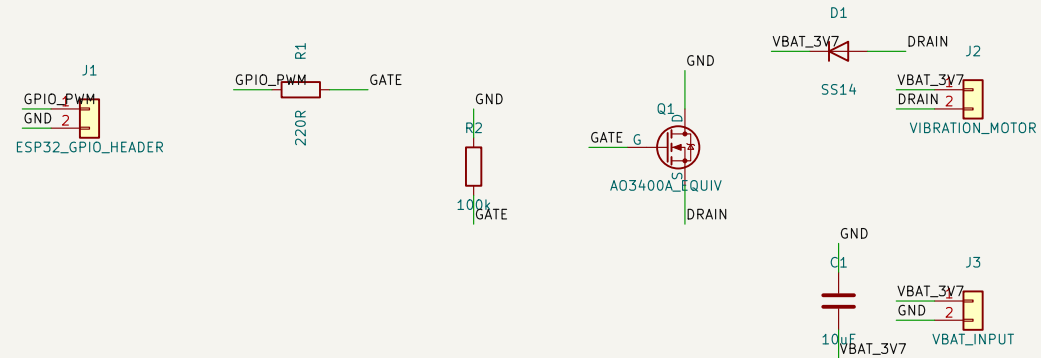


ESP32 Wearable Haptic Controller – Symbol-Based KiCad Schematic

Circuit boundary: ESP32 GPIO header, gate resistor, pulldown, logic-level NMOS, motor connector, flyback diode, and local decoupling.

Ngspice simulation source: ../ngspice/mosfet-driver.cir



PCB review notes: keep the motor current loop short, place C1 at J2/J3, keep the gate trace away from the motor return, and verify D1 orientation.