Amphenol
Advanced Sensors

Product Data Sheet

Part Name	HS20	Part No.	HUF001U00-00A0	Rev.	00

SPECIFICATION
of Humidity SENSOR

Product Name: HS20

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1. SCOPE

This specifications applies to the Humidity Sensor HS20

2. CHARACTERISTICS OF HUMIDITY SENSOR

Parameter	LIMITS			UNIT	CONDITION
	MIN	TYP	MAX		
STORAGE TEMPERATURE	0		50	℃	
STORAGE HUMIDITY	20		90	%RH	Without condensation
OPERATING HUMIDITY RANGE	30		90	%RH	Do not let it have dewdrops
OPERATING TEMPERATURE RANGE	0		50	℃	
RATED POWER	0.3mW				50Hz ~ 1KHz
NOMINAL INPEDANCE VALUE		67.3		kΩ	25℃, 50%RH
TOLERANCE AN IMPENDANCE VLAUE	53.9		70.7	kΩ	
TYPICAL SENSITIVE CHARACTERISTICS	Shown in Fig.1				
TYPICAL RESPONSE CHARACTERISTICS	Shown in Fig.2				

3. RELIABILITY

Impedance value change as relative humidity at 25℃, 50%RH

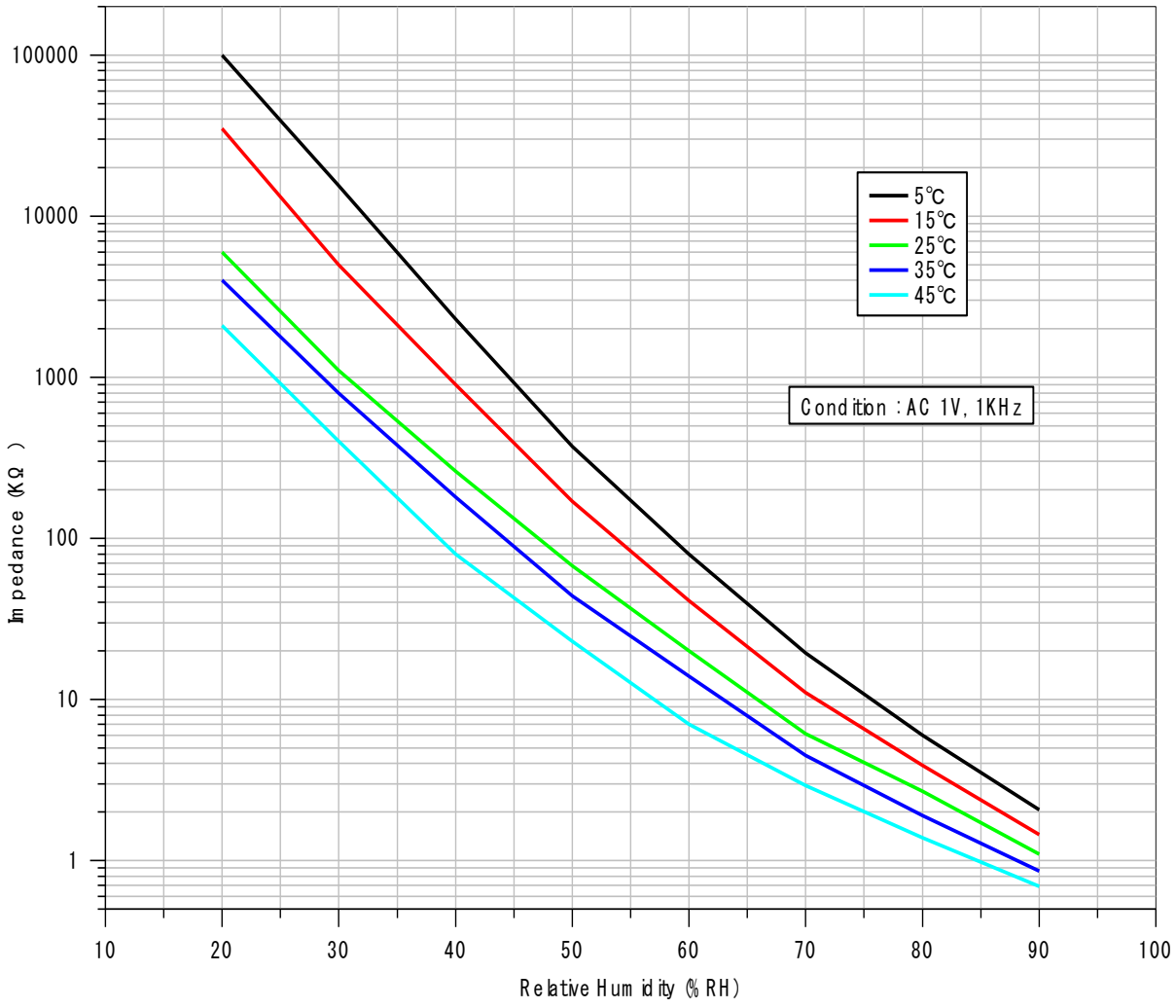
Parameter	CRITERIA	CONDITION
Dry heat storage	<±5 %RH	80℃, 1000 hours
Cold storage	<±5 %RH	-40 ℃, 1000 hours
Damp heat storage	<±5 %RH	60 ℃, 90 %RH, 1000 hours
Heat cycle test	<±5 %RH	-40℃/30min ~ +80℃/30min, 100 cycles
Low humidity storage	<±5 %RH	25 ℃, 20 %RH, 1000 hours
Dry heat operation	<±5 %RH	80 ℃, 1000 hours, AC 1V, 1KHz

4. TYPICAL CHARACTERISTIC

4.1 SENSITIVITY

%RH	5℃	15℃	25℃	35℃	45℃
20	100000.000	35000.000	6000.000	4000.000	2100.000
30	15500.000	5000.000	1100.000	800.000	400.000
40	2300.000	900.000	260.000	180.000	80.000
50	372.000	170.000	67.300	44.000	23.000
60	80.000	41.000	20.000	14.000	7.000
70	19.500	11.000	6.130	4.500	2.920
80	6.000	3.900	2.700	1.900	1.390
90	2.060	1.450	1.100	0.860	0.693

Fig. 1 Typical sensitive characteristics



4.2 TYPICAL RESPONSE

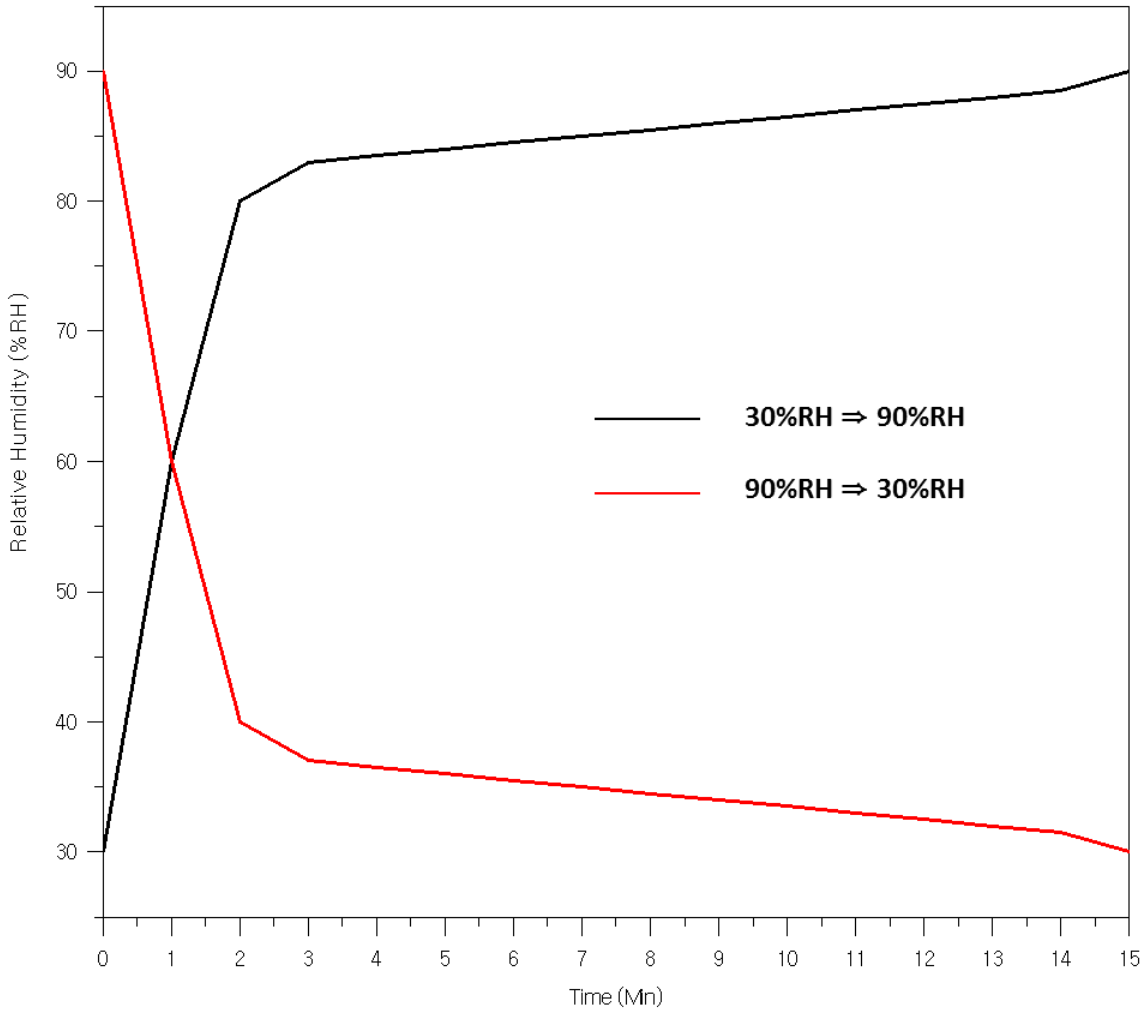


Fig. 2 Typical Humidity Response Curve

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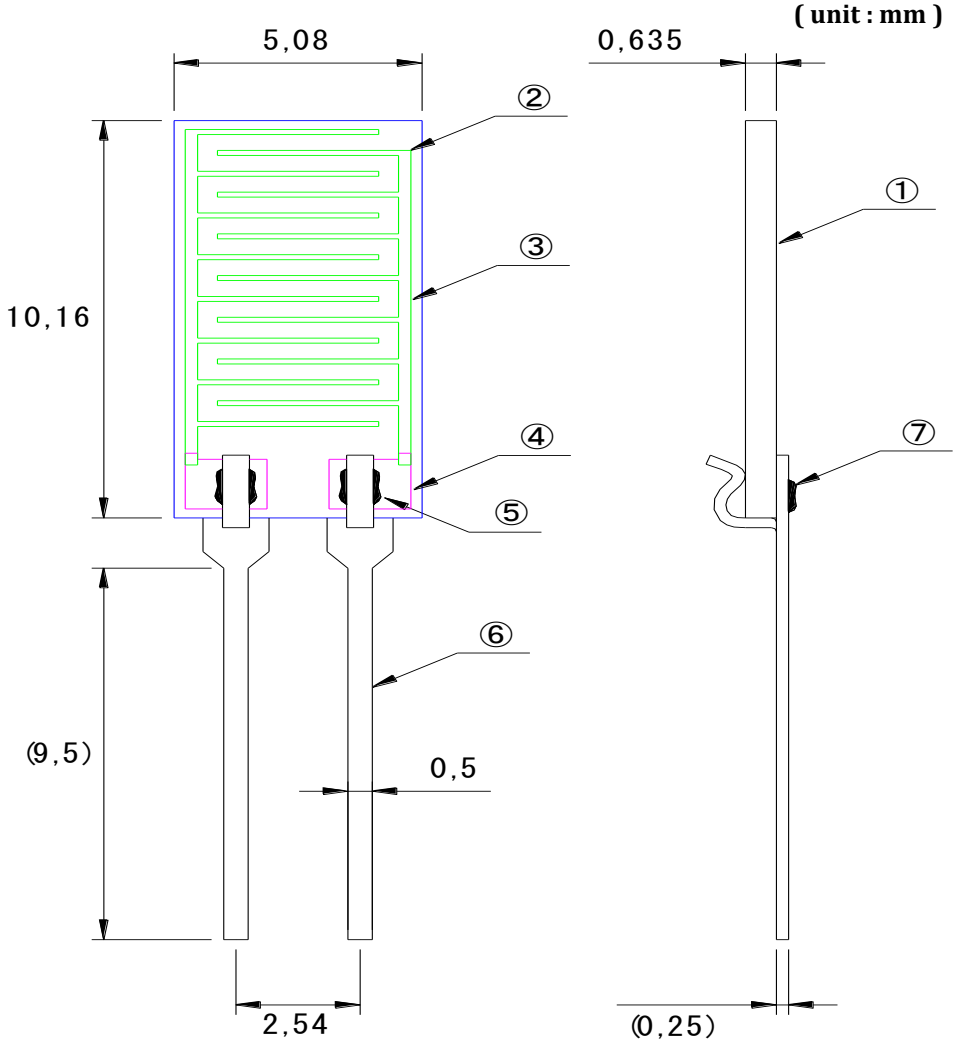
5. MECHANICAL DIMENSIOM

(unit : mm)



No.	Construction List	Material	Notes
1	Substrate	Alumina(Al_2O_3)	
2	Resistance	RuO_2	
3	Polymer Film	Organic Polymer	
4	Electrode	Pd-Ag	
5	Ag epoxy paste	Ag	
6	Terminal		
7	Epoxy Resin	Black	

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NOTES

1. Use only within specified conditions.
2. Don’t disassemble or change any parts.
3. Don’t touch sensor element.
4. Don't apply any direct current to the sensor.
5. Don't touch the film and the surface of the sensor.
6. 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.
7. Protect the sensor film from flux/fume and high temperature during the soldering.
8. Don’t put sensor in water.

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