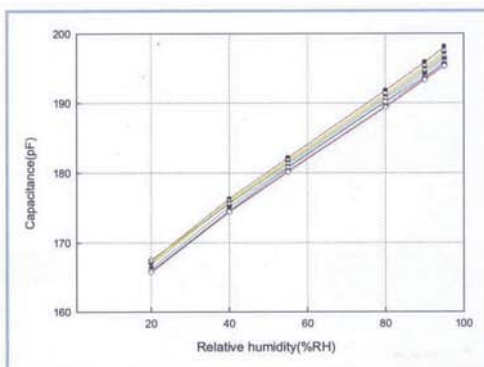
Moisture absorption/desorption on dielectric layer and hysteretic properties of humidity sensor that change depending on the membrane electrode's surface structure have less than 2%RH variation.



### Frequency Characteristics

Behavior by frequency is inversely proportional by 0.3 pF according to frequency when the operational frequency is increased by 1~100 kHz.

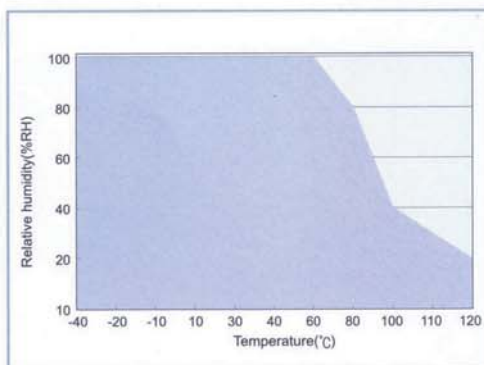
JSY-HC-2 can stably operate at 20 kHz; anything less than 20 kHz drops linearity and makes operation not possible.



### Working Range

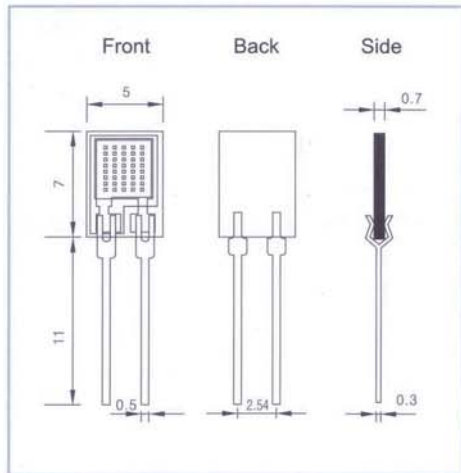
The JSY-HC-2 should be used within the prescribed temperature and humidity condition. The sensor may malfunction if used beyond its normal operating range.

Sensor operates at a temperature range of  $-40 \sim 120^\circ\text{C}$  and a humidity range of 0~100%RH. Temperature coefficient is  $0.07 \text{ pF}/^\circ\text{C}$ .

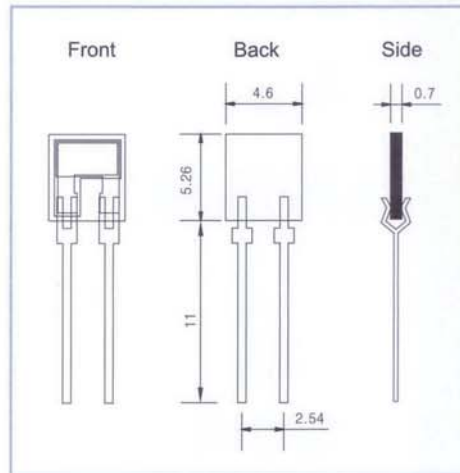


## JSY-HC-2 / JSY-HC-2C

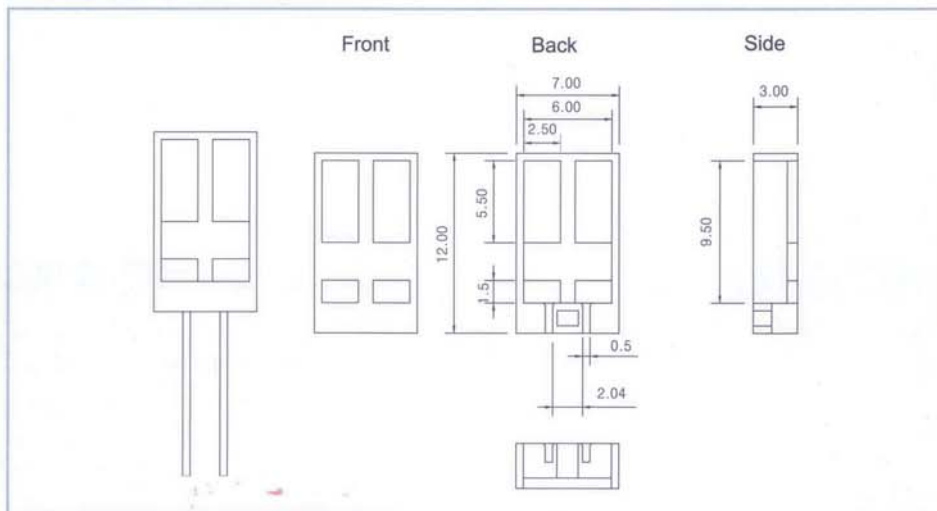
### JSY-HC-1



### JSY-HC-2



### JSY-HC-1C / JSY-HC-2C



- Avoid touching the DC voltage with the humidity sensor.
- Do not touch the sensor surface to prevent scratches and contamination.
- Do not let the soldering tool in contact with the lead pin for longer than 3 seconds.
- Do not fold excessively the sensor lead pin.

