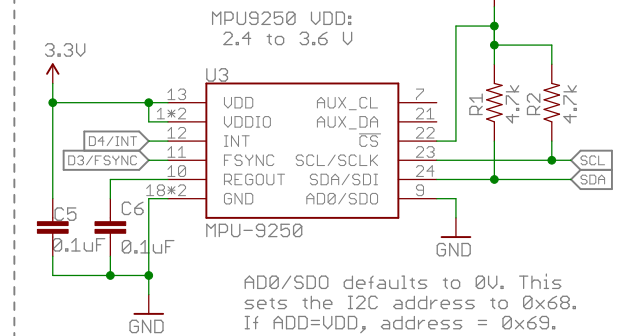
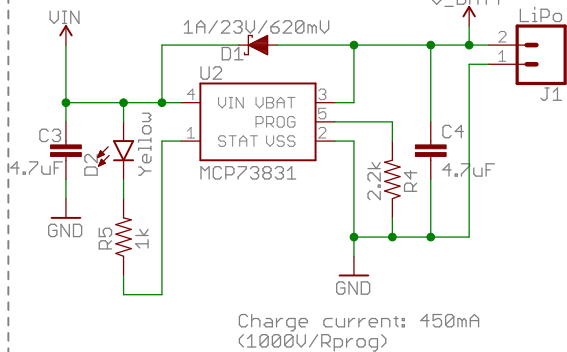


VIN Range: 3.5-6.0V



Iout (max): 600mA
Vin (max): 6.5V
Vdrop (max): 250mV
Iq: 55uA

JP1 can be opened to disable the power LED indicator.



AD0/SD0 defaults to 0V. This sets the I2C address to 0x68. If ADD=VDD, address = 0x69.

The schematic diagram illustrates the internal components and connections of the SparkFun Pro Mini - ATSAM D21G18 board. The central component is the ATSAM21G18 microcontroller, which is configured with various pins and peripherals. Key components include:

- Power Regulation:** A 3.3V regulator (U1) provides power to the board. Decoupling capacitors (C8, C9, C11) are used to stabilize the power supply.
- Reset:** A reset button (R1) is connected to the RESET pin (40) of the microcontroller.
- Oscillator:** A 32.768kHz crystal oscillator (Y1) is connected to pins 2 and 3 of the microcontroller.
- USB-to-UART Bridge:** A CH340 (U2) is connected to the microcontroller's UART pins (PA0, PA1, PA2, PA3) and a USB connector (JP3).
- JTAG Debugger:** A Cortex-DebugPth (U3) is connected to the microcontroller's JTAG pins (PA10, PA11, PA12, PA13, PA14, PA15, PA16, PA17, PA18, PA19, PA20, PA21, PA22, PA23, PA24, PA25, PA27, PA28, PA30, PA31).
- Other Components:** A 1kΩ pull-up resistor (R9) is connected to the D4 pin (39) of the microcontroller. A 0.1μF capacitor (C7) is connected to the VDDIO pin (36).

The ATSAM21G18 microcontroller is configured with the following pin connections:

- RESET:** 40
- VDDIN:** 44
- VDDCORE:** 43
- VDDANA:** 6
- PA00(XIN32/SER1:0/TC2:0):** 2
- PA01(XOUT32/SER1:1/TC2:1):** 3
- PA02(AIN0/DAC):** 4
- PA03(AIN1/REFA):** 9
- PA04(AIN4/REFB/SER0:0/TC0:0):** 10
- PA05(AIN5/SER0:1/TC0:1):** 11
- PA06(AIN6/SER0:2/TC1:0):** 12
- PA07(AIN7/SER0:3/TC1:1):** 17
- PB02(AIN10/SER5:0):** 48
- PB03(AIN11/SER5:1):** 7
- PB08(AIN2/SER4:0/TC4:0):** 8
- PB09(AIN3/SER4:1/TC4:1):** 5
- GNDANA:** 18
- GND:** 35, 42
- SWDIO/TMS:** 2
- SWDCLK/TCK:** 4
- SWO/TDO:** 6
- NC/TDI:** 8
- NRESET:** 10
- SWDIO:** 4
- SWCLK:** 6
- SWO/TDO:** 8
- NC/TDI:** 10
- NRESET:** 10
- SWDIO:** 19
- SWDCLK:** 20
- SWO/TDO:** 37
- NC/TDI:** 38
- NRESET:** 39
- SWDIO:** 40
- SWCLK:** 41
- SWO/TDO:** 42
- NC/TDI:** 43
- NRESET:** 44
- SWDIO:** 45
- SWCLK:** 46
- SWO/TDO:** 47
- NC/TDI:** 48
- NRESET:** 49
- SWDIO:** 50
- SWCLK:** 51
- SWO/TDO:** 52
- NC/TDI:** 53
- NRESET:** 54
- SWDIO:** 55
- SWCLK:** 56
- SWO/TDO:** 57
- NC/TDI:** 58
- NRESET:** 59
- SWDIO:** 60
- SWCLK:** 61
- SWO/TDO:** 62
- NC/TDI:** 63
- NRESET:** 64
- SWDIO:** 65
- SWCLK:** 66
- SWO/TDO:** 67
- NC/TDI:** 68
- NRESET:** 69
- SWDIO:** 70
- SWCLK:** 71
- SWO/TDO:** 72
- NC/TDI:** 73
- NRESET:** 74
- SWDIO:** 75
- SWCLK:** 76
- SWO/TDO:** 77
- NC/TDI:** 78
- NRESET:** 79
- SWDIO:** 80
- SWCLK:** 81
- SWO/TDO:** 82
- NC/TDI:** 83
- NRESET:** 84
- SWDIO:** 85
- SWCLK:** 86
- SWO/TDO:** 87
- NC/TDI:** 88
- NRESET:** 89
- SWDIO:** 90
- SWCLK:** 91
- SWO/TDO:** 92
- NC/TDI:** 93
- NRESET:** 94
- SWDIO:** 95
- SWCLK:** 96
- SWO/TDO:** 97
- NC/TDI:** 98
- NRESET:** 99
- SWDIO:** 100
- SWCLK:** 101
- SWO/TDO:** 102
- NC/TDI:** 103
- NRESET:** 104
- SWDIO:** 105
- SWCLK:** 106
- SWO/TDO:** 107
- NC/TDI:** 108
- NRESET:** 109
- SWDIO:** 110
- SWCLK:** 111
- SWO/TDO:** 112
- NC/TDI:** 113
- NRESET:** 114
- SWDIO:** 115
- SWCLK:** 116
- SWO/TDO:** 117
- NC/TDI:** 118
- NRESET:** 119
- SWDIO:** 120
- SWCLK:** 121
- SWO/TDO:** 122
- NC/TDI:** 123
- NRESET:** 124
- SWDIO:** 125
- SWCLK:** 126
- SWO/TDO:** 127
- NC/TDI:** 128
- NRESET:** 129
- SWDIO:** 130
- SWCLK:** 131
- SWO/TDO:** 132
- NC/TDI:** 133
- NRESET:** 134
- SWDIO:** 135
- SWCLK:** 136
- SWO/TDO:** 137
- NC/TDI:** 138
- NRESET:** 139
- SWDIO:** 140
- SWCLK:** 141
- SWO/TDO:** 142
- NC/TDI:** 143
- NRESET:** 144
- SWDIO:** 145
- SWCLK:** 146
- SWO/TDO:** 147
- NC/TDI:** 148
- NRESET:** 149
- SWDIO:** 150
- SWCLK:** 151
- SWO/TDO:** 152
- NC/TDI:** 153
- NRESET:** 154
- SWDIO:** 155
- SWCLK:** 156
- SWO/TDO:** 157
- NC/TDI:** 158
- NRESET:** 159
- SWDIO:** 160
- SWCLK:** 161
- SWO/TDO:** 162
- NC/TDI:** 163
- NRESET:** 164
- SWDIO:** 165
- SWCLK:** 166
- SWO/TDO:** 167
- NC/TDI:** 168
- NRESET:** 169
- SWDIO:** 170
- SWCLK:** 171
- SWO/TDO:** 172
- NC/TDI:** 173
- NRESET:** 174
- SWDIO:** 175
- SWCLK:** 176
- SWO/TDO:** 177
- NC/TDI:** 178
- NRESET:** 179
- SWDIO:** 180
- SWCLK:** 181
- SWO/TDO:** 182
- NC/TDI:** 183
- NRESET:** 184
- SWDIO:** 185
- SWCLK:** 186
- SWO/TDO:** 187
- NC/TDI:** 188
- NRESET:** 189
- SWDIO:** 190
- SWCLK:** 191
- SWO/TDO:** 192
- NC/TDI:** 193
- NRESET:** 194
- SWDIO:** 195
- SWCLK:** 196
- SWO/TDO:** 197
- NC/TDI:** 198
- NRESET:** 199
- SWDIO:** 200
- SWCLK:** 201
- SWO/TDO:** 202
- NC/TDI:** 203
- NRESET**

The diagram shows the pin connections for three modules: J4, J5, and J6. J4 is connected to VIN (pin 7), V_BATT (pin 2), and GND (pin 1). J5 is connected to VIN (pin 8), V_BATT (pin 2), and GND (pin 1). J6 is connected to VIN (pin 7), V_BATT (pin 2), and GND (pin 1). The modules are connected to a common bus system with pins labeled D0/RX1, D1/TX0, D10, D11, D12, and D13.

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TITLE: sparkfun-9dof-razor-imu

Design by: Jim Lindblom

based on the SparkFun 9DoF Razor

Date: 9/19/2016 11:54 AM

REV:
v30

Sheet: 1/1

