

Mounting ESP32-WROVER to strip board

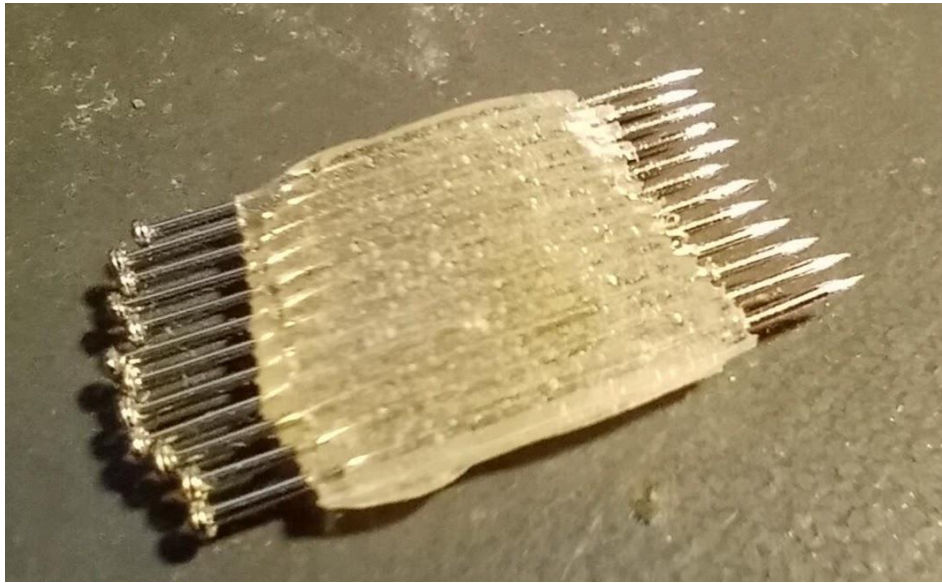
So few components are needed externally to run an ESP32-WROVER or ESP32-WROOM module that a development board can introduce more deficits than assets. Dev kits have mounted switches, headers, USB connectors, voltage regulators and Serial to USB converters, and of course the ESP32-WROVER itself. The battery draining components on dev kits are hard to remove or isolate.

How can one mount a WROVER with only switches and headers to the strip board?

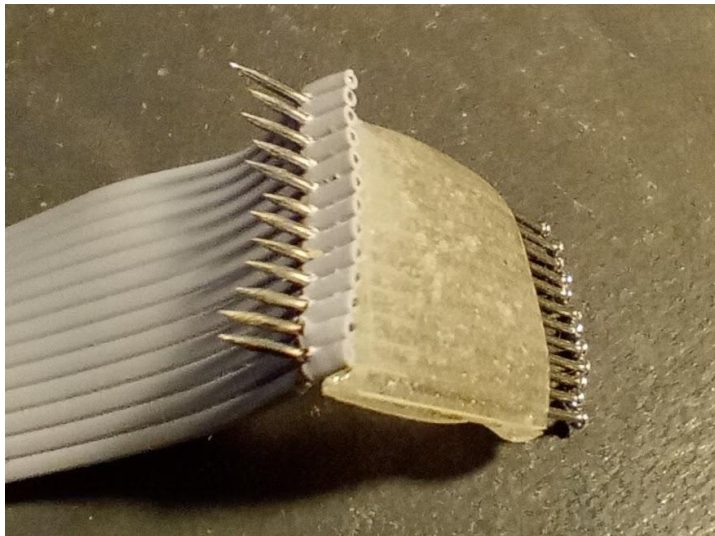
The spacing of the WROVER connectors is $\frac{1}{2}$ normal tenth of an inch, which is the same spacing of most ribbon cable. So ribbon cable, stripped of $\frac{1}{8}$ th inch of its insulation could be soldered to the WROVER module.



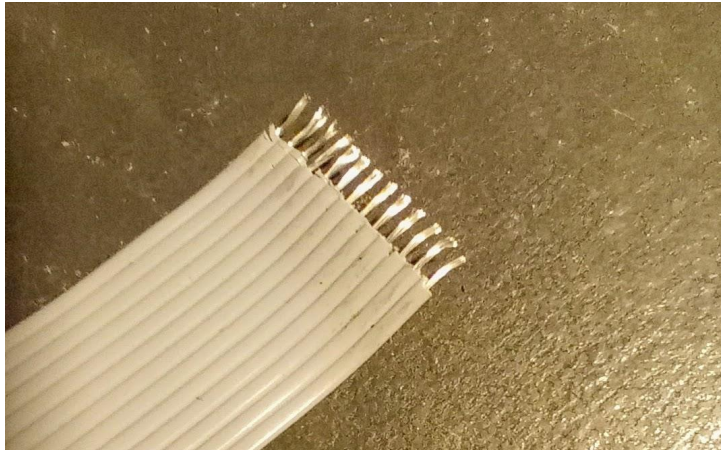
It turns out that cleanly stripping 3mm of insulation from ribbon cable without separated strands beforehand is very difficult. So here is the jig of straight pins I made to strip the insulation.



Push the pins into the ribbon cable, score the insulation behind the pins, on both sides of the ribbon with a razor blade. Then cut the ribbon cable to within $\frac{1}{4}$ inch of the pins, and work the insulation off the wires.



And here is the stripped wire

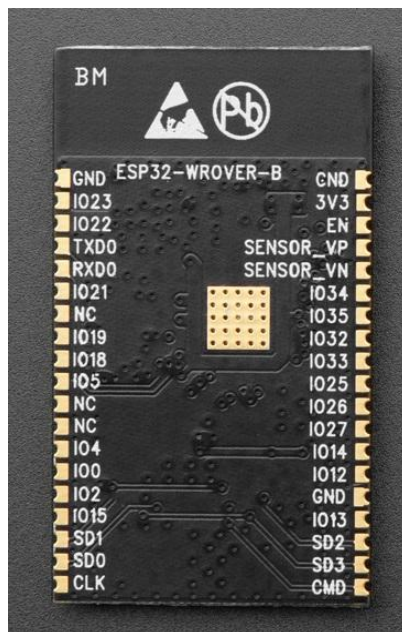


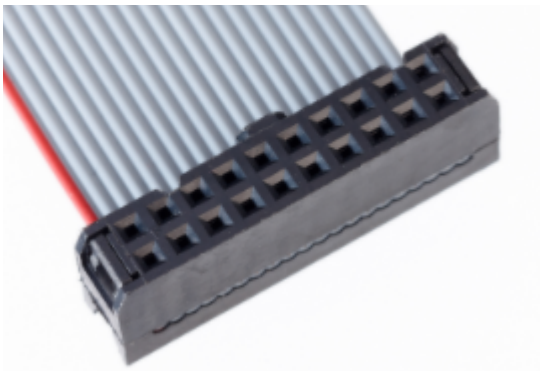
There are 20 pins on each side of the WROVER.

To make the ribbon cable insulation stripper, lay 10 straight pins in the grooves of a 3 inch length of ribbon cable, and pour epoxy over them, leaving about $\frac{1}{3}$ inch of the pins uncovered by epoxy.. When hardened, separate pins from the ribbon cable, and pour more epoxy over the other side of the pins to form a sturdy tool.

Straight pins are 0.63mm and the wires are about 0.4mm thick, with centers 1.27 mm apart.

When stripped, apply rosin to both the wires and module. Solder the ribbon cable on the back of the module, so that you don't run the risk of bridging solder to the can. Rest the wires in the notches to position and constrain them. Tape it all down before soldering

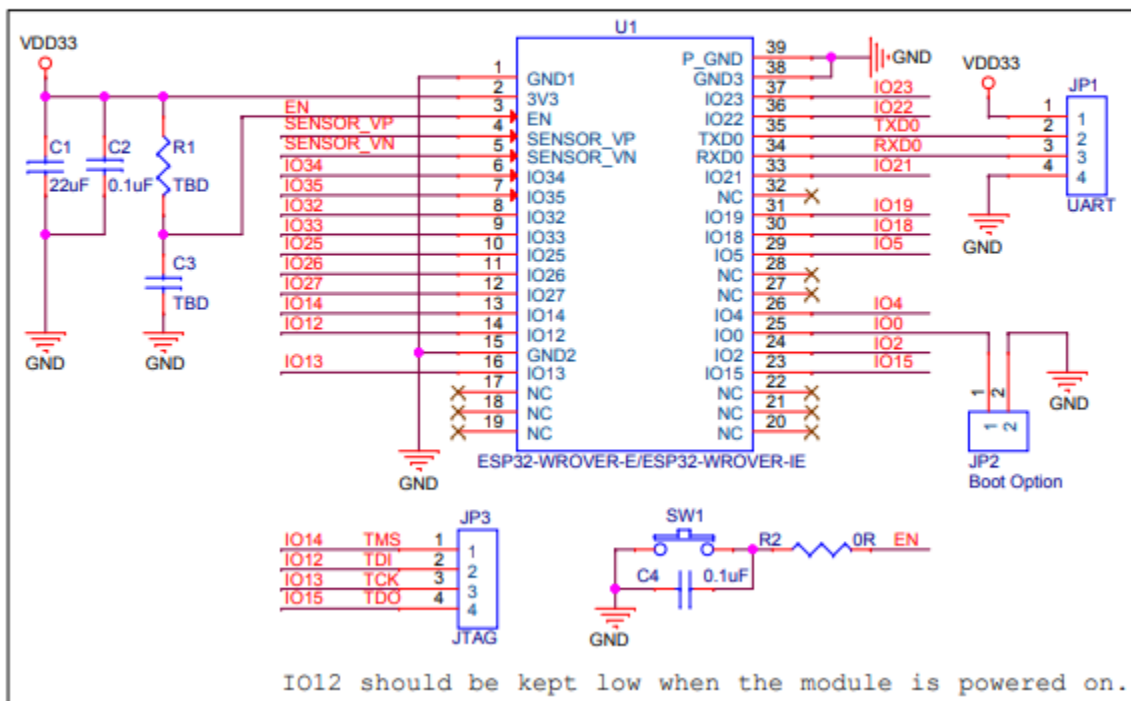




Then add crimped on ribbon cable female sockets to the cables and push onto male pin headers on your strip board. Mount your serial connectors for programming, switches, push buttons, leds, and battery holders, battery chargers and voltage regulators, sensors and controllers to the strip board, and start programming. I'll bet you will be proud of your results.

8 Peripheral Schematics

This is the typical application circuit of the module connected with peripheral components (for example, power supply, antenna, reset button, JTAG interface, and UART interface).



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