Raspberry Pi High-Precision AD/DA Board

SKU 114990831

There's no AD/DA function on the Raspberry Pi GPIO interface, this may trouble you in the Pi development. However, it won't be a problem anymore. The High-Precision AD/DA Board allows you to add high-precision AD/DA functions to the Raspberry Pi.
Description

What is Raspberry Pi High-Precision AD/DA Board

There's no AD/DA function on the Raspberry Pi GPIO interface, this may trouble you in the Pi development. However, it won't be a problem anymore. The High-Precision AD/DA Board allows you to add high-precision AD/DA functions to the Raspberry Pi.

Support Raspberry Pi

Raspberry Pi 1 Model A+
Raspberry Pi 1 Model B+
Raspberry Pi 2 Model B
Raspberry Pi 3 Model B

Key Features

- Onboard ADS1256, 8ch 24bit high-precision ADC (4ch differential input), 30ksps sampling rate
- Onboard DAC8532, 2ch 16bit high-precision DAC
- Onboard input interface via pinheaders, for connecting analog signal, the pinout is compatible with Waveshare sensor interface standard, easy to connect various analog sensor modules
- Onboard input/output interface via screw terminals, for connecting analog/digital signal
- Features AD/DA detect circuit, easy for signal demonstration

What’s On Board
1. **Raspberry Pi GPIO interface:** for connecting with the Pi

2. **AD/DA input/output:** screw terminals

3. **AD input:** pinheaders, the pinout is compatible with Waveshare sensor interface standard, easy to connect various analog sensor modules

4. **7.68M crystal**

5. **LM285-2.5:** provides reference voltage for the ADC chip

6. **Photo resistor**

7. **LED output indicator**

8. **10K potentiometer**
9. **DAC8532**: 16bit high-precision DAC, 2ch

10. **Power indicator**

11. **ADS1256**: 24bit high-precision ADC, 8ch (4ch differential input)

12. **ADC testing jumper**

13. **DAC testing jumper**

14. **Power selection jumper**

15. **ADC reference ground configuration**: when AD single inputted, the AINCOM is reference terminal, can be connected to GND or external reference voltage

### Interface Definition

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Pin</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.3V</td>
<td>1, 17</td>
<td>Power supply (3.3V)</td>
</tr>
<tr>
<td>5V</td>
<td>2, 4</td>
<td>Power supply (5V)</td>
</tr>
<tr>
<td>NC</td>
<td>3, 5, 7, 8, 10, 18, 22, 24, 26, 27, 28, 29, 32, 36, 38, 40</td>
<td>NC</td>
</tr>
<tr>
<td>GND</td>
<td>6, 9, 14, 20, 25, 30, 34, 39</td>
<td>Ground</td>
</tr>
<tr>
<td>DRDY</td>
<td>11</td>
<td>ADS1256 data ready output, low active</td>
</tr>
<tr>
<td>RESET</td>
<td>12</td>
<td>ADS1256 reset input</td>
</tr>
<tr>
<td>PDWN</td>
<td>13</td>
<td>ADS1256 sync/power off input, low active</td>
</tr>
<tr>
<td>CS0</td>
<td>15</td>
<td>ADS1256 chip select, low active</td>
</tr>
<tr>
<td>CS1</td>
<td>16</td>
<td>DAC8532 chip select, low active</td>
</tr>
<tr>
<td>DIN</td>
<td>19</td>
<td>SPI data input</td>
</tr>
<tr>
<td>DOUT</td>
<td>21</td>
<td>SPI data output</td>
</tr>
<tr>
<td>SCK</td>
<td>23</td>
<td>SPI clock</td>
</tr>
<tr>
<td>GPIO</td>
<td>31, 33, 35, 37</td>
<td>extend to sensor interface</td>
</tr>
</tbody>
</table>
Raspberry Pi High-Precision AD/DA Board

Dimensions

High-Precision AD-DA Board

Part List

Raspberry Pi High-Precision AD/DA Board * 1

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