

Thing Plus - SAMD51

DEV-14713

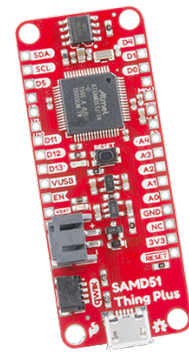
Product Overview

09-07-2022

For the most up-to-date information, visit www.mouser.com or the supplier's website.

Description

The Thing Plus - SAMD51 (DEV-14713) from SparkFun features a 32-bit Arm® Cortex™-M4F MCU and provides an economical and easy-to-use development platform. The Thing Plus - SAMD51 comes flashed with the same convenient UF2 bootloader as the RedBoard Turbo. A few pins have been moved around to make the board Feather compatible. It uses the Qwiic Connect System which means no soldering or shields required to connect it to systems.



Features

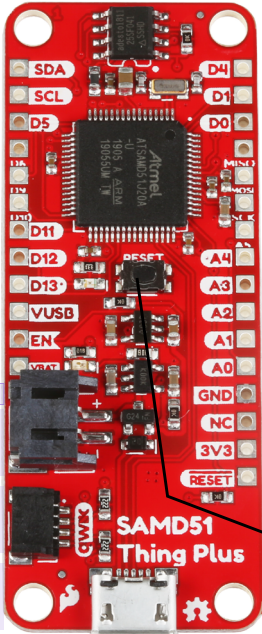
- Atmel ATSAMD51J20 MCU
 - 21 Multifunctional GPIO Pins:
 - Up to six available 12-bit ADC channels
 - Up to twenty-one 24-bit PWM outputs
 - A single hardware UART
 - A single SPI Bus
 - A single I²C Bus
- Thing Plus (or Feather) Form-Factor:
 - Dimensions: 2.3" x 0.9"
 - Four Mounting Holes:
 - 4-40 screw compatible
 - 28 PTH Pins
 - micro-B USB Connector
 - 2-pin JST Connector for a LiPo Battery (not included)
 - 4-pin JST Qwiic Connector
- LEDs:
 - CHG - Yellow battery charging indicator
 - STAT - Blue status/test LED (D13)
- Buttons:
 - Reset
- 4Mb QSPI Flash Memory
- SWD Pins and Test Points

Hardware Review

SparkFun Thing Plus - SAMD51 (DEV-14713)

Name	ADC
Power	Interrupt
GND	Serial
Control	Sercom
Arduino	DAC
Port	Misc

3:0/5:1	SDA	INT6	PA22	D20	SDA
3:1/5:0	SCL	INT7	PA23	D21	SCL
2:3/4:3	INT15	PA15	D5	D5	
5:2/3:2	INT4	PA20	D6	D6	
0:3	INT7	AIN7	PA07	D9	D9
1:2/3:2	INT2	PA18	D10	D10	
1:0/3:1	INT0	PA16	D11	D11	
1:3/3:3	INT3	PA19	D12	D12	
LED	1:0/3:1	INT12	PA17	D13	D13



D4	D4	PA06	AIN6	INT6	0:2	VREFC
D1	D1	PA12	INT12	RX	2:0/4:1	
D0	D0	PA13	INT13	TX	2:1/4:0	
MISO	D22	PB11	INT11	MISO	4:3	
MOSI	D23	PB12	INT12	MOSI	4:0	
SCK	D24	PB13	INT13	SCK	4:1	
A5	A5	PB02	AIN14	INT2	5:0	
A4	A4	PA05	AIN5	INT5	0:1	DAC1
A3	A3	PA04	AIN4	INT4	0:0	VREFB
A2	A2	PB09	AIN3	INT9	4:1	
A1	A1	PB08	AIN2	INT8	4:0	
A0	A0	PA02	AIN0	INT2	DAC0	
GND	GND					
NC	NC					
3V3	3.3V					
RESET	RESET					

I2C Pullups Jumpers



Cut to disable

Connectors

JST-PH (2-pin)
Single Cell Lipo

JST-SH (4-pin)
Qwiic (I2C)
Connector

microB USB
Power, Programming
Battery Charging

SWDIO 1:3 INT15 PA31 SWDIO

SWCLK 1:2 INT14 PA30 SWCLK

1:0/3:1 INT12 PA17 D13 LED

Power

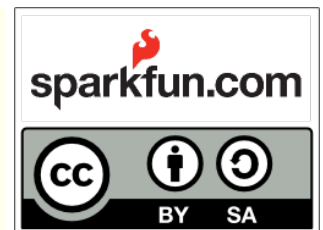
Vin: 2.5V - 6V
VCC: 3.3V @ 600mA
JST: Single Cell LiPo battery
Battery Charging via USB
Vreg Enable: On by default with 10k resistor

SAMD51J20A

120MHz ARM Cortex - M4
VCC: 1.71V - 3.63V
6 Sercom Channels
1MB Flash Memory
256kB SRAM

Hardware

4Mb Flash Memory
UF2 Bootloader
Feather compatible
PWM available on all GPIO
Charge LED: Yellow
D13 LED: Blue



Learn more about

- [SparkFun Thing Plus - XBee3 Micro \(WRL-15454 & WRL-15435\)](#)
- [SparkFun Thing Plus - ESP32 \(WRL-15663\)](#)

Mouser Part Number

[View Part](#)

To learn more, visit <https://www.mouser.com/new/sparkfun/sparkfun-thing-plus/>