

# MEGGITT SENSORS

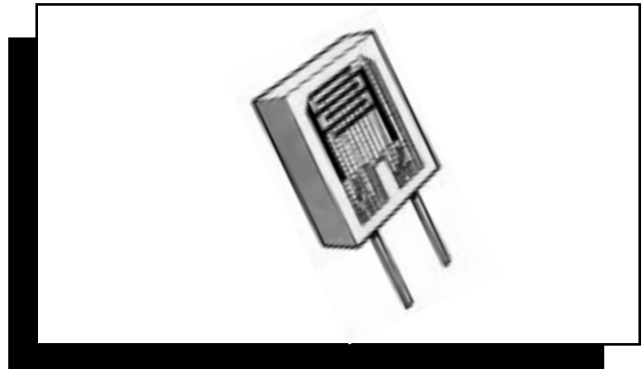
HUMIDITY, POSITION  
TEMPERATURE  
LIQUID LEVEL  
SURFACE MOUNT DEVICES  
WIRE LEADS, PC PINS

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## Humidity Sensor

TYPE HIS SERIES

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This is a high quality, highly responsive polymer film humidity sensor enclosed in a polypropylene moulded case with filter and with the option of pcb pins at 5 mm. centres or lead wires subject to consultation with our technical sales group. At ambient temperature the sensor resistance drops from  $10^6$  at 30% RH to  $10^3$  at 90% RH in approximately 1.5 minutes. Attractively priced, this is an excellent resistive sensor which is suited to a range wide of market applications.

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### MEGGITT SENSORS KEY FEATURES

- **HIGHLY RESPONSIVE**
- **HUMIDITY RANGE 20% RH - 90% RH**
- **SUITED TO AC POWER SUPPLY ONLY**
- **TEMPERATURE RANGE 0 - 50°C**
- **CUSTOM CONNECTORS POSSIBLE**
- **ROBUST CONSTRUCTION**
- **ATTRACTIVELY PRICED**
- **COMPLETE TEST DATA AVAILABLE**

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**M** MEGGITT  
ELECTRONIC  
COMPONENTS

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## ELECTRICAL

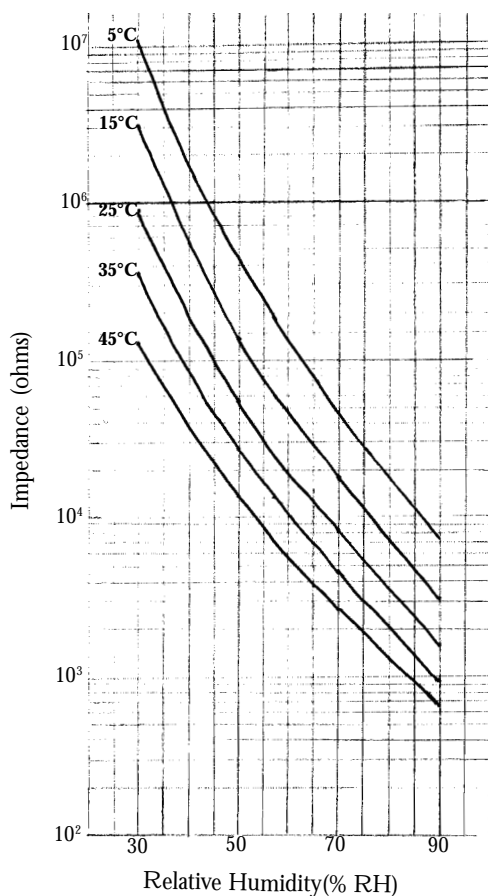
Rated Voltage:	1V AC sine wave (effective value) or square wave
Rated Wattage:	0.3 mW
Operating Temperature Range:	0 ~ 50°C
Operating Humidity Range:	20 ~ 90% RH
Operating Frequency:	50Hz ~ 1kHz
Humidity Response Characteristics:	See chart below
Resistance Value:	55K ohms (at 25°C, 50 ± 5% RH)

## ENVIRONMENTAL

Dry Heat (85°C, <30% RH):	ΔR<±1%, 1000 hours
Low Temperature (-40°C):	ΔR<±1%, 1000 hours
Moisture (40°C, 93% RH):	ΔR<±1%, 1000 hours
Low Humidity:	ΔR<±1%, 1000 hours
Temperature Cycling:	-40°C, (30 minutes) then 85°C (30 minutes), ΔR<±1%, 100 cycle, ±1% RH
High Temperature Load Life:	85°C, ≤30% RH, 1V AC, 1kHz, 1000 hours ± 2% RH
Moisture Load Life:	40°C, 90 ~ 95% RH, 0.5V AC, 1kHz, 1000 hours ± 5%

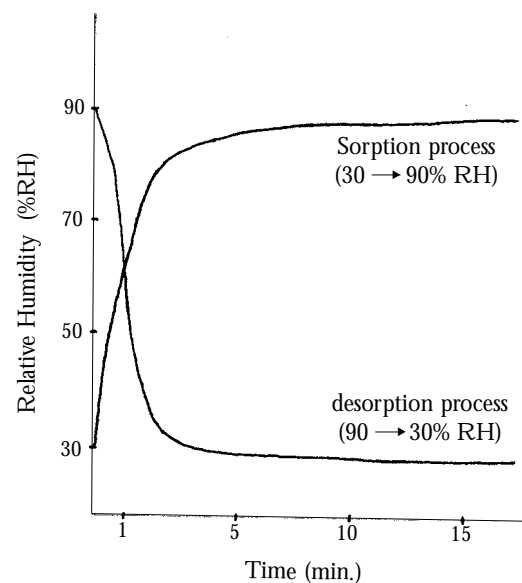
## RESPONSE CURVE

Resistance Against Humidity



## RESPONSE CURVE

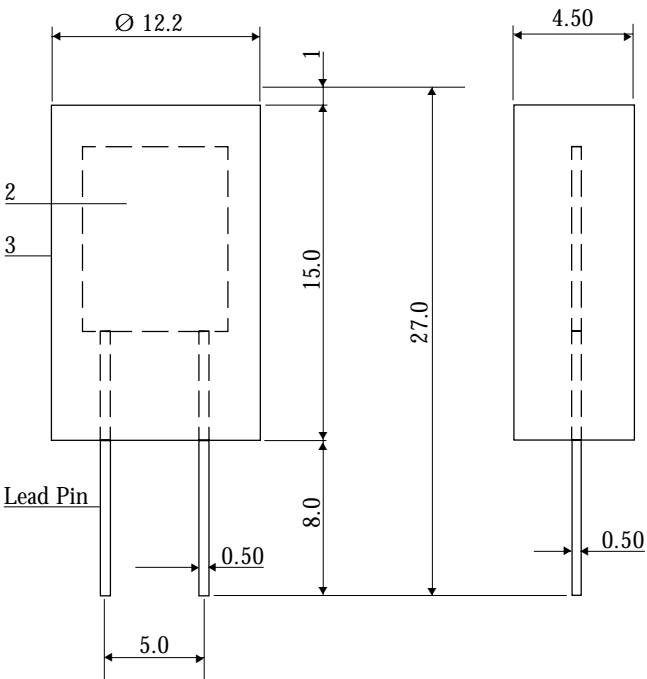
Time Against Humidity



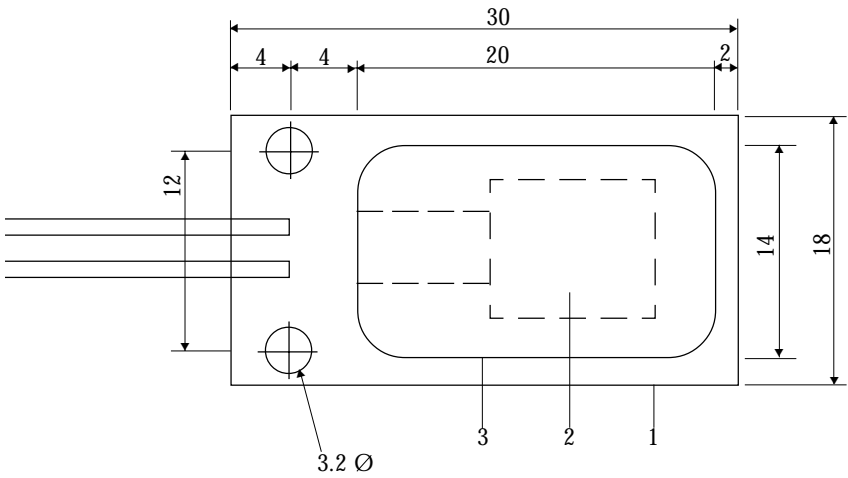
DIMENSIONS

HIS02E  
PCB PIN OUT TYPE

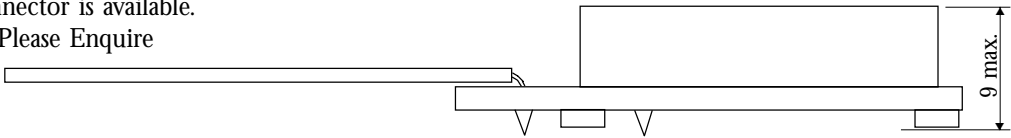
No.	Structure	Specification
1	PCB	Thickness: 1.6mm.
2	Humidity Sensor	HIS
3	Filter	Polypropylene



HIS02A  
WIRE LEAD TYPE



Connector is available.  
Please Enquire



All Dimensions are  
nominal and in mm.  
Unless otherwise shown.  
Do Not Scale.

**MECHANICAL TEST DATA****DROP TEST**

Humidity sensor is dropped on to a wooden surface from a height of 1 metre three times.  
No change in appearance or performance is allowed.

**LEAD STRENGTH TEST**

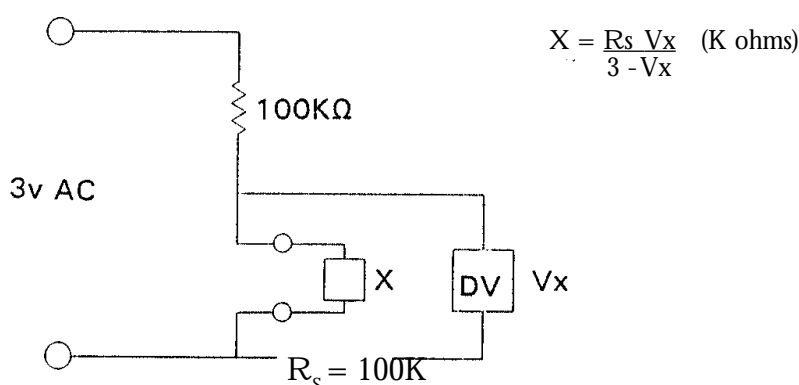
A load of 1kg is applied to each lead in the vertical plane against the surface of the sensor for  $10 \pm 1$  seconds.  
No change in appearance or performance is allowed.

**LEAD BEND STRENGTH**

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.

**USER NOTES**

1. Ensure that no water, alcohol, oil or finger salts make contact with the sensor element
2. Ensure A.C. power source only
3. Do not directly expose sensor to smoke from cigarettes, breath or excessive steam.

**RESISTANCE MEASURING CIRCUIT****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.

Humidity Sensors that come into contact with such materials may not respond.

2. When cleaning the humidity-sensing surface, do not use organic solvents, wipe the surface softly using cotton stick in which boiling steam has penetrated.
3. Do not directly expose sensor to smoke from cigarettes, breath or steam.
4. Do not apply stress to the element, as the ceramic substrate could crack and the sensor will not respond.

**HOW TO ORDER**

HIS	02	A
COMMON PART	ELEMENT REFERENCE	TERMINAL STYLE
HIS - Humidity Sensor	02 - See Response (Curve Drawn Opposite)	E - Pins at 5mm centres - No Mark A - Lead Wires



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