Diagram, schematic

Description automatically generatedReverse protection via PFET <https://www.instructables.com/Reverse-Polarity-Protection-Circuits/>

MP5016 – Short circuit, over voltage, undervoltage protection

XPSM82810- Low powered DC-DC stepdown

Diagram, schematic

Description automatically generatedCircuit was modified from a website I found ages ago.

Need to check if components in red boxes are needed.

Pullup needed on D3

Current going through transistor from 0.04 - 0.067mA

0.5mW max

Diagram, schematic

Description automatically generatedThis is directly copied from the nano 33 BLE schematic and same components chosen.

BLM18EG101 is a ferrite bead

PRTP5VOU2X is ESD protection

Diagram, schematic

Description automatically generatedRTC is lowest current and most accurate one I could find

Battery holder used but could do supercap although the leakage is annoying

Diagram, schematic

Description automatically generatedCommonly used screen, looked up current usage and is a reasonable but there is probably better options.

OLED is good as see in dark,

A picture containing text

Description automatically generatedAnnoying as consumes a lot of current during right cycles. Writing is done in blocks so energy can be conserved by keeping data in ram until enough to write.

There are SPI flash chips, maybe they are more energy efficient I don’t know.