Lab Entry – 2026-01-25

Metadata

- Date: 2026-01-25
- Project:
- Board / Rev:
- Scope: Research Gate Drive IC and generating pwm using Pico C sdk.

Objective

learn how the Gate Drive Chip IC works and how to create adjustable pwm on Raspberry pi Pico. Read data sheet for the Mosfet we wish to control.

Observations

Gate Drive IC Data sheet: IR2101PBF

Raspberry Pi Pico C SKD for PWM: Pico C SDK Pico Example adjusting duty cycle for LED with an interupt: PWM_IRQ_DutyAdjust_example

mosfet we want to drive data sheet: IRF3205PBF

Conclusions / Next Steps

- The gate drive circuit must have enough voltage to supply the gate such that Vgs >= 4V.
- The PWM example above is almost exactly what I need, instead of adjusting the duty cycle by the square of the value, I simply need to define a step size to use with feed back.
- Build the gate drive circuit and start working on the pwm output for week 4. Use multimeter to test pwm and gate drive.