

錫麟企業有限公司 Sencera Co. Ltd.

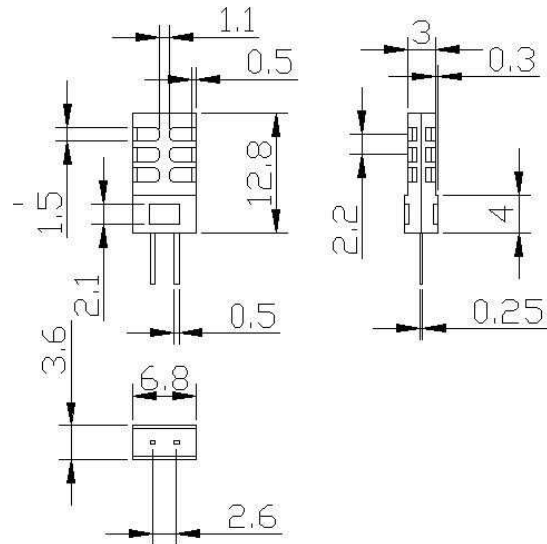
Tel:02-27046595 Fax:886-2-27041279 Email:justinel@ms14.hinet.net

9F-5, No. 26, Sec. 3, Jan-Ai Road, Taipei, Taiwan, ROC. <http://www.sensorelement.com>

H23K5A resistive humidity sensor specification

Applications

Humidity detecting.
Humidifier, dehumidifier
Hygrometer,
Humidity controller.

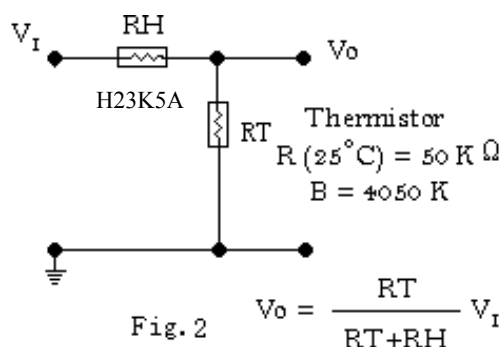


Electric characteristics

| | |
|-----------------------------------|---------------------------------------|
| Rated voltage | 1.4VAC Max. (<0.20mA Max.) |
| Operating temp. range | 0°C ~ +60°C |
| Recommended driving Freq. | 1 KHz |
| Operating humidity range | 10~ 95%RH |
| Storage temp. range (recommended) | 0°C ~ +70°C |
| Storage humidity range | 95% RH Max. |
| Standard resistance | 23KΩ at 25°C, 60% RH, 1KHz |
| Response time | Max. 60 seconds 30%RH~80%RH. |
| Accuracy | ±5%RH at 25°C, 60% RH |
| Hysteresis | 3%RH Max. (Between 30%RH to 80%RH) |

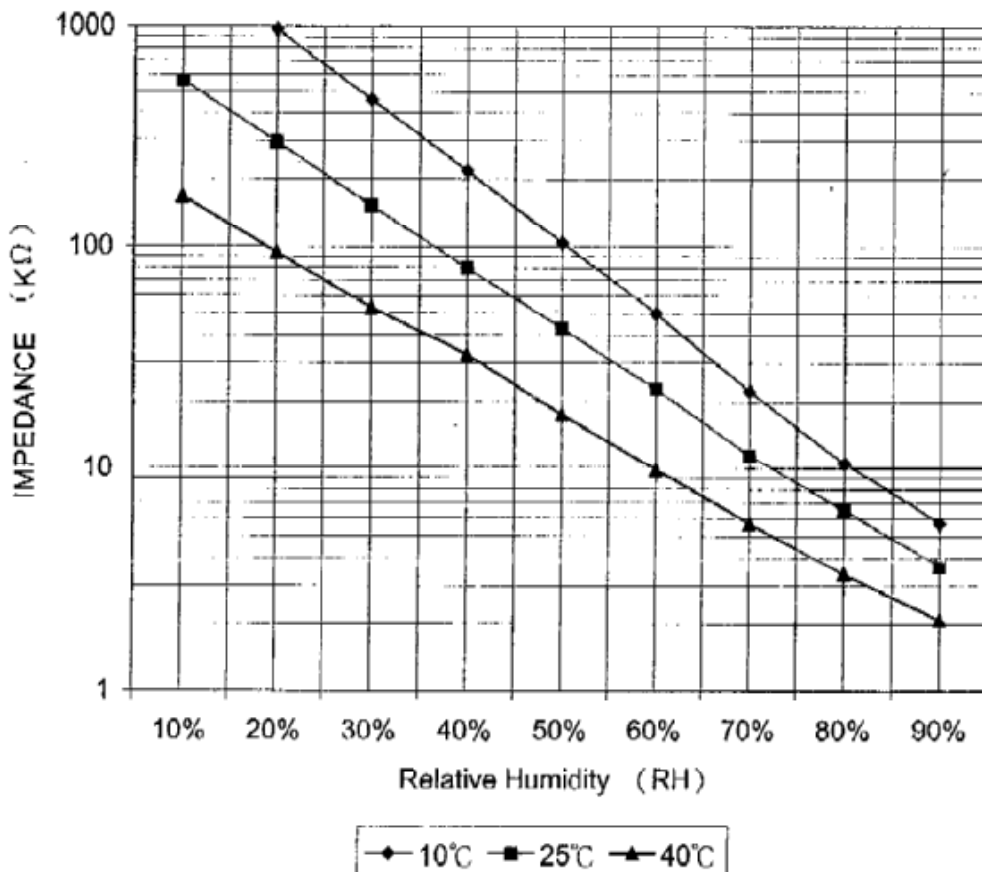
Soldering request: Not over 3 seconds in the solder tank of 260±5°C and can not immersed the Lead into the solder tank over 3mm.

Fig. 2: H23K5A Reference circuit



Sensor resistance table (unit:K Ω) At 1 KHz, 1VAC, Sine Wave

| | 5°C | 10°C | 15°C | 20°C | 25°C | 30°C | 35°C | 40°C |
|-------|------|------|------|------|------|------|------|------|
| 10%RH | | | | | 565 | 530 | 233 | 168 |
| 20%RH | | 970 | 596 | 440 | 294 | 256 | 130 | 94 |
| 30%RH | 850 | 460 | 305 | 223 | 153 | 122 | 73 | 53 |
| 40%RH | 368 | 218 | 157 | 113 | 80 | 57 | 43 | 33 |
| 50%RH | 160 | 104 | 81 | 58 | 43 | 29 | 22.2 | 17.5 |
| 60%RH | 70 | 50 | 39 | 30 | 23 | 16 | 13.1 | 9.8 |
| 70%RH | 31 | 22.5 | 17.2 | 14.8 | 11.4 | 9.0 | 7.2 | 5.7 |
| 80%RH | 14.2 | 10.5 | 8.9 | 7.7 | 6.5 | 5.2 | 4.3 | 3.4 |
| 90%RH | 7.2 | 5.7 | 5.1 | 4.5 | 3.7 | 3.3 | 2.7 | 2.1 |



Environment test data:

| Test items | Test condition | Test result |
|------------------------|---------------------------------|-----------------------|
| Cool test | 500 hours at -30 °C | Keep accuracy < ±5%RH |
| Heating test | 500 hours at +80 °C | Keep accuracy < ±5%RH |
| High humidity test | 500 hours at 40°C, 95%RH | Keep accuracy < ±5%RH |
| Humidity cycle test | 100 cycles, 30%~90%RH/30 mins. | Keep accuracy < ±5%RH |
| Temperature cycle test | 100 cycles,-30°C~+80°C/30 mins. | Keep accuracy < ±5%RH |