

The schematic diagram illustrates the SD card interface circuit. It features two 74HC4066 quad bilateral switches, U5 and U2, which are used to route signals between the SD card pins and the microcontroller. The switches are controlled by the microcontroller's SDIO pins. The SD card pins are connected to the switches, and the switches are connected to the microcontroller pins. The switches are also connected to VCC and GND. Capacitors C8 and C11 are connected to VCC and GND.

U5: 74HC4066_QUAD_BILATERAL_SWITCH_QFN

- VCC (Pin 14) to VCC
- GND (Pin 7*2) to GND
- SD_D1 (Pin 1) to MICROSD_D1 (Pin 2)
- SD_CMD (Pin 4) to MICROSD_CMD/SDI (Pin 3)
- SD_CLK (Pin 5) to MICROSD_CLK/SCK (Pin 9)
- SD_D0 (Pin 11) to MICROSD_D0/SDO (Pin 10)
- SDIO_EN (Pin 12) to GND

U2: 74HC4066_QUAD_BILATERAL_SWITCH_QFN

- VCC (Pin 14) to VCC
- GND (Pin 7*2) to GND
- SD_D3 (Pin 1) to MICROSD_D3/CS (Pin 2)
- SD_D2 (Pin 4) to MICROSD_D2 (Pin 3)
- SDIO_EN (Pin 12) to GND

Capacitors:

- C8: 0.1uF, connected to VCC and GND
- C11: 0.1uF, connected to VCC and GND

Pinout diagram of the J4 connector for the THING_PLUS module. The diagram shows a 28-pin connector with pins 1-12 on the left and 13-28 on the right. Pins 1-12 are labeled: 1 SDA, 2 SCL, 3 GP106, 4 GP105, 5 GP104, 6 GP103, 7 GP102, 8 GP101, 9 GP100, 10 VUSB, 11 EN, 12 VBAT. Pins 13-28 are labeled: 13 FREE, 14 TX, 15 RX, 16 POC1, 17 PICO, 18 SCLK, 19 SCK, 20 A5, 21 A4, 22 A3, 23 A2, 24 A1, 25 A0, 26 GND, 27 NC, 28 3V3. The diagram also shows connections for RXD0, TXD0, JP1, JP2, JP3, CS, 3.3V, C10 (2.2uF), and GND.

The circuit diagrams show the output stage of the 741 op-amp. The left version uses a 10k resistor (R21) and a 10k resistor (R22). The right version uses a 10k resistor (R23) and a 4.7k resistor (R24). Both versions include a differential input stage (Q5G\$1, Q5G\$2), a current source (Q4, Q6), and a load capacitor (C1, C2, C18).

AP2112K-3.3V

I_{out} (max): 600mA
 V_{in} (max): 6.5V
 V_{drop} (max): 250mV
 I_q: 55uA



Design by: Paul Clark

REV:
v10

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