SAMD21 Dev Breakout (DEV-13672)
Arduino Zero compatible

Legend:

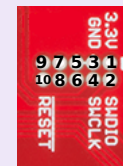| Name		
Power	Interupts	A
GND	Serial	
Control	Serial Com	C/D
Arduino	Timer	E/F
Port	PTC	B
DAC	Misc	G/H
	ADC	B

PWM pins maked with ~

- TC - Timer Counter
- TCC - Timer Counter - Controller
- PTC Peripheral Touch Controller
- NMI-External Non-Maskable Interupt
- Pin can only be A,B,C,D,E,F,G or H at any time
- Selecting B disables digital control

LEDs

Power: Red

Charge: Red

D13 (PIN_LED_13): Blue

TX (PIN_LED_TXL): Green
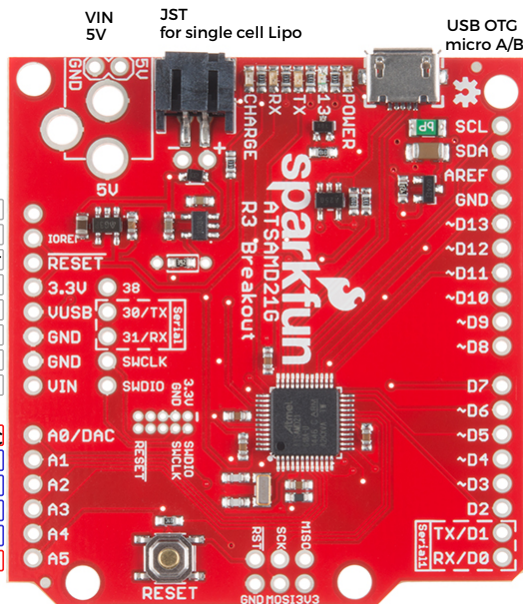
RX (PIN_LED_RXL): Yellow

Programming Header

1. VCC 3.3V
2. SWEDIO/TMS
3. GND
4. SWDCLK/TCK
5. GND
6. SWO/TDO
7. Key
8. NC/TDI
9. GNDDTCT
10. Nreset

SJ1

Disconnects R1 from charger circuit

Charge current= 256mA (1000V/R1) where R1=3900

SJ2

remove to disconnect power LED

LED pins

RX LED	PIN_LED_RXL	PB03	AIN11	EXTINT3	SER5:1	TC6:1	PTC:Y9
TX LED	PIN_LED_TXL	PA27	EXTINT15				
13 LED	D13 ~	PA17	EXTINT1	SCK	SER1:1/3:1*	TCC2:1/0:7	PTC:X5

Left header

3.3V	IOREF
RESET	/RESET
3.3V	3.3V
5V	VUSB
GND	GND
GND	GND
VIN	VIN

DAC	PTC:Y0	EXTINT2	AIN0	PA02	A0	A0/DAC
PTC:Y14	TC4:0	SER4:0	EXTINT8	AIN2	PB08	A1	A1
PTC:Y15	TC4:1	SER4:1	EXTINT9	AIN3	PB09	A2	A2
PTC:Y2	TCC0:0	SER0:0	EXTINT4	AIN4	PA04	A3	REFB	A3
PTC:Y3	TCC0:1	SER0:1	EXTINS	AIN5	PA05	A4	A4
PTC:Y8	TC6:0	SER5:0	EXTINT2	AIN10	PB02	A5	A5

Right header

SCL	D21	PA23	EXTINT7	SCL	SER3:1/5:1*	TC4:1/TCC0.5	USB/SOF 1KhZ
SDA	D20	PA22	EXTINT6	SDA	SER3:0/5:0*	TC4:0/TCC0.4	
AREF	REFA	PA03	AIN1	EXTINT3	PTC:Y1		PCT:X10
GND	GND						
~D13	D13 ~	PA17	EXTINT1	SCK	SER1:1/3:1*	TCC2:1/0:7	PTC:X5
~D12	D12 ~	PA19	EXTINT3	MISO	SER1:3/3:3	TC3:1/TCC0.3	PTC:X7	I2S/SD[0]
~D11	D11 ~	PA16	EXTINT0	MOSI	SER1:0/3:0*	TCC2.0/0.6	PTC:X4
~D10	D10 ~	PA18	EXTINT2	SS	SER1:2/3:2	TC3:0/TCC0.2	
~D9	D9 ~	PA07	AIN7	EXTINT7	SER0:3	TCC1:1	PTC:Y5	I2S/SD[0]
~D8	D8 ~	PA06	AIN6	EXTINT6	SER0:2	TCC1:0	PTC:Y4
~D7	D7	PA21	EXINIT5	SER5:3/3:3	TC7:1/TCC0.7	PTC:X9	I2S/FS[0]
~D6	D6 ~	PA20	EXTINT4	SER5:2/3:2	TC7:0/TCC0.6	PTC:X8	I2S/SCK[0]
~D5	D5 ~	PA15	EXTINT15	SER2:3/4:3	TC3:1/TCC0.5	XOUT	
~D4	D4 ~	PA08	AIN16	NMI	SER0:0/2:0*	TCC0.0/1.2	PTC:X0	I2S/SD[1]
~D3	D3 ~	PA09	AIN17	EXTINT9	SER0:1/2:1*	TCC0.1/1.3	PTC:X1	I2S/MCK[0]
D2	D2	PA14	EXTINT14	SER2:2/4:2*	TC3:0/TCC0.4	XIN	
TX/D1	D1	PA10	AIN18	EXTINT10	TX0	SER0:2/2:2	TCC1.0/0.2	PTC:X2	I2S/SCK[0]
RX/D0	D0	PA11	AIN19	EXTINT11	RXI	SER0:3/2:3	TCC1.1/0.3	PTC:X3	I2S/FS[0]

Bottom header (left)

TCC2:1/0:7	SER2.1/4.1*	EXTINT13	PA13	38
TC7:0	SER5:2/3:2	EXTINT6	PB22	30/TX
TC7:1	SER5:3	EXTINT7	PB23	31/RX
SWCLK	TCC1:0	SER1:2	EXTINT10	PA30	SWCLK
SWDIO	TCC1:1	SER1:3	EXTINT11	PA31	SWDIO

Legacy SPI header

/RST	RESET				
SCK	PB11	EXTINT11	SER4:3	TC5:1/0:5	I2S/SCK[1]
MISO	PA12	EXTINT12	SER2:0/4:0*	TCC2.0/0.6	
GND	GND				
MOSI	PB10	EXTINT10	SER4:2	TC5:0/0:4	I2S/MCK[1]
3.3V	3.3V				

Power

Vin: 5.5V-5.5V for charger - otherwise 3.5V-6.0V

VBATT: 3.7V Lipo

VCC: 600mA @3.3V

Each pin is 3.3V tolerant and can source/sink no more than 7mA/10mA

Each cluster of I/O pins can source 46mA and sink 65mA. Clusters are defined as Yellow, Pink, Green, Blue, Red, and Orange outlines.

SamD21G18

VCC:1.62-3.63V

Arm Cortex-M0 + (32-bit)

Flash Memory: 256KB

SRAM: 32KB

ADC: 12-bit

48MHz

RTC

USB 2.1 with USB host capability

Serial

USB: SerialUSB

Hardware Serial (TX/D1 and RX/D0): Serial1

Hardware Serial (30/TX and 31/RX): Serial

Only Ports with * can be configured to do I2C

USB host: Set PIN_USB_HOST_ENABLE high