

This source describes Open Hardware and is licensed under the CERN-OHL-S v2.

You may redistribute and modify this source and make products using it under the terms of the CERN-OHL-S v2 (<https://ohwr.org/cernohlsv2.txt>). This source is distributed WITHOUT ANY EXPRESS OR IMPLIED WARRANTY, INCLUDING OF MERCHANTABILITY, SATISFACTORY QUALITY AND FITNESS FOR A PARTICULAR PURPOSE.

Please see the CERN-OHL-S v2 for applicable conditions.

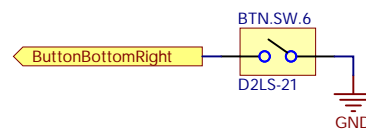
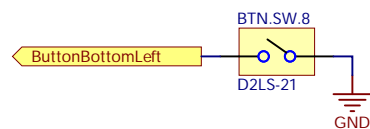
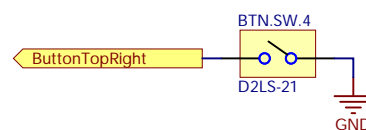
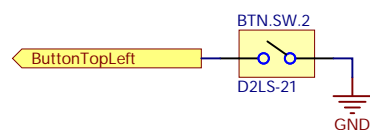
Source location: <https://github.com/ploopyco/>

As per CERN-OHL-S v2 section 4, should You produce hardware based on this source, You must where practicable maintain the Source Location visible on the external case of the products you make using this source.

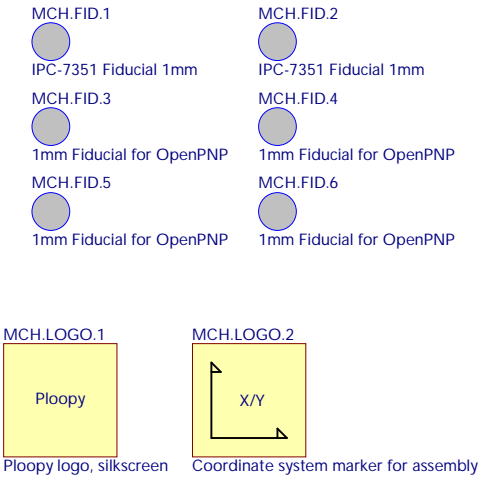


These switches can be found under the various buttons on the mouse.

Activate the pull-up resistors on the GPIO pins attached to these switches to make them work.

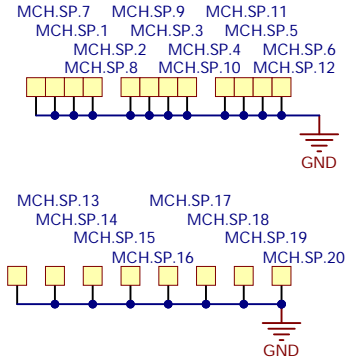


Pick and Place Fiducials



Spark Gaps -- Case

Since the case has gaps in it, we expect ESD to worm its way in via creepage and perhaps other ways. To protect the board from this eventuality, we place spark gaps along the edges.



The SCKI nets have to be connected to one of the GPOUT<n> pins on the RP2040. These are GPIO21,23,24,25.

Only one of the two outputs has to actually send a clock over to the PCM3060, which can operate from one clock pin.

I2C pins are connected to every GPIO pin! SCL is connected to odd GPIO pin numbers and SDA is connected to even ones. Make sure you connect both pins to the SAME I2C port though (there are 2)!

PIO pins are mappable to all GPIO pins, so it doesn't matter where the I2S lines are hooked up.

Pins adjacent to I2S lines are grounded for signal integrity, since these signals go quite quickly. Unused pins are also grounded and should be set to output LOW to improve grounding.

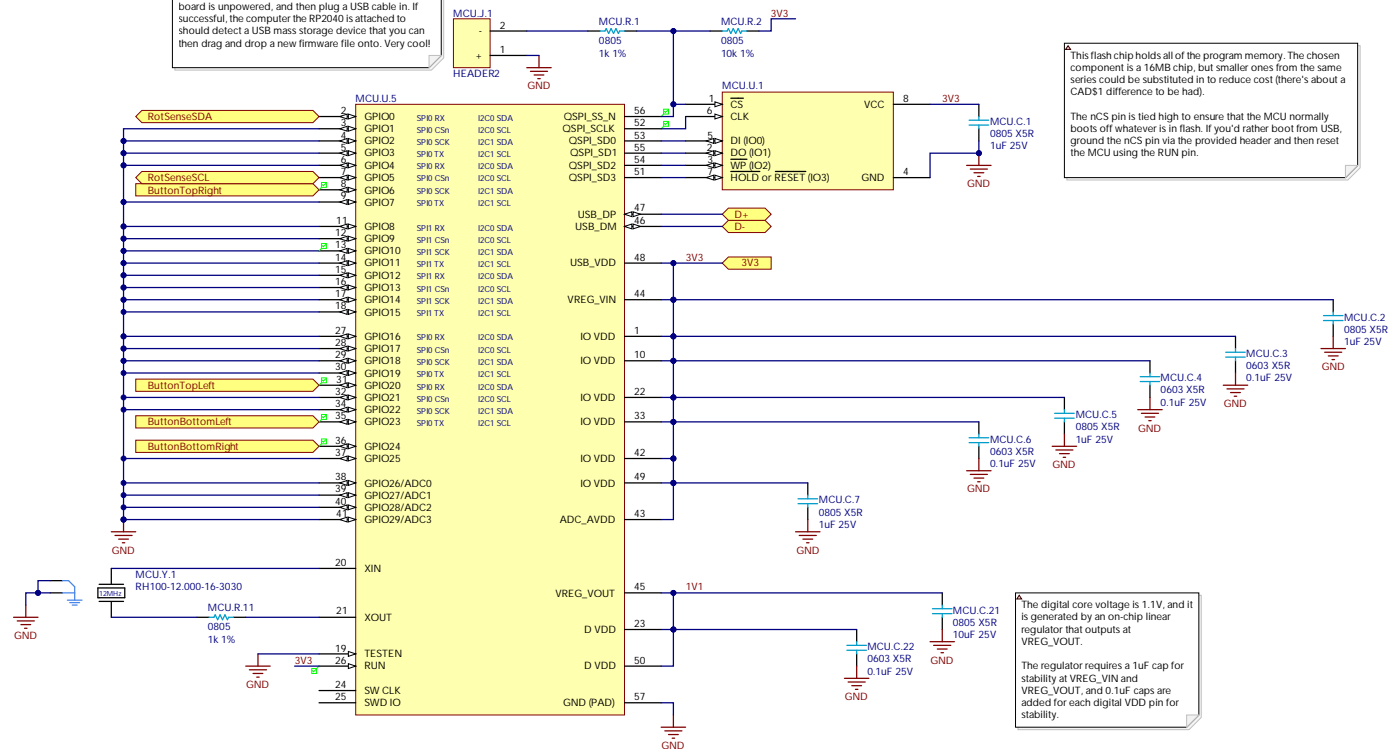
This header can be pinched with tweezers or otherwise shorted during startup to force the RP2040 into USB bootloader mode. To do this, short the header while the board is unpowered, and then plug a USB cable in. If successful, the computer the RP2040 is attached to should detect a USB mass storage device that you can then drag and drop a new firmware file onto. Very cool!

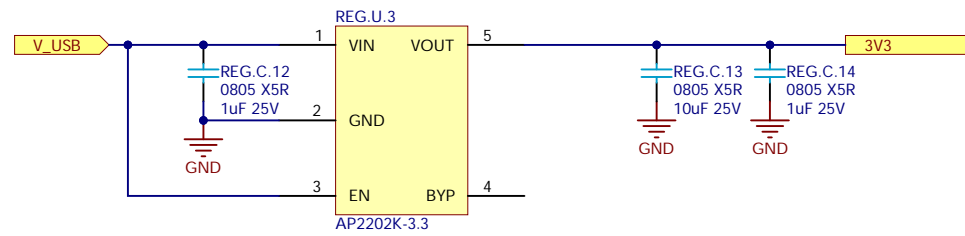
This flash chip holds all of the program memory. The chosen component is a 16MB chip, but smaller ones from the same series could be substituted in to reduce cost (there's about a CAD\$1 difference to be had).

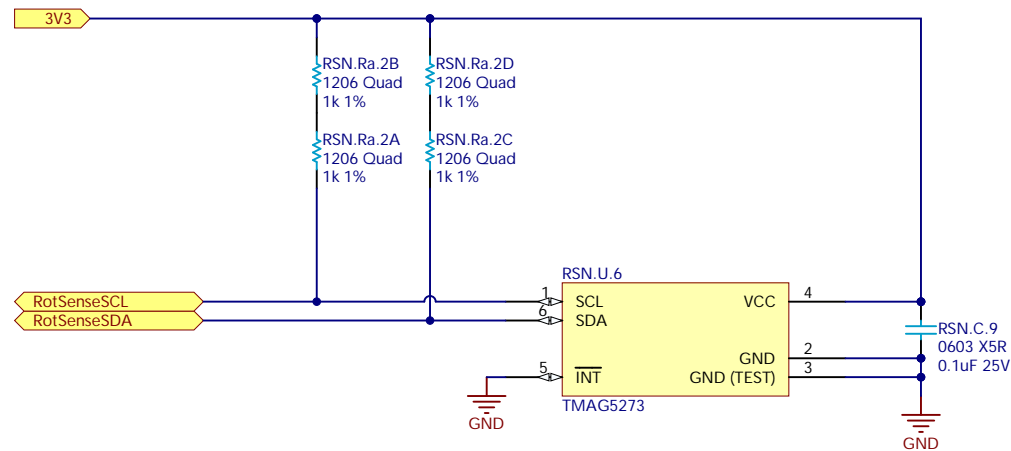
The nCS pin is tied high to ensure that the MCU normally boots off whatever is in flash. If you'd rather boot from USB, ground the nCS pin via the provided header and then reset the MCU using the RUN pin.

The digital core voltage is 1.1V, and it is generated by an on-chip linear regulator that outputs at VREG_VOUT.

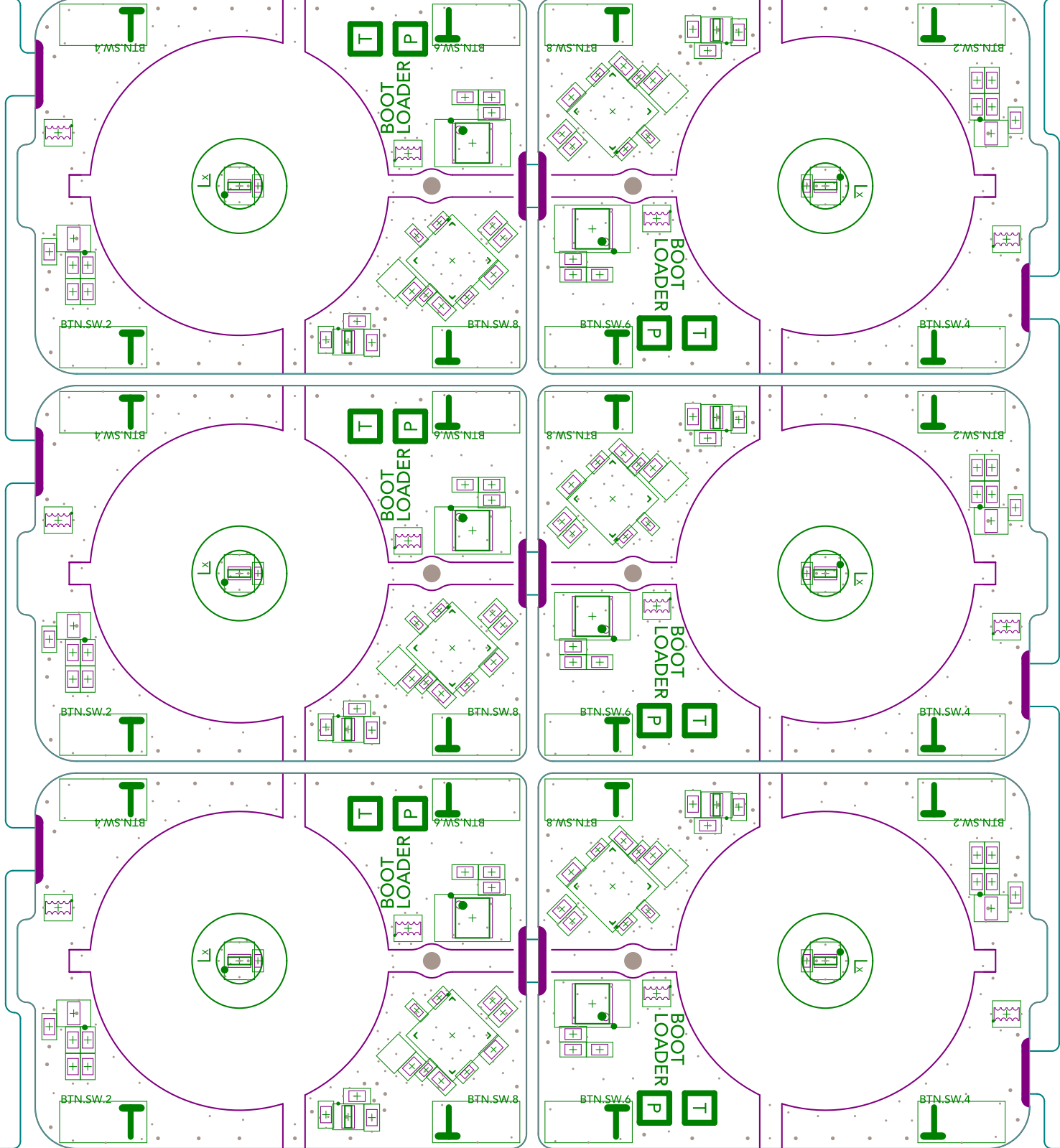
The regulator requires a 1uF cap for stability at VREG_VIN and VREG_VOUT, and 0.1uF caps are added for each digital VDD pin for stability.







X spacing: 52.4mm
Y spacing: 87.2mm



Trackpoint R1.001
November 2025

USE CLASSIC 2
PASTING JIG