

818 Full range 0~100%RH humidity sensor

Applications

Measurement meter, control system
 Printer, Humidifier, De-humidifiers
 Air-conditioners, VCR, Camcorder
 Automobile, Defroster

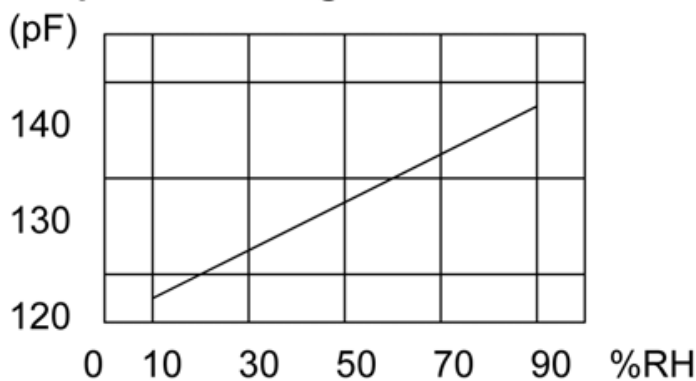
Features

Linear & quickly response
 Longtime reliability
 Low cost
 Capacitive type

Specifications

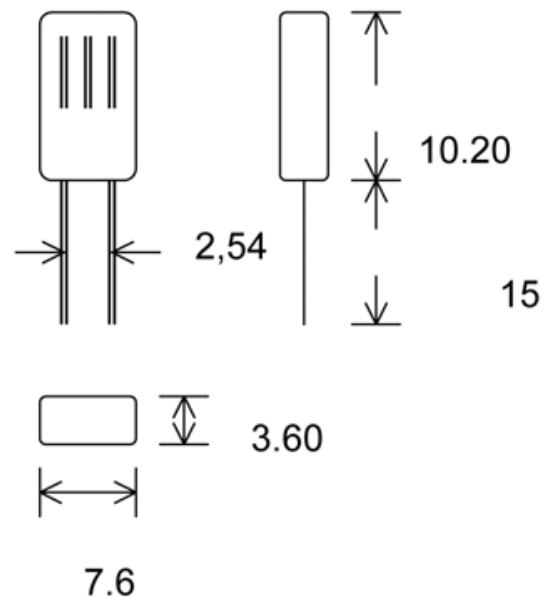
Operating range	0~100% RH
Operating voltage	< 12VDC
Operating frequency	1~200KHz
Typical capacitance	105pF±5% at 33%RH, 1KHz.
Capacitance change	2.4pf / 10 %RH
Hysteresis	< 2 %RH
Temperature dependence	-0.1pf / 10 °C
Linearity	± 1 %RH (10~90%RH)
Operating temperature range	- 40 °C ~ +60 °C
Storage condition	0~95 %RH, -20 ~ +50 °C

Response drawing

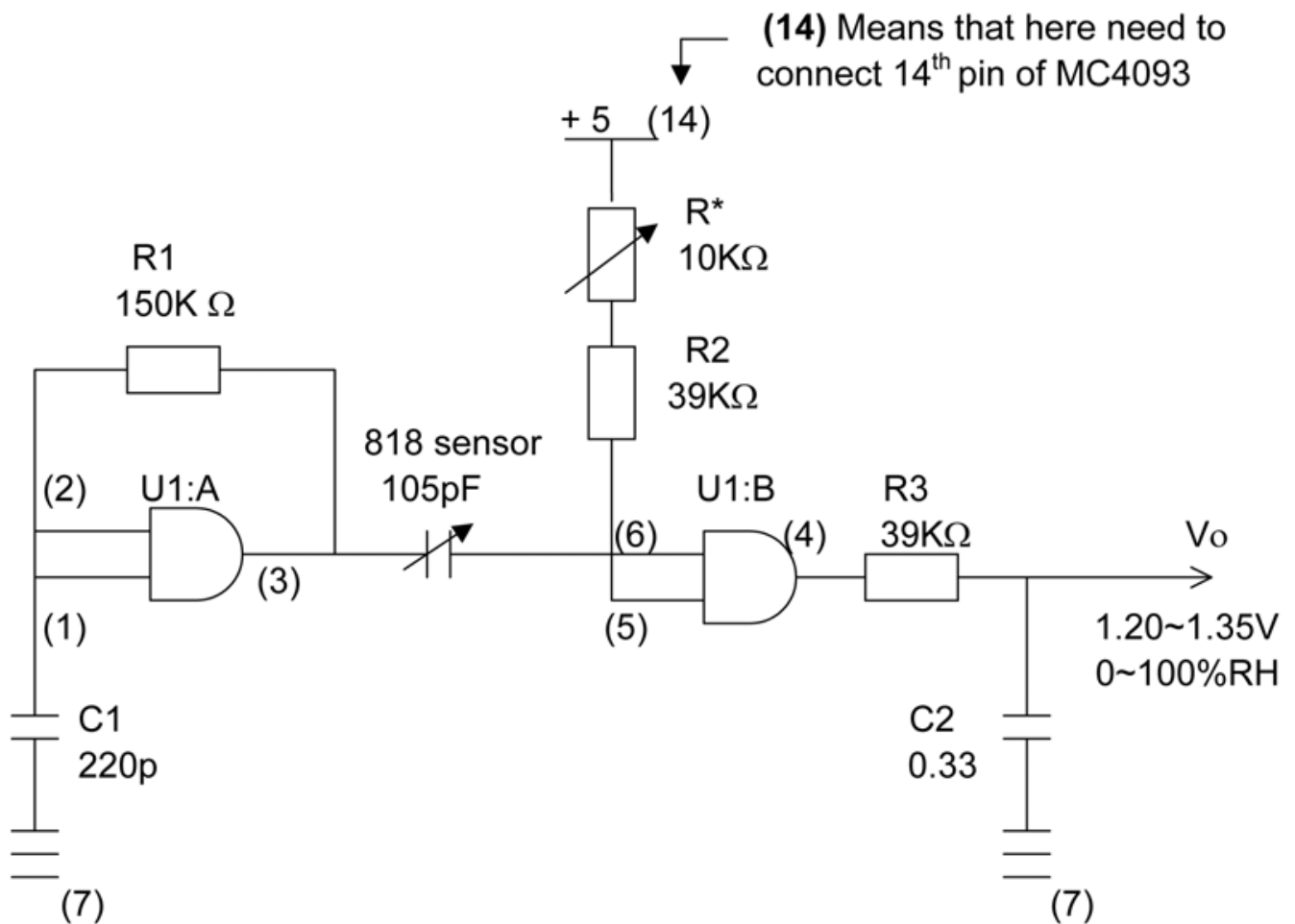


Dimensions

Unit: mm



Reference circuit



The circuit for 818 sensor with MC4093 IC

The mentioned circuit is typical 818 humidity sensor's RH measurement circuit. Base on the MC4093 schmitt trigger IC. R1, C1 and U1:A form a oscillator and variable pulse width generator consisting of R2, R*, 818 and U1:B. The pulse width of U1:B is controlled by the 808 humidity sensor linear's capacitance. From the circuit, the DC output signal (Vo) would be get from R3 and C2 filtering circuit. Vo will change from 1.20V to 1.35V linearity when relative humidity change from 0% RH to 100%RH.

We also mark how to connect the 4093 IC pin in the mentioned circuit as the mark of (No.).

The mentioned circuit can be connected with an amplifying circuit and temperature adjusting circuit in order to get the high accuracy measurement.