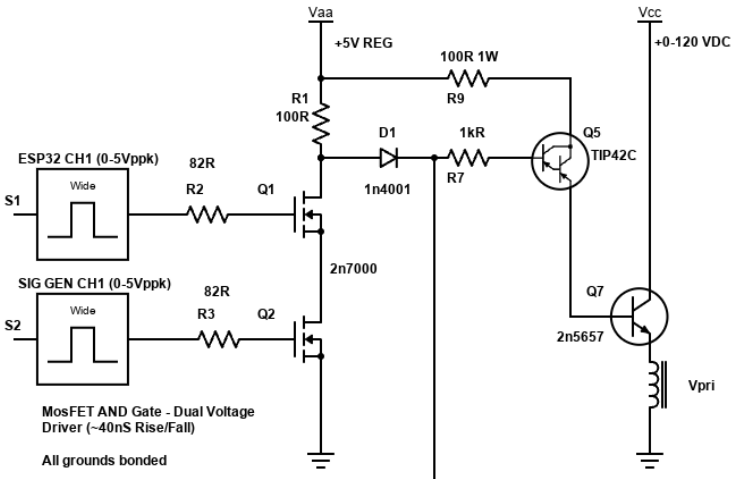
Dual Voltage Driver - MosFET AND Gate

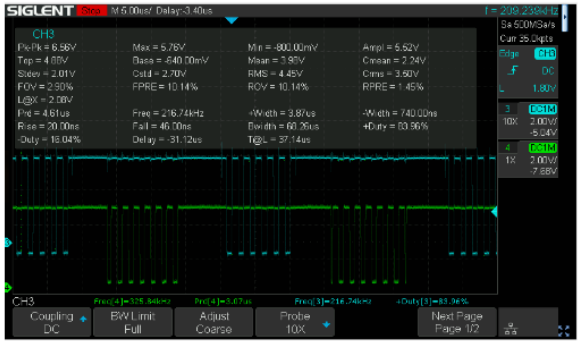
Much like the 2N3904 Simplified approach, we can do the exact same with a small N-fet. This circuit expects 4 input signals, 2 from the ESP32, or from any other signal generator you have that can be constrained to 0-5V. Since the FET needs a B+ and load at its Drain, the TIP42C Darlington is chosen for its 100V rating and hfe=1000, similar to the TIP120 (60V rated). The Darlington transistor allows a linear mode operation during T1, up to 5mA.

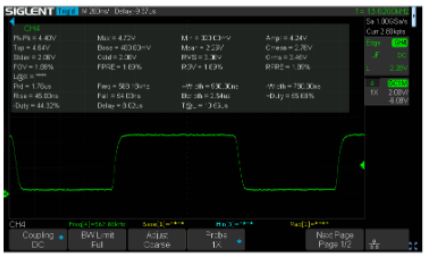
Each leg is a separate AND gate, and could be broken out to drive 2 independent driver circuits or loads. Diodes isolate each gate, and allow them to mix via amplitude modulation at R7 as a **mixing line.**

All grounds are bonded. The Power Supply in reference has a Dual +5V REG USB channel, and a 0-120VDC main channel, with constant current control. Signals are stable up to 600kHz, with surprisingly low rise/fall latency. (~45nS).

This circuit should be improved further with better mosfet pull-down methods.







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