

Power

The diagram illustrates the power supply circuit for the LM7805 MAA module. A barrel jack (J1) provides a +9V input, which is protected by a 150mA fuse (F1). The input of the LM7805 MAA module (U1) is connected to this +9V line. The module's ground is connected to the common ground (GND). The module's output is connected to a +5V line, which is then connected to a 0.1uF capacitor (C2) and GND.

Speaker

The diagram illustrates a push-pull audio amplifier circuit. The input signal, V_{in} , is connected through a resistor $R4$ (100 Ω) to a bridge rectifier consisting of two 1N4148 diodes ($D1$ and $D2$). The bridge is biased by a +5V supply through a resistor $R2$ (220 Ω) to the positive terminal of $D1$ and to ground through a resistor $R3$ (220 Ω) from the negative terminal of $D2$. The output of the bridge is connected to the bases of two 2N3904 NPN transistors, $Q1$ and $Q2$. The emitter of $Q1$ is connected to +5V, and the emitter of $Q2$ is connected to ground. The collectors of $Q1$ and $Q2$ are connected together and to one terminal of a 10 μF coupling capacitor $C3$. The other terminal of $C3$ is connected to the positive terminal of an LS1 Speaker. The negative terminal of the speaker is connected to ground.

The diagram shows the Curiosity Nano_MAA1 module connected to an MCU. The module's pins are labeled as follows:

- Pins 1-14:** NC, ID, CDC_RX, CDC_TX, DBG0, DBG1, DBG2, RC2, RC3, RB2, RB1, RC4, RC5, RC6, RD4.
- Pins 15-28:** GND, RA3, RA4, RE2, RC7, RD0, RD1, RD2, RD3, GND, RF0, RF1, RF2, RF3.
- Pins 29-42:** VBUS, VDDF, DBG3, DBG0, GND, VTG, RA7, RA6, RA5, RB3, RB0, RA2, RA1, RA0, GND, RD7, RD6, RD5, RB5, RF7, RF6, RF5, RF4, GND, RE1, RE0, RC1, RC0.

The circuit includes the following components and connections:

- A +5V power source connected to pin RA7 (pin 50) through a 0.1µF capacitor (C5).
- An LED (D3) connected between pin RA1 (pin 45) and ground through a 220Ω resistor (R5).
- A push button switch (SW1, SW_Push) connected between pin RA0 (pin 33) and ground through a 10KΩ pull-down resistor (R6).
- A voltage divider network consisting of two resistors (one labeled R5, one unlabeled) connected between pin RA0 (pin 33) and ground, with the midpoint connected to pin RD5 (pin 39). Pin RD5 is also labeled V_in.
- Ground connections are provided for pins 15, 16, 23, 24, 29, 30, 31, 32, 38, 39, 40, 41, 42, 43, 44, 46, 47, 48, 49, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100.

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