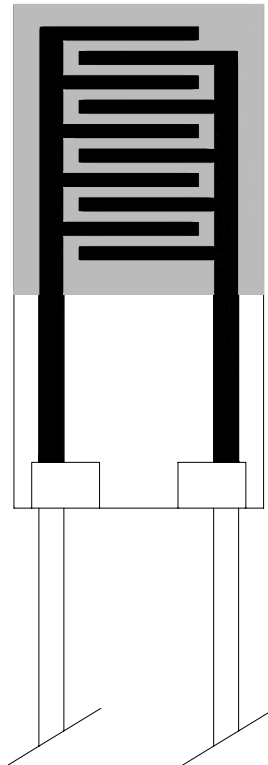


# HUMIDITY SENSOR

## KSH - 02BHN



Our Humidity Sensor “KSH-02BHN” is a high quality, highly responsive polymer film humidity sensor. At ambient temperature the sensor resistance drops from 30%RH to 90%RH in approximately 1.5minutes.

Attractively priced, this is an excellent resistive sensor which is suited to a range wide of market applications.

**KSE Humidity Sensor**  
**Key features**

- Humidity range 20%RH ~ 95%RH
- Rapid response
- Low hysteresis
- Small and light – weight
- Attractively priced
- Robust construction

**Applications**

- Humidifier & Dehumidifier
- Air conditioners
- Automobile
- Printer
- Copier
- Food industry etc..

**Electrical Characteristics**

- Rated Voltage : 0~5V AC
- Rated Power : 0.3mW
- Operating Temperature Range : 0 ~ 60°C
- Operating Humidity Range : 20 ~ 95% RH
- Storable Temperature : -20 ~ 85°C
- Storable Humidity : 95% RH or Less
- Standard Humidity Resistance : 31Kohm (25°C , 60%RH)
- Humidity Detecting Accuracy : ± 3%RH (25°C , 60%RH)
- Humidity Response characteristics : See chart
- Hysteresis : ± 2%RH (30 ~ 90 %RH)

## Mechanical Characteristics

- Drop test  
Humidity Sensor is dropped on to a wooden surface from a height of 1meter three times.  
No change in appearance or performance is allowed.
- Lead strength test  
A load of 1kg is applied to each lead in the vertical plane against the surface of the sensor for  $10 \pm 1$  seconds.  
No change in appearance or performance is allowed.
- Lead bend strength test  
The humidity sensor is kept in the vertical direction and the leads should be bent 1 cycle in the direction of 90 degree of load applied 250g.  
No change in appearance or performance is allowed.

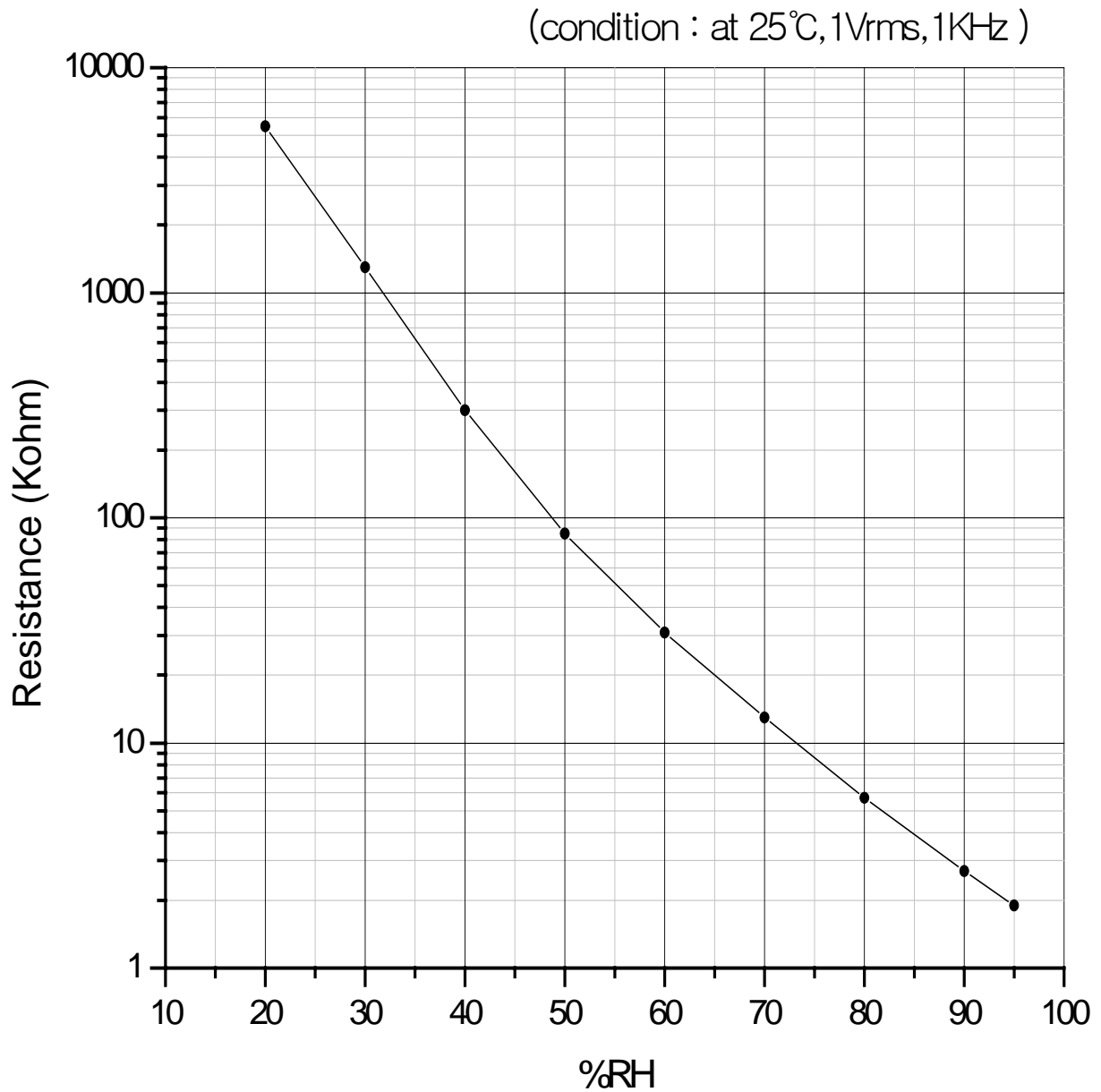
## Environmental Characteristics

- Dry heat (85℃, <30%RH, 1000 hours)  $\Delta\%RH < \pm 5\%RH$  (Compared to the initial value)
- Low Temperature (- 30℃, 1000 hours)  $\Delta\%RH < \pm 5\%RH$  (Compared to the initial value)
- Moisture (60℃, 95%RH, 1000 hours)  $\Delta\%RH < \pm 5\%RH$  (Compared to the initial value)
- Temperature Cycling 【 -30 ℃(30minutes)then 85 ℃(30 minutes), 100Cycle】  
 $\Delta\%RH < \pm 5\%RH$  (Compared to the initial value)
- Humidity Cycling  $\Delta\%RH < \pm 5\%RH$  (Compared to the initial value)  
【 30%RH (30minutes)then 90%RH (30minutes), 500Cycle】
- Normal Temperature Load Life  $\Delta\%RH < \pm 5\%RH$  (Compared to the initial value)  
【 25℃,1V AC,1kHz,1000hours 】
- Organic solvent resistance  $\Delta\%RH < \pm 5\%RH$  (Compared to the initial value)  
【Benzene 30Wt%, Toluene 30Wt%, Xylene 40Wt%, 300 hours】
- Alcohol resistance  $\Delta\%RH < \pm 5\%RH$  (Compared to the initial value)  
【Test 1 : Ethanol 50% , Test 2 : Methanol 50%, 300 hours】
- Water resistance  $\Delta\%RH < \pm 5\% RH$  (Compared to the initial value)  
【Soak the sensor in Water , 10minutes 】

Humidity Standard Characteristics

% RH	20%RH	30%RH	40%RH	50%RH	60%RH	70%RH	80%RH	90%RH	95%RH
SPEC.	5500	1300	300	85	31	13	5.7	2.7	1.9

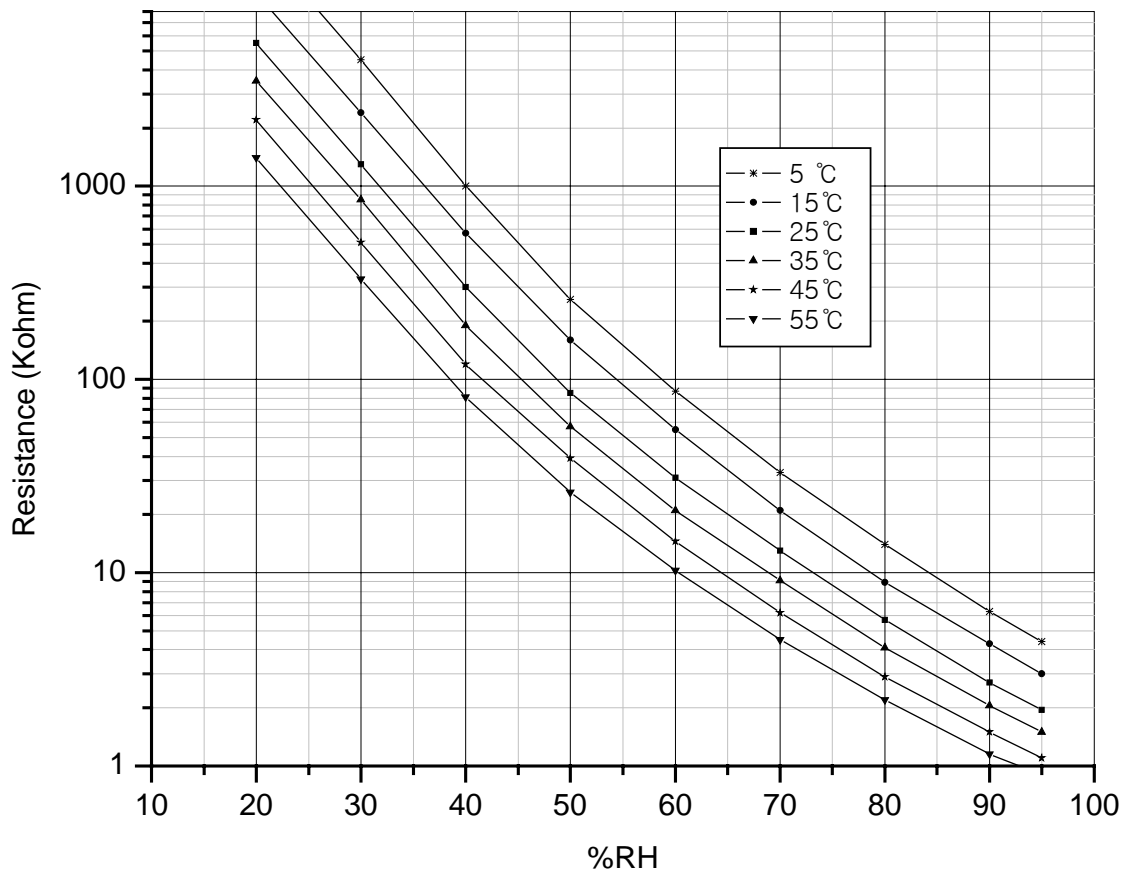
( Unit Kohm )



Humidity Response Characteristics

	5℃	15℃	25℃	35℃	45℃	55℃
20%RH		9900	5500	3500	2200	1400
30%RH	4500	2400	1300	850	510	330
40%RH	1000	570	300	190	120	81
50%RH	260	160	85	57	39	26
60%RH	87	55	31	21	14.5	10.3
70%RH	33	21	13	9.1	6.2	4.5
80%RH	14.5	8.9	5.7	4.1	2.9	2.2
90%RH	6.9	4.3	2.7	2.2	1.5	1.2
95%RH	5.0	3.2	2.0	1.5	1.2	1.0

(condition : 1Vrms,1KHz )

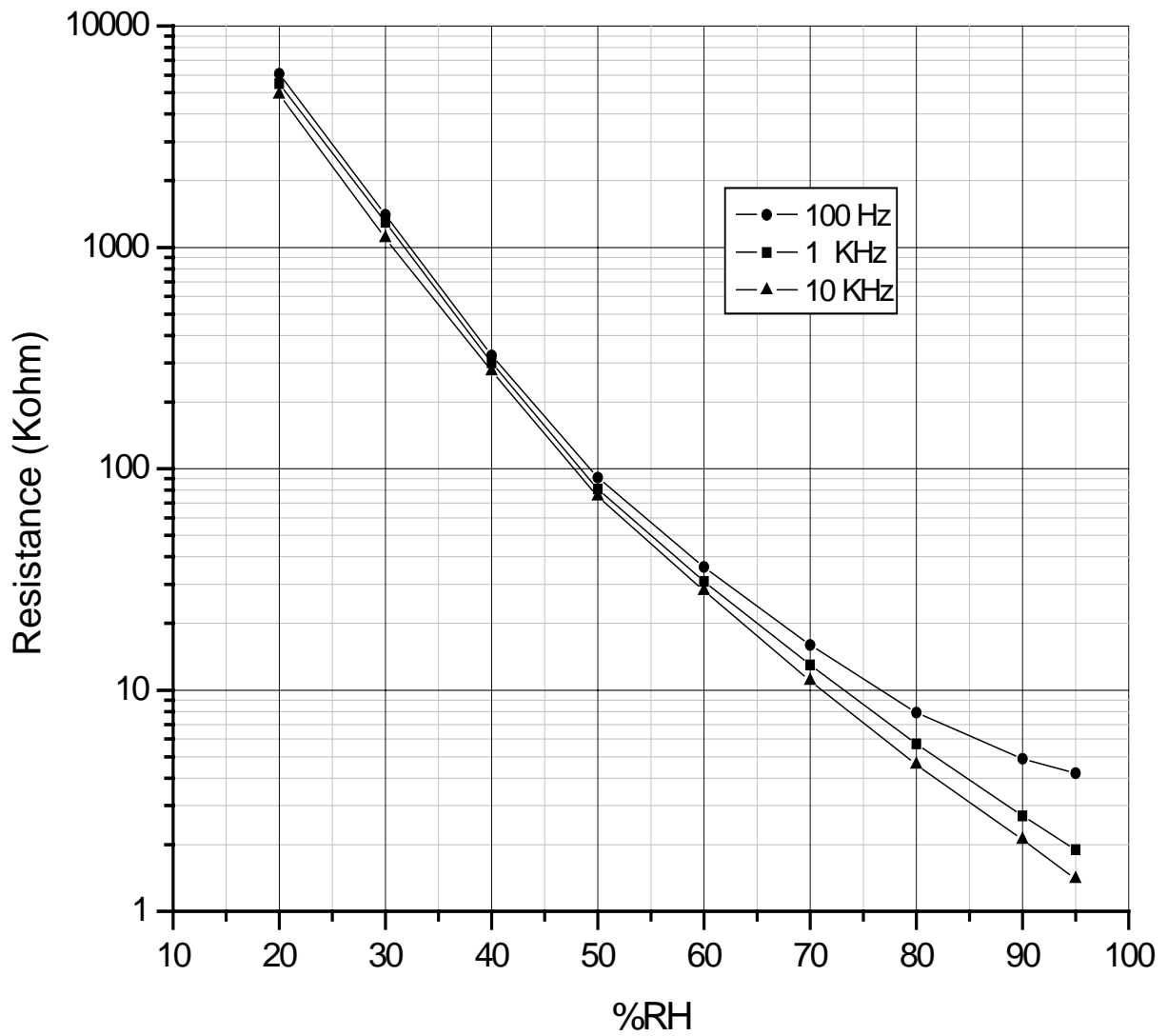


Frequency Characteristics

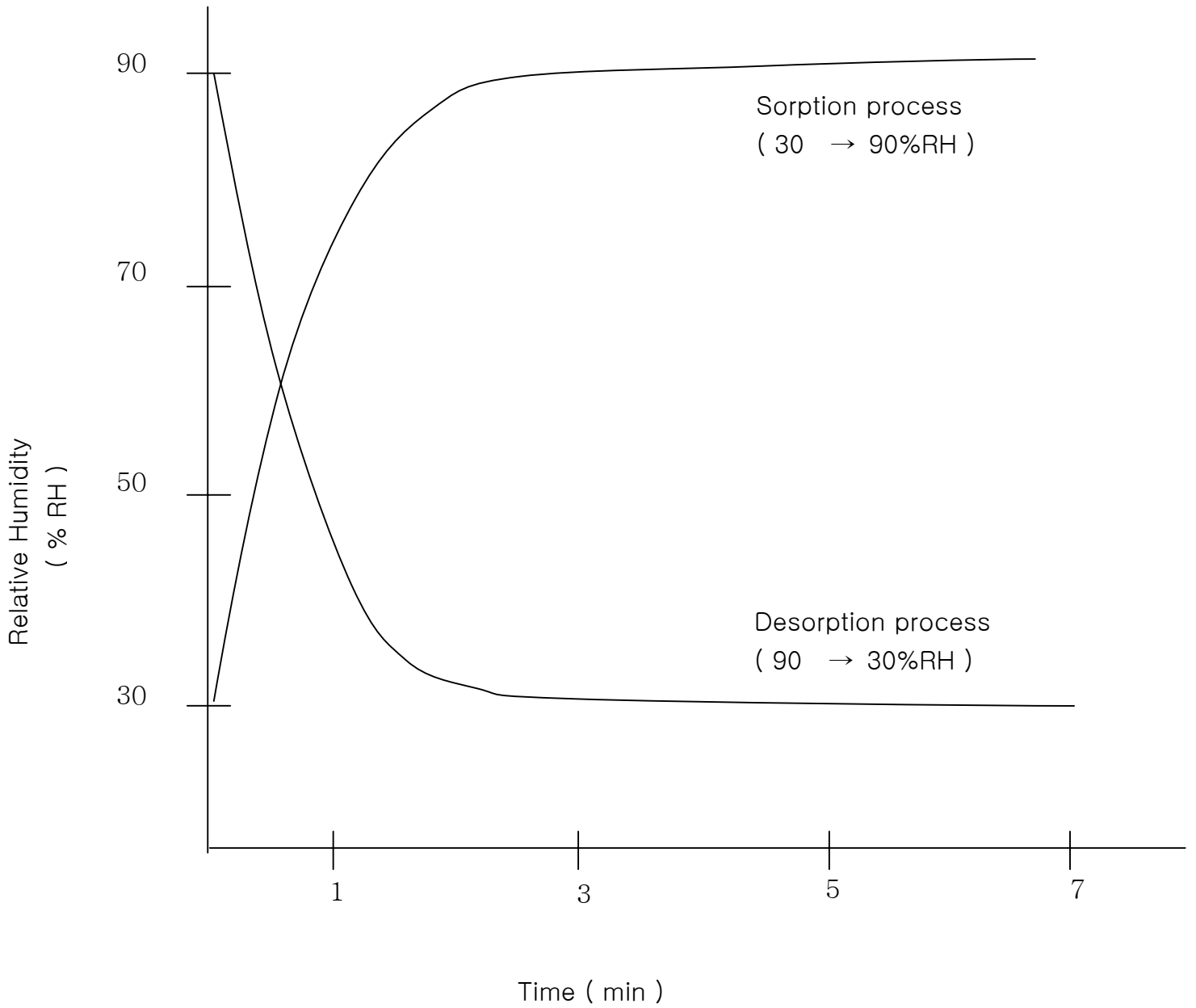
	20%RH	30%RH	40%RH	50%RH	60%RH	70%RH	80%RH	90%RH	95%RH
100 Hz	6100	1400	325	93	36	16	7.9	4.9	4.2
1 KHz	5500	1300	300	85	31	13	5.7	2.7	1.9
10 KHz	4900	1100	275	75	28	11	4.6	2.1	1.4

( Unit Kohm )

( condition : at 25°C, 1Vrms )

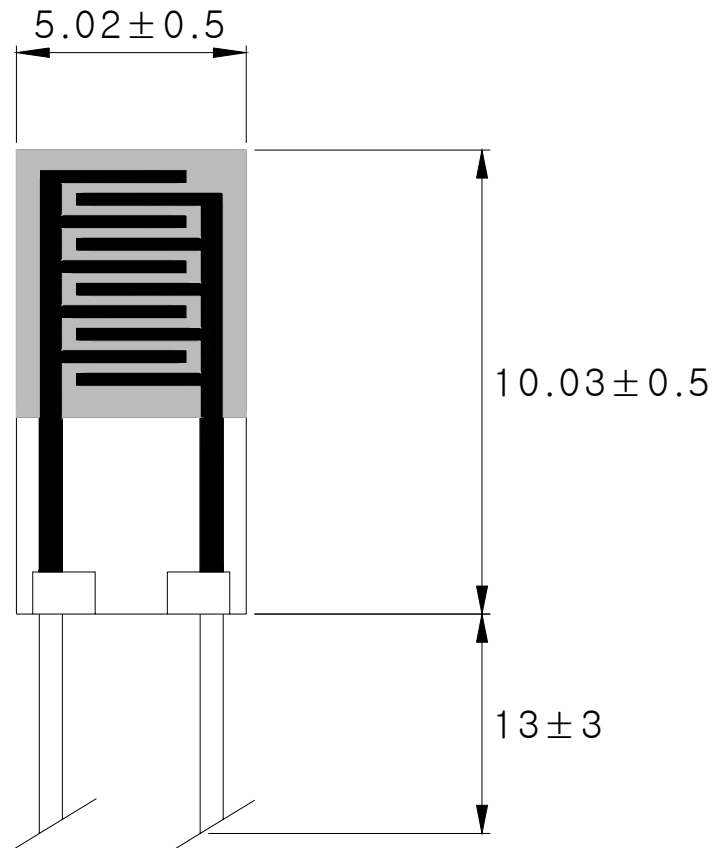


Response Curve ( Time against Humidity )



Dimension of Humidity Sensor

( Type KSH - 02BHN )



Unit : mm

Handling Precautions

1. Do not touch the sensing surface with bare hands and ensure no contact with adhesives, solder, flux, oil, grease, organic solvents (alcohol, acetone trichloroethylene, thinners, etc...)and ionized material such as tap water.
2. Do not directly expose sensor to smoke from cigarettes, breath or steam.
3. Do not apply stress to the elements, as the ceramic substrate could crack and the sensor will not responds
4. Avoid to input DC voltage directly to humidity sensor.