RedBoard Turbo - SAMD21 Dev (DEV-14812)

Arduino Zero compatible

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

8-bit 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
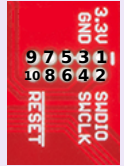Selecting B disables digital control

LEDs

Power: Red
Charge:Yellow
D13 (PIN_LED_13): Blue
TX (PIN_LED_TXL): Green
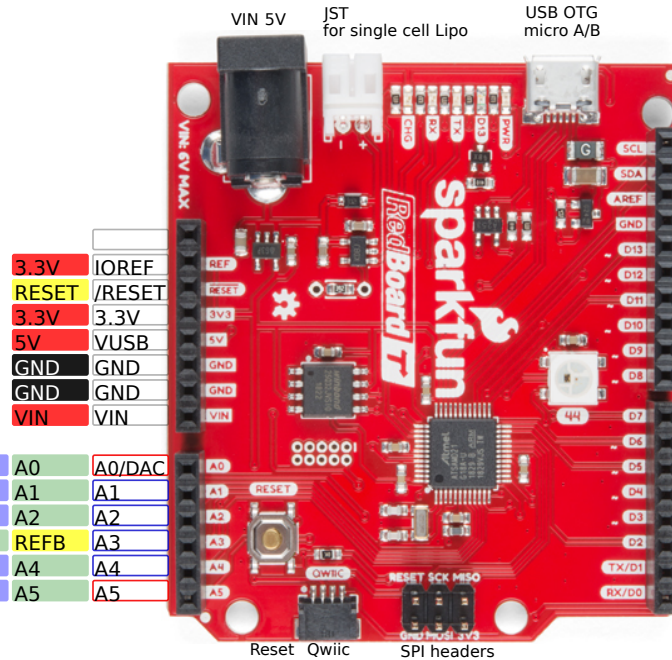RX (PIN_LED_RXL): Yellow
RGB_LED(D44):WS2812

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
remove to disconnect power LED

PWR LED

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
RGB_LED	D44~	PA30	SWCLK					

VIN 5V
JST for single cell Lipo
USB OTG micro A/B

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		PCT:X10
AREF	REFA	PA03	AIN1	EXTINT3				PTC:Y1
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	TX (Serial1) SER0:2/2:2	TCC1:0/0:2		PTC:X2	I2S/SCK[0]
RX/D0	D0	PA11	AIN19	EXTINT11	RX (Serial1) SER0:3/2:3	TCC1:1/0:3		PTC:X3	I2S/FS[0]

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	EXTIN5	AIN5	PA05	A4	A4	
PTC:Y8	TC6:0	SER5:0	EXTINT2	AIN10	PB02	A5	A5	

Reset   Qwiic
SPI headers

/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: 5.0V-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:4MB
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
Only Ports with * can be configured to do I2C
USB host: Set PIN_USB_HOST_ENABLE high