

Low power Low cost radiation sensors

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Pin Diode

- Low power
- Low cost
- Small size
- Plug & Sense
- Required measurement time 2 to 15 minutes
- Less sensitive

Pocket Geiger

Radiation Watch Type 5 from <http://www.radiation-watch.org/>



Specifications

Measuring range

0.05uSv/h ~ 10mSv/h (Cs-137)

0.01cpm ~ 300Kcpm

Alpha=53.032

Negative pulse. Alimentation 3-9Vdc

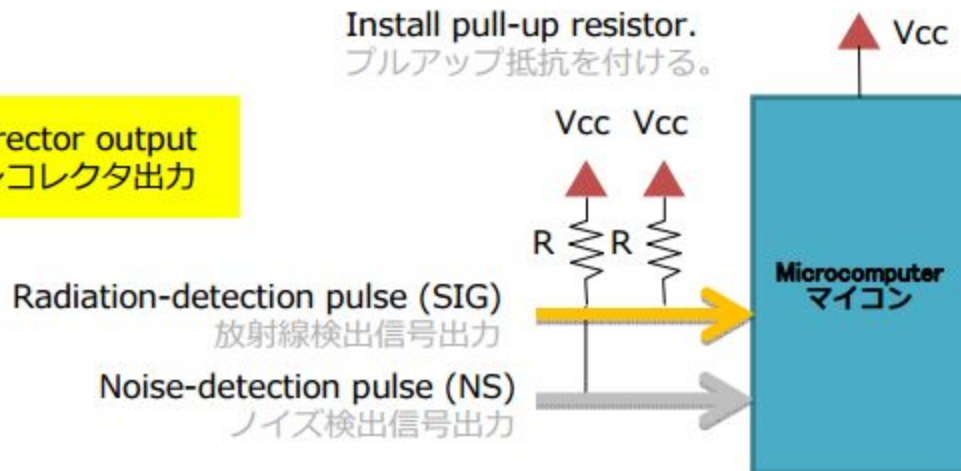
Sensor

FirstSensor AG (Germany) X100-7

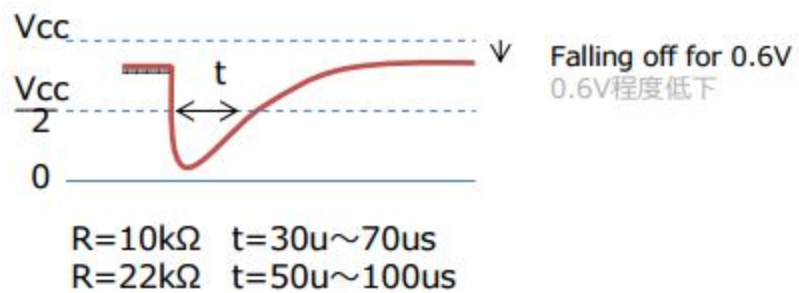
Prize= 70\$

Open collector output
オープンコレクタ出力

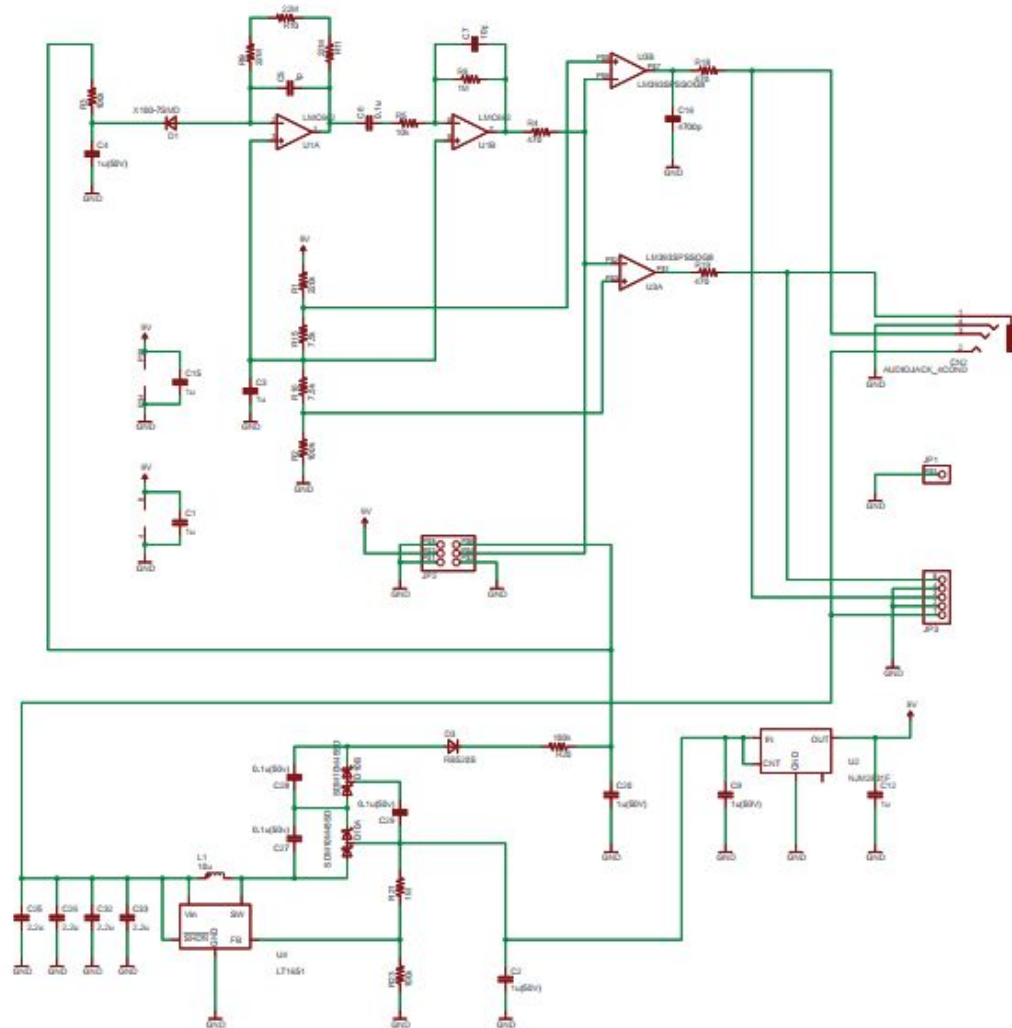
Install pull-up resistor.
プルアップ抵抗を付ける。



The detector outputs a negative (LOW) pulse when radiation has been detected at SIG. Pulse width t changes depending on pull-up resistor R , which should be $10\text{k}\Omega \sim 22\text{k}\Omega$. Additionally, maximum output voltage falls off because of an internal resistance, for about 0.6V .



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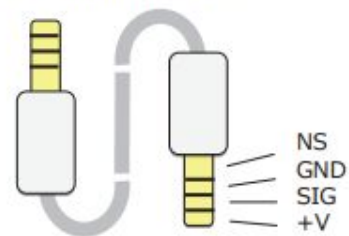


Pad interface



Plug interface

+V : DC 3V~9V
GND : GND
SIG : Radiation-detection pulse
GND : GND
NS : Noise-detection pulse



RD2014 from Teviso



Specifications RD2014

Beta and gamma X-ray detector

Low power requirement (3.0V to 5.0V; 400 μ A)

Detector sensitivity: 5.8 cpm/ μ Sv/h

High immunity to RF and electrostatic fields

Linear response over wide temperature range (-30°C to 50°C)

Swiss made

Measurement range 0.1 $\mu\text{Sv/h}$ to 100 mSv/h

Output pulse level Equal to supply voltage (positive going)

Output pulse width 40 μs to 150 μs

Price 122€

RD2014 Functional Block Diagram

