telecontrolli S.p.A.

Custom Hybrid Circuits, Thick Film Technology

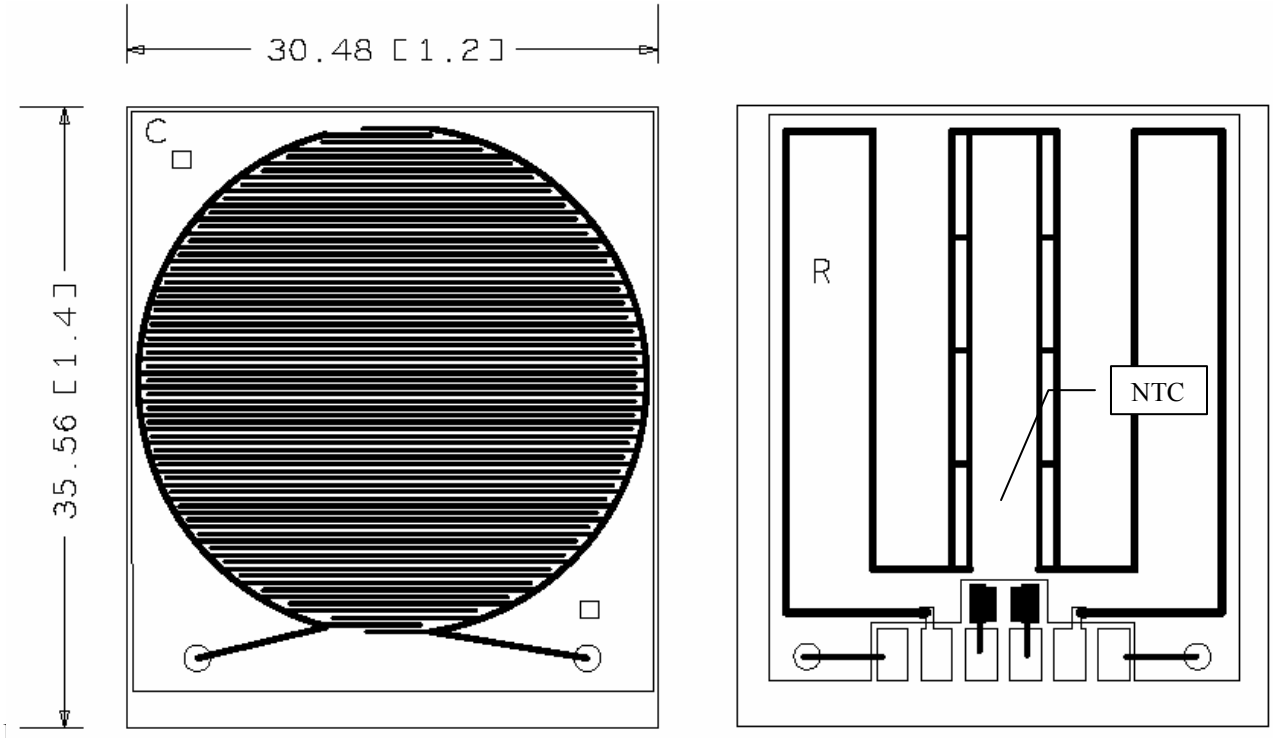
Standard Products: RF Systems, DC/DC Converters, Transformers

Rain Sensor

Telecontrolli, between the leaders in the thick film technology, has recently released a sensor able to find the presence of rain to the ground.
Such sensors, mostly used till now in meteorology and agriculture , are finding more and more employment in home and building automation (rolling windows, skylights, etc.)
Built on a ceramic substrate (Alumina), the sensor shows reliable mechanical and thermo/electrical characteristics.
The principle of operation has been based on the capacitive principle, by which rain drops accumulating on the sensor's surface change the electrical capacity of the sensor .
Using the built-in heater and temperature sensor , the user can avoid unwanted alarms due to the dew .
The employed technology guarantees high reliability due to the great stability of the support and to the surface's resistance to dissolvents and onerous operating conditions.

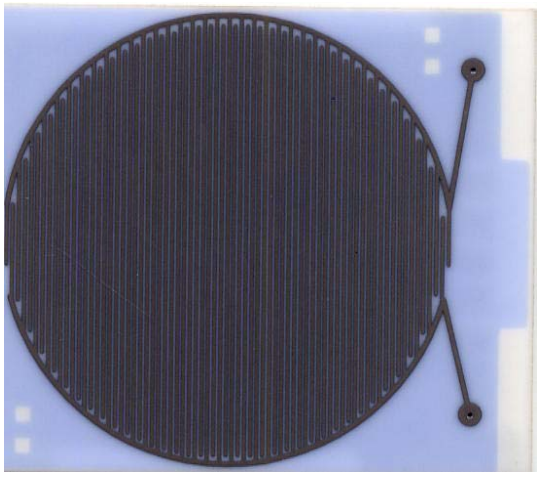
Principle of operation: Capacitive
Technology: Thick Film on Allumina (AL_2O_3)

Heater and NTC for temperature loop control
Typical Application: *Weather stations , Home & Building Automation , Monitoring and automation systems in agriculture*

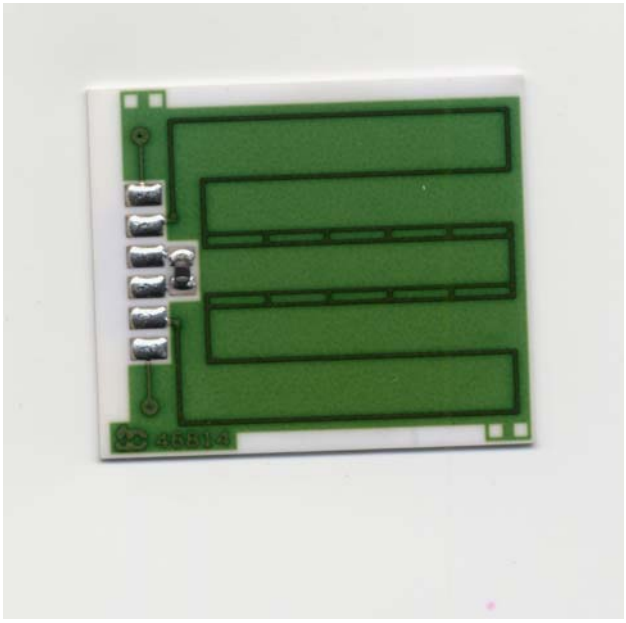


Capacity (nom.)**:** 100 pF 10%
Heater resistance: 42 ohm 10% (P_R = 3,5 Watt at V_{alim} = 12V , I = 292mA , T_f = 106°C)
NTC: 1 Kohm / 25°C

Physical dimensions can be changed according to custom specific mechanical constrain.



Rain sensor: Front side Capacitor



Rain sensor : Rear side Heater and temp.sensor