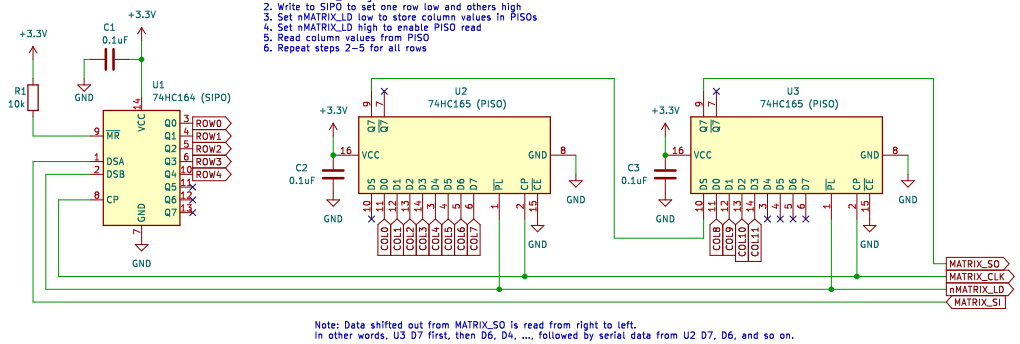
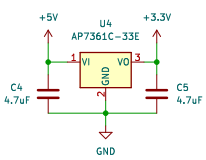
Dual Shift Register Mux

Basic Key Scan Operation:
1. Set nMATRIX_LD high to enable SIPO write
2. Write to SIPO to set one row low and others high
3. Set nMATRIX_LD low to store column values in PISOs
4. Set nMATRIX_LD high to enable PISO read
5. Read column values from PISO
6. Repeat steps 2–5 for all rows

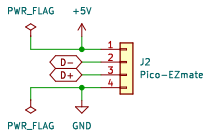


Note: Data shifted out from MATRIX_SO is read from right to left.
In other words, U3 D7 first, then D6, D4, ..., followed by serial data from U2 D7, D6, and so on.

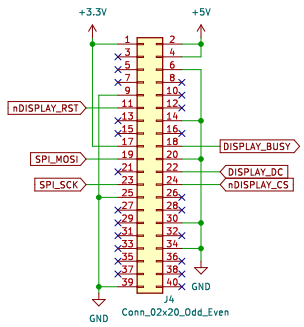
3.3V Regulator



USB Daughterboard Connector

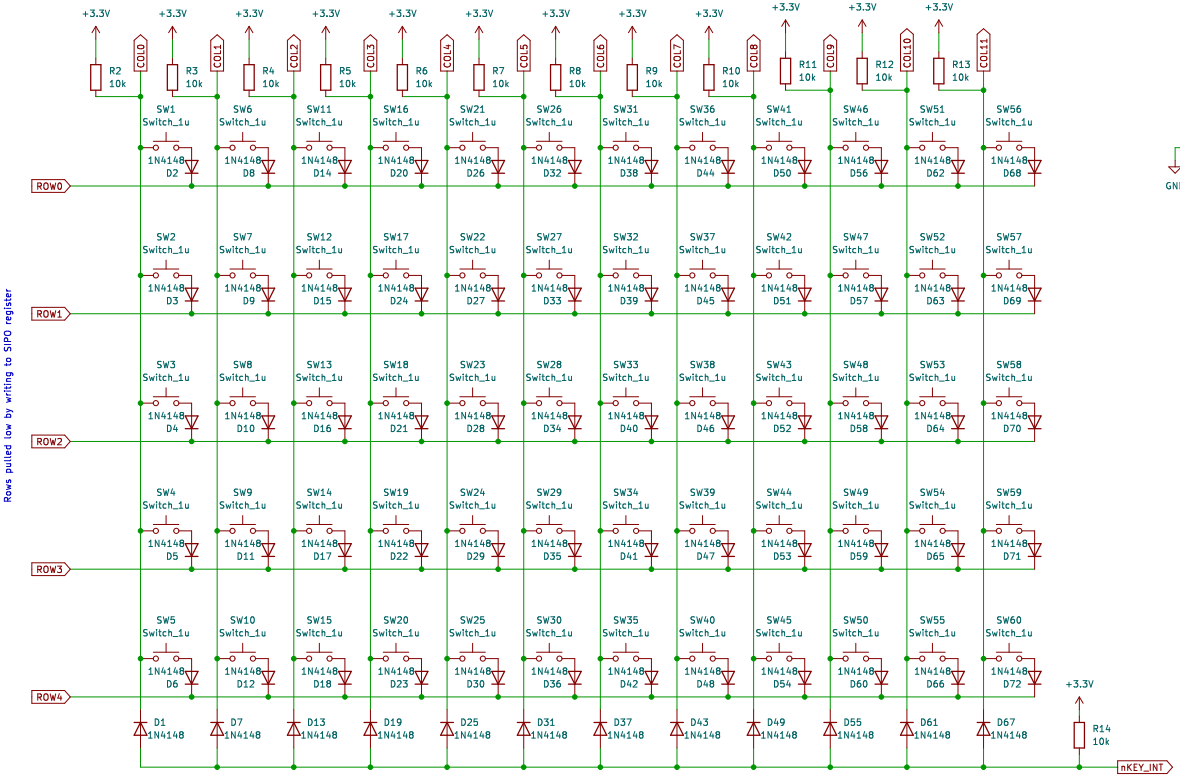


E-Ink Connector



Key Switch Matrix

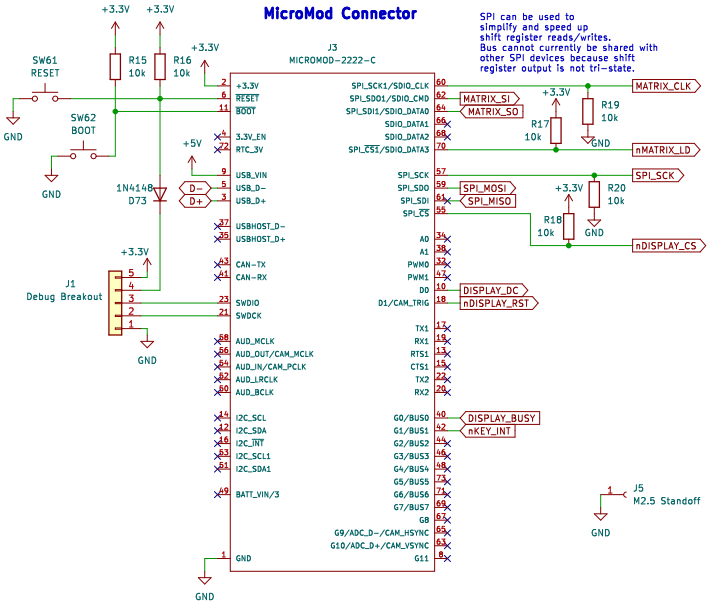
Cols pulled high externally and read from PISO registers



Key Interrupt Operation:
1. Set all rows low
2. When any key is pressed nKEY_INT will be pulled low and trigger interrupt
3. Disable interrupt, set all rows high, start scan routine

MicroMod Connector

SPI can be used to simplify and speed up shift register reads/writes. Bus cannot currently be shared with other SPI devices because shift register output is not tri-state.



Storyboard 1.0

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Size: A3 | Date: | Rev:

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