

# Humidity Sensor HS30P

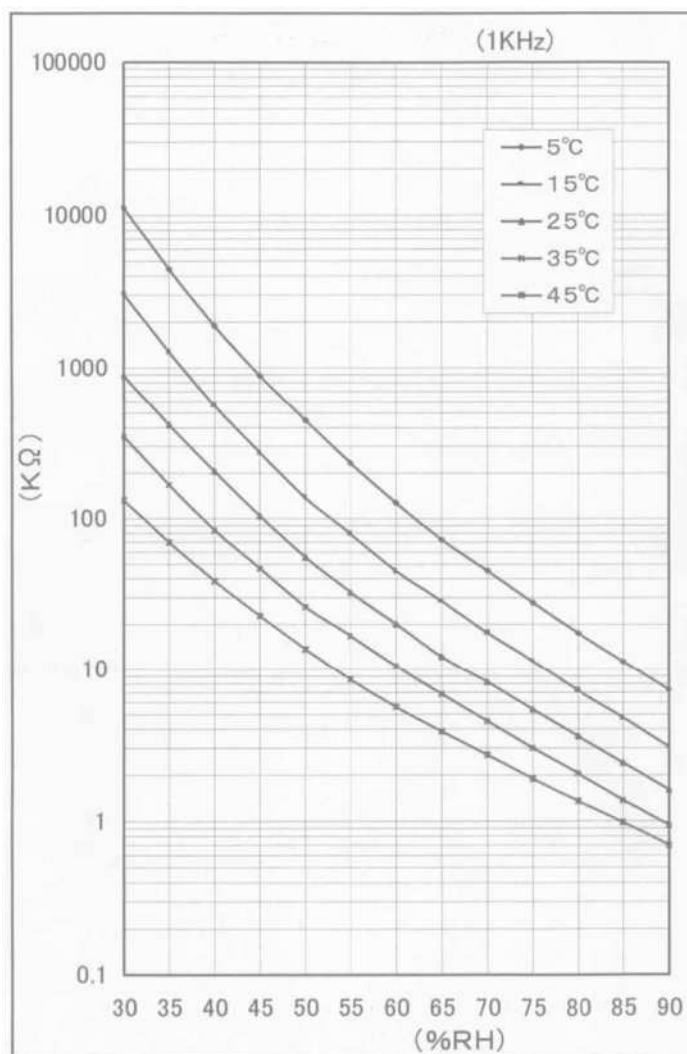


## Characteristics of Humidity Sensor

- Part name : Humidity sensor
- Type name : HS-30P
- Storage temperature : -20~70 °C
- Storage humidity : 20~90 %RH (Without condensation)
- Operating humidity range : 20~90 %RH (Do not let it have dewdrops)
- Operating temperature range : -20~60 °C
- Rated working voltage : AC 1 V (50Hz~1KHz)
- Rated power : 0.3 mW
- Nominal impedance value : 55 k $\Omega$  ( 25°C, 50%RH)
- Tolerance on impedance value : Min 32.3k $\Omega$  / Max 99.7 k $\Omega$
- Typical sensitive characteristics : shown in Figure 1
- Typical response characteristics : shown in Figure 2
- Dimensions : shown in Figure 3
- Reliability (Impedance value change as relative humidity at 25°C, 50%RH)
  - Dry heat storage : < $\pm$ 5 %RH ( 70°C, 1000 hr.)
  - Cold storage : < $\pm$ 5 %RH (-25°C, 1000 hr.)
  - Damp heat storage : < $\pm$ 5 %RH ( 60°C $\pm$ 5°C, 90~95%RH, 1000 hr.)
  - Heat cycle test : < $\pm$ 5 %RH (-25°C~70°C, 500 cycles)
  - Low humidity storage : < $\pm$ 5 %RH ( 25°C, 20 %RH, 1000 hr.)

# HS30P Humidity Sensor Specifications

Figure 1 : Typical Sensitive Characterists

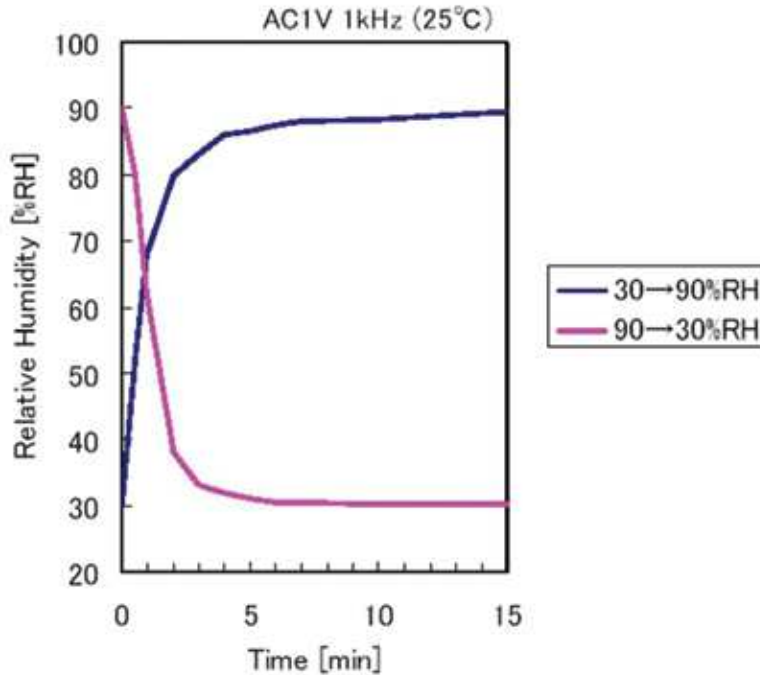


(Unit : Kohm)

| $\frac{\%RH}{^{\circ}C}$ | 30    | 40   | 50   | 60  | 70   | 80   | 90  |
|--------------------------|-------|------|------|-----|------|------|-----|
| 5                        | 11300 | 1980 | 460  | 138 | 48   | 17.8 | 4.5 |
| 15                       | 3380  | 620  | 155  | 51  | 19.5 | 8    | 3.4 |
| 25                       | 1020  | 215  | 62   | 22  | 8.6  | 3.6  | 1.6 |
| 35                       | 360   | 83   | 27   | 9.9 | 4.2  | 1.9  | 0.9 |
| 45                       | 150   | 36   | 12.9 | 5.2 | 2.3  | 1.1  | 0.5 |

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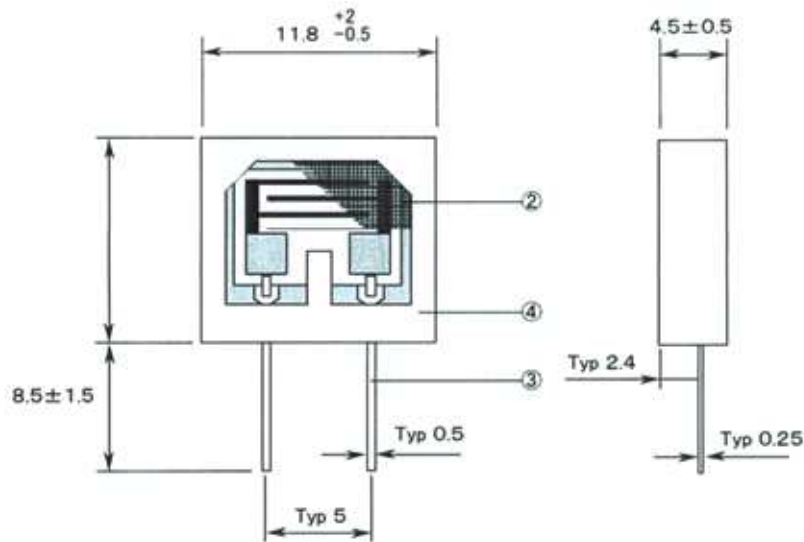
Figure 2 : Typical Response



## Recommended Handling Practices:

- Use only within specified conditions.
- Do not disassemble or change any parts.
- Do not touch sensor element.
- Do not apply any direct current to the sensor.
- Do not touch the film and the surface of the sensor.
- In use and stock, freezing, dust, mist, oil, alcohol, corrosive gases or any other dirty/anomalous ambient may cause degradation of the sensor's characteristics.
- Protect the sensor film from flux/fume and high temperature during the soldering.
- Do not put sensor in water.

Figure 3 : Dimensions (Unit : mm)



| No | Part Name       | Material                      |
|----|-----------------|-------------------------------|
| 1  | Humidity Sensor | HS-30P                        |
| 2  | Filter          | Mesh                          |
| 3  | Lead            | PBR                           |
| 4  | Case            | Polypropylene (Color : White) |

