



Single-Lead, Heart Rate Monitor Front End

Data Sheet

AD8232

FEATURES

- Fully integrated single-lead ECG front end
- Low supply current: 170 μ A (typical)
- Common-mode rejection ratio: 80 dB (dc to 60 Hz)
- Two or three electrode configurations
- High signal gain ($G = 100$) with dc blocking capabilities
- 2-pole adjustable high-pass filter
- Accepts up to ± 300 mV of half cell potential
- Fast restore feature improves filter settling
- Uncommitted op amp
- 3-pole adjustable low-pass filter with adjustable gain
- Leads off detection: ac or dc options
- Integrated right leg drive (RLD) amplifier
- Single-supply operation: 2.0 V to 3.5 V
- Integrated reference buffer generates virtual ground
- Rail-to-rail output
- Internal RFI filter
- 8 kV HBM ESD rating
- Shutdown pin
- 20-lead, 4 mm \times 4 mm LFCSP and LFCSP_SS package
- Qualified for automotive applications

APPLICATIONS

- Fitness and activity heart rate monitors
- Portable ECG
- Remote health monitors
- Gaming peripherals
- Biopotential signal acquisition

FUNCTIONAL BLOCK DIAGRAM

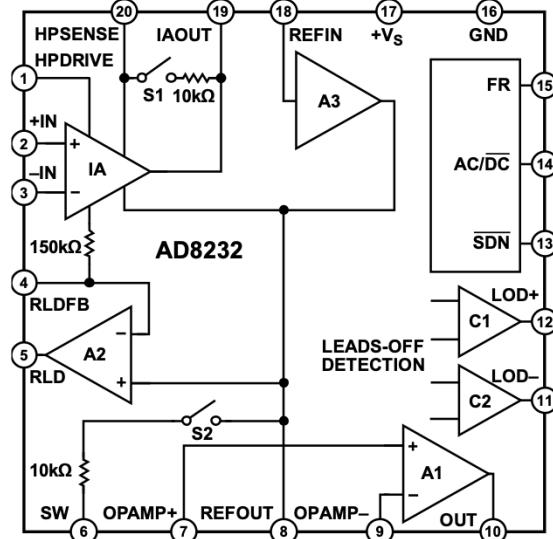
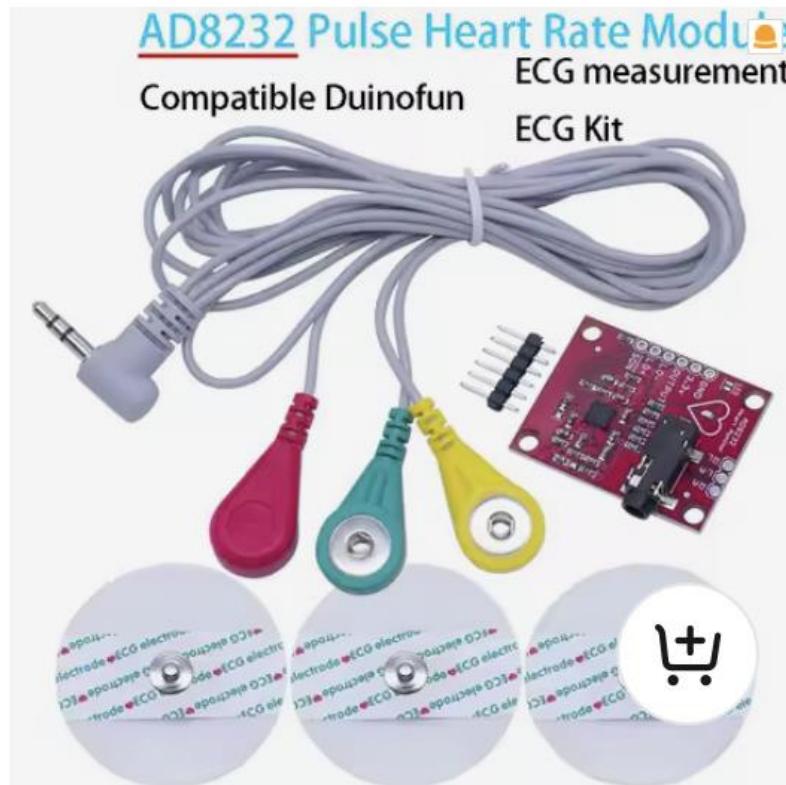


Figure 1.

<https://www.analog.com/en/products/ad8232.html>



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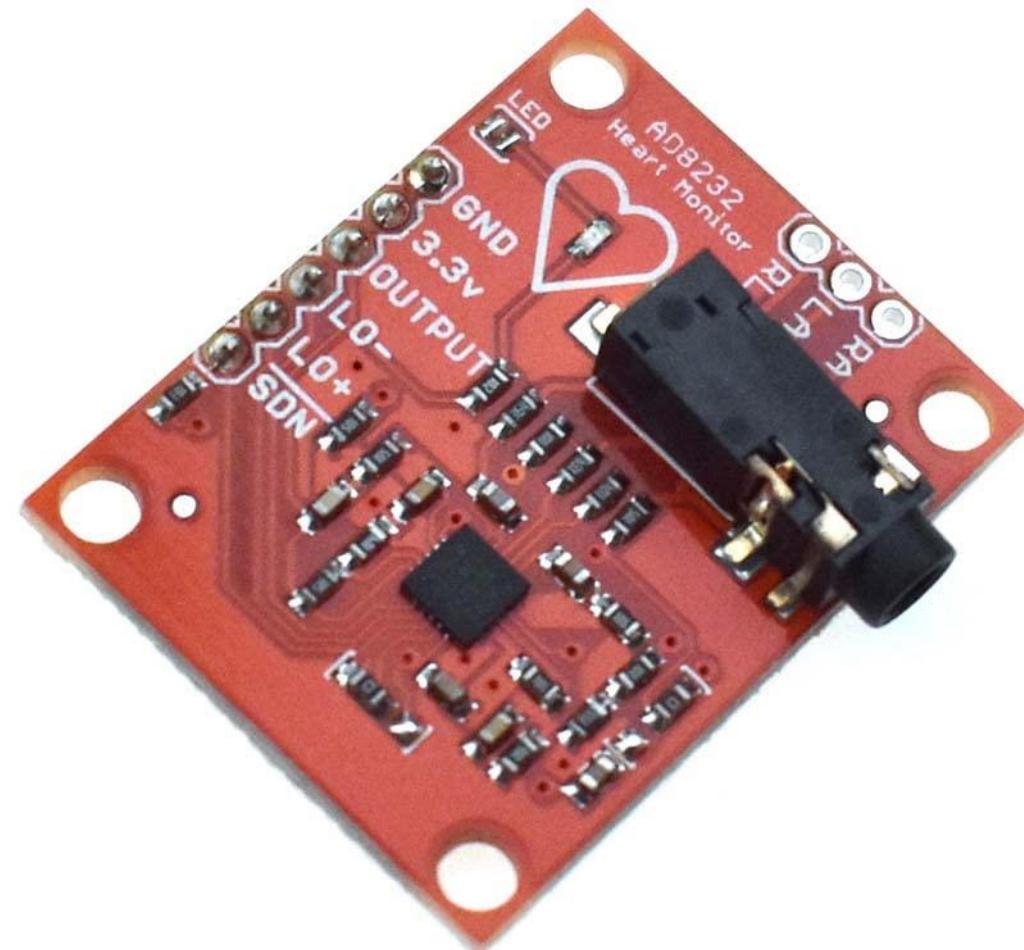


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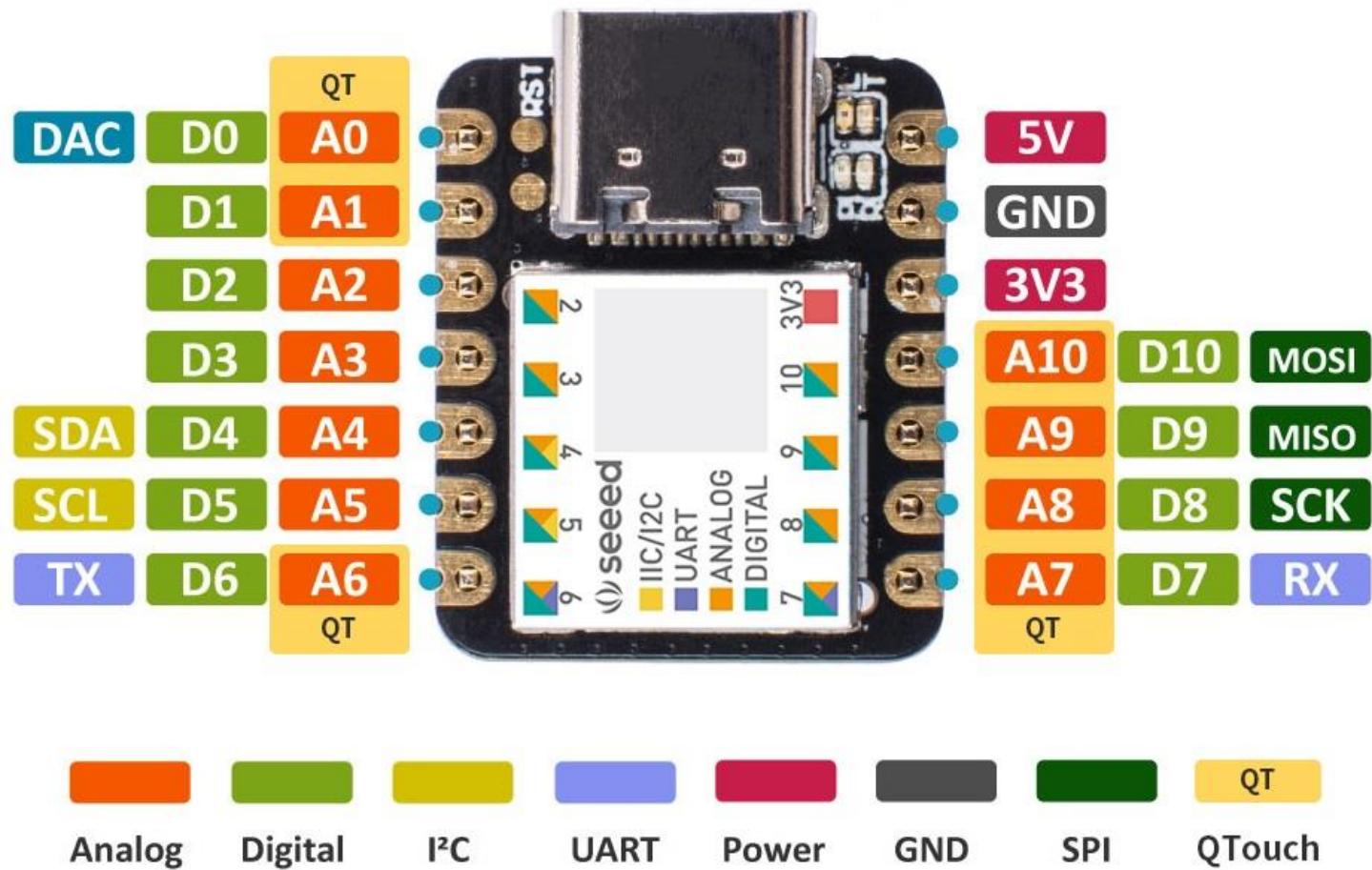
-2€ en 10€

Ahorra 0,05€

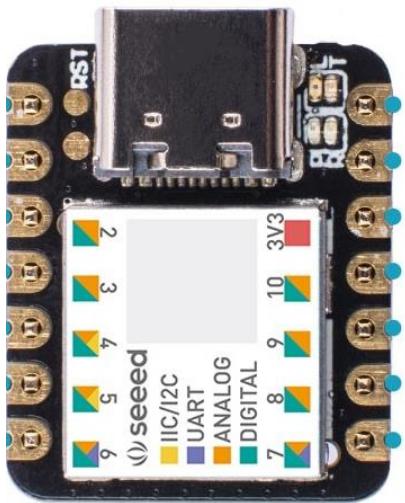
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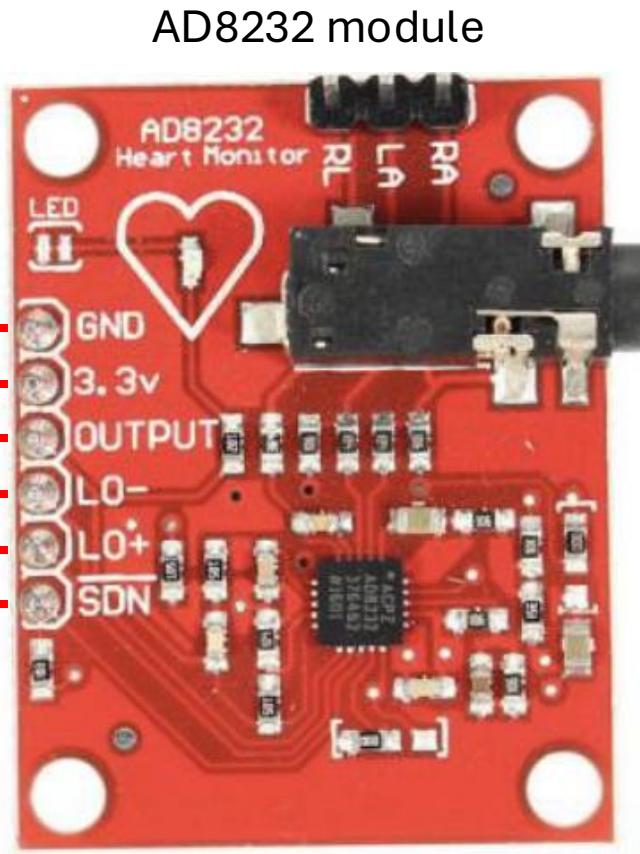
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Seeed XIAO MCU

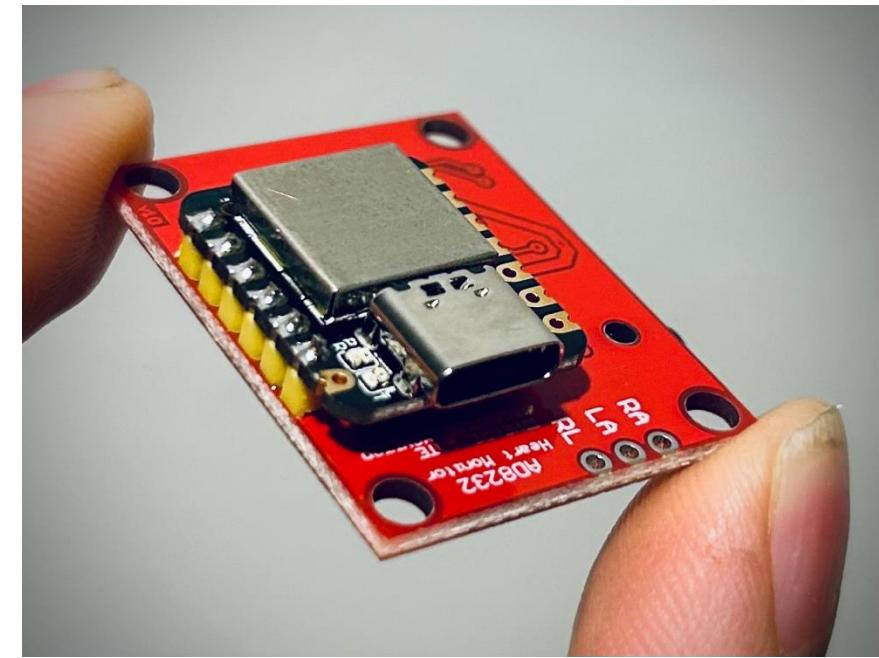


0.1"
header



Simple hookup, could not be simpler!

Solder in place, then connect USB to PC



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```
1 #define L0plus 8
2 #define L0minus 9
3 uint16_t val = 0;                                MCU code in Arduino
4
5 void setup() {
6     Serial.begin(19200);
7     pinMode(L0plus, INPUT); // Setup for leads off detection L0 +
8     pinMode(L0minus, INPUT); // Setup for leads off detection L0 -
9     analogReadResolution(12);
10    delay(100);
11 }
12
13 void loop() {
14
15     if((digitalRead(L0plus) == 1)|| (digitalRead(L0minus) == 1)){Serial.println(0);}
16     else{
17         val = 0;
18         val += analogRead(A10);
19         val += analogRead(A10);
20         val += analogRead(A10);
21         val += analogRead(A10);
22         val = val>>2;
23
24         Serial.print("1000,4000,");  Serial.println(val);}
25         delay(15);
26 }
```



After uploading the MCU code, connect electrodes to ECG subject and open Arduino serial plotter

