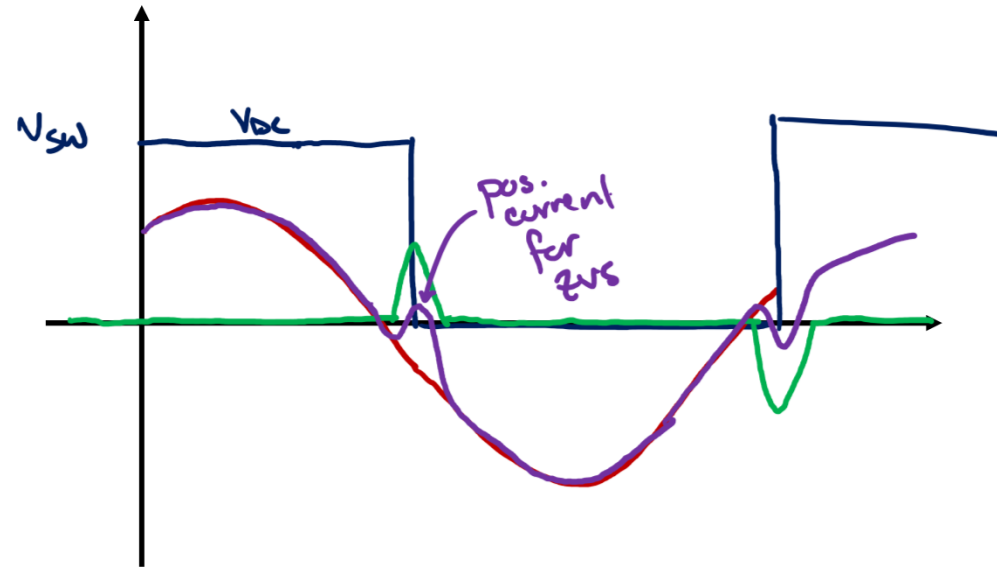
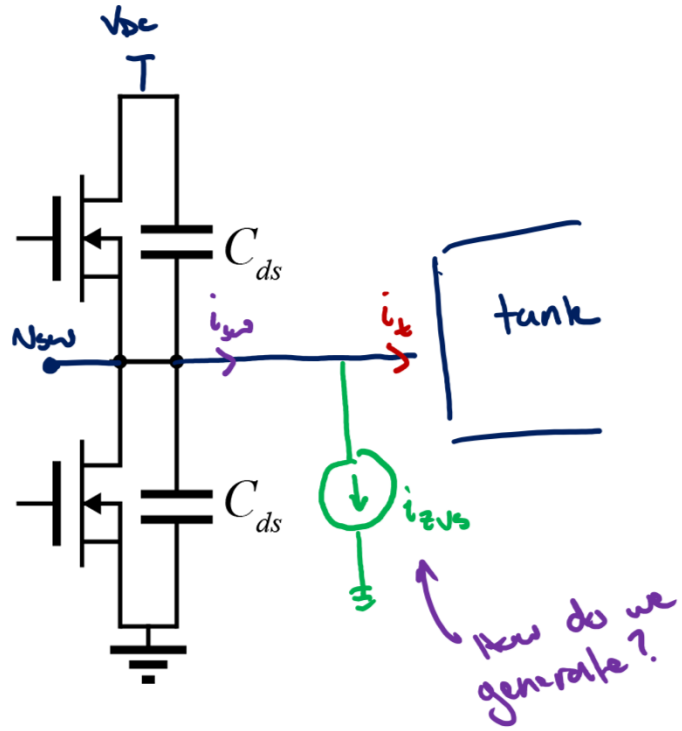
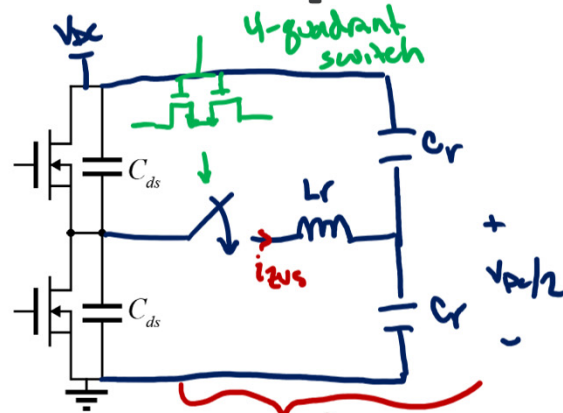


ZVS Assist Circuits



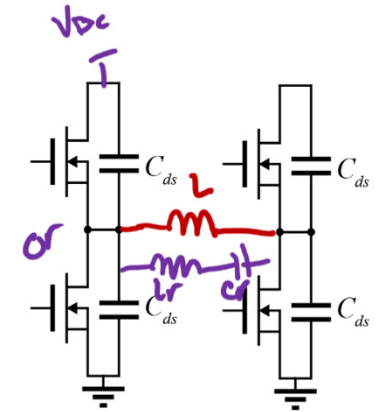
ZVS Tank Examples



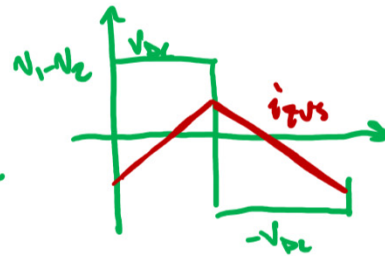
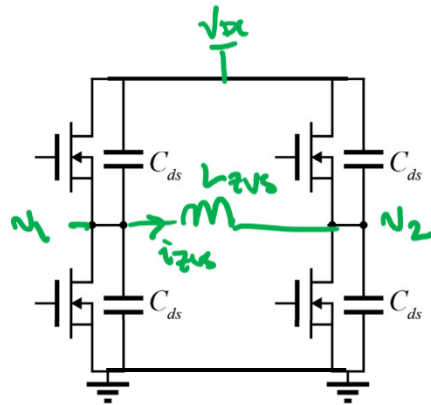
Auxiliary Resonant Commutated Pole (ARCP)

Discussed in Chapter 20 of Fundamentals of Power Elec. 2nd Ed.

Main Half Bridge

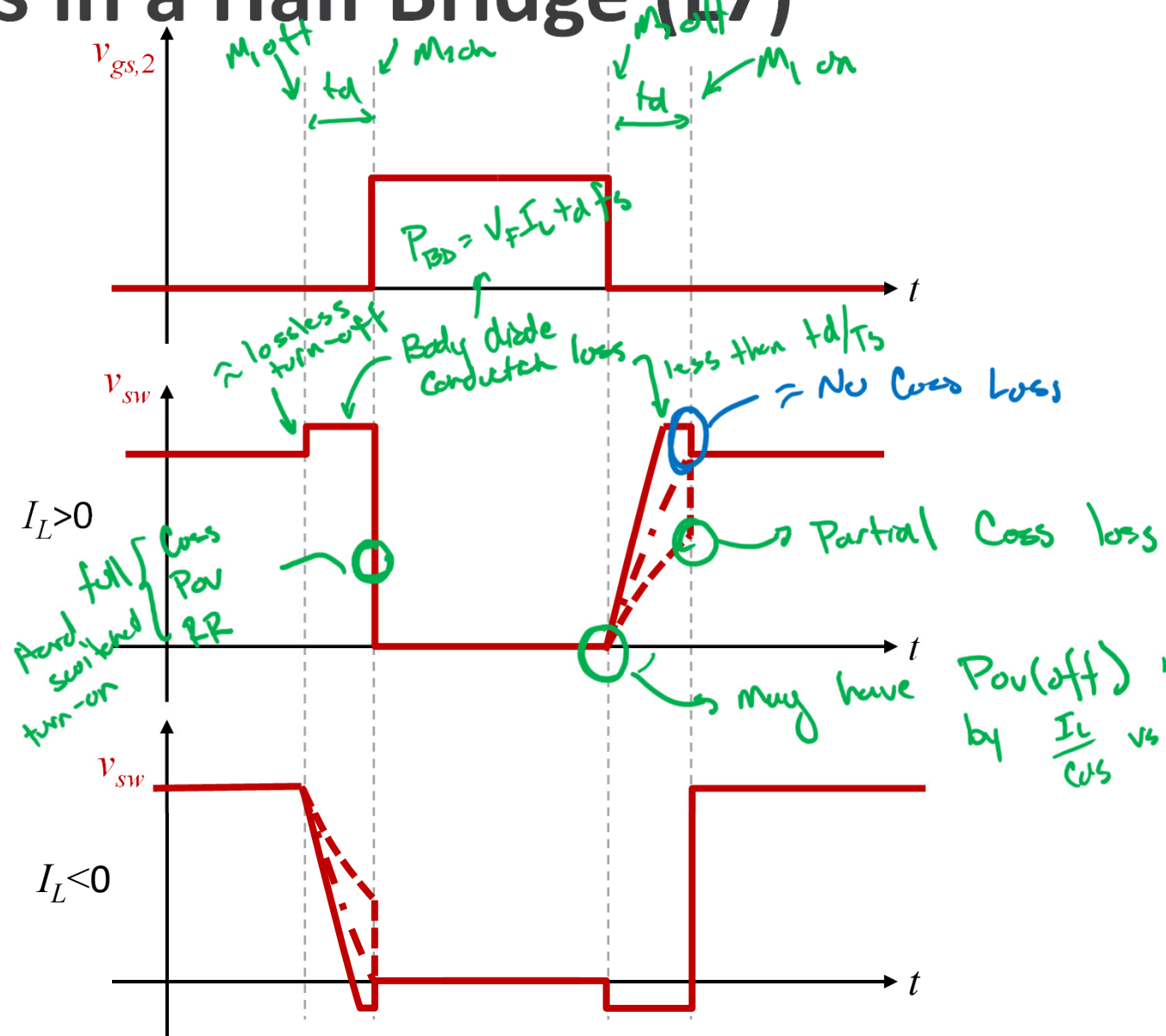
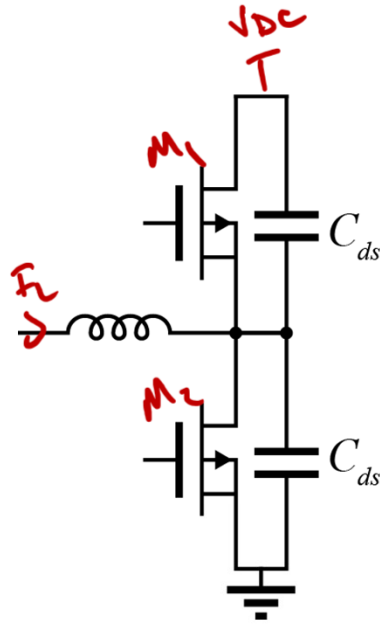


smaller FETs w/ lower currents than main switches

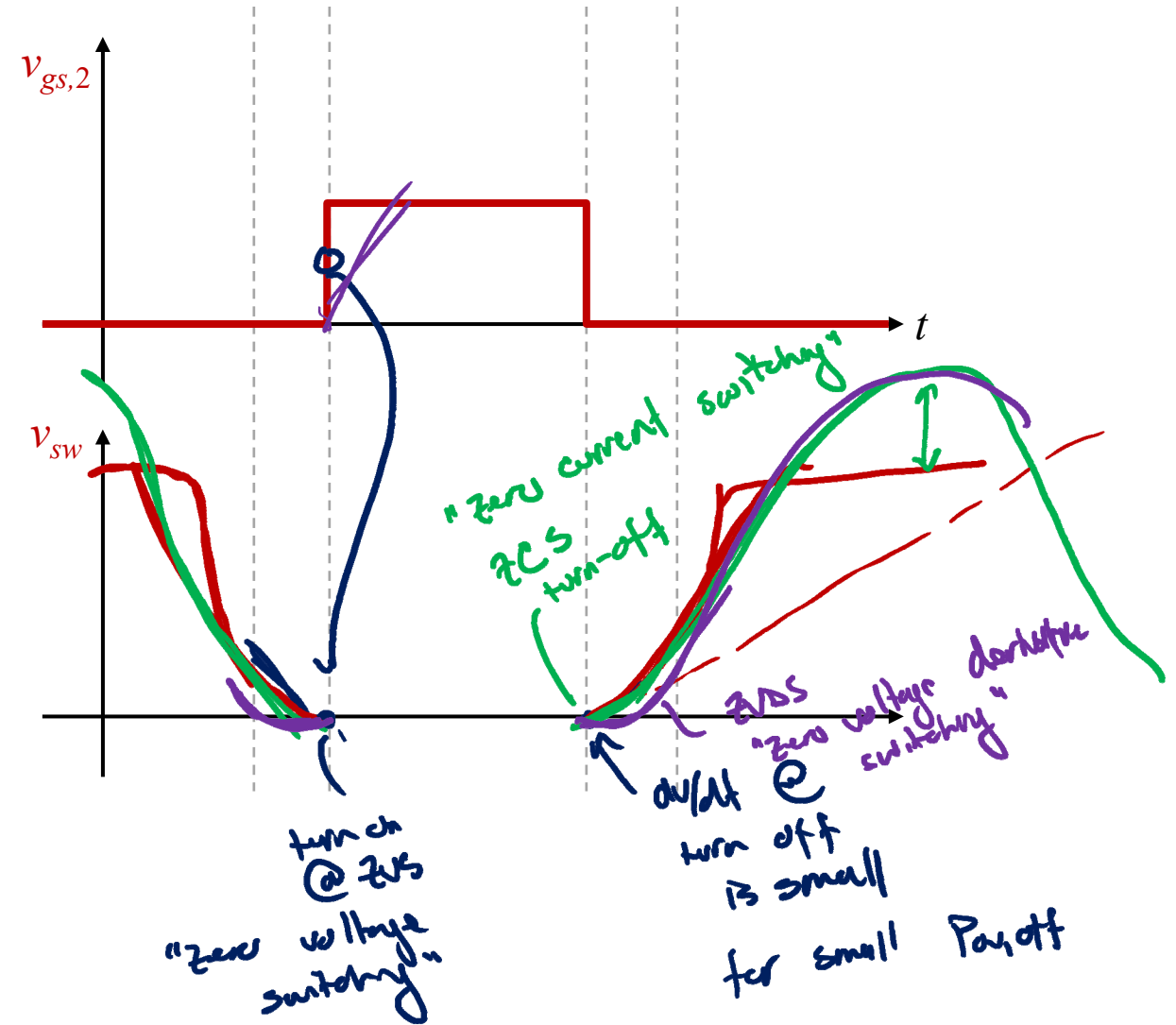


RESONANT SWITCH MODELING

Switching Losses in a Half Bridge (I7)



Ideal Switching Waveforms (L8)



Class-E Amplifier

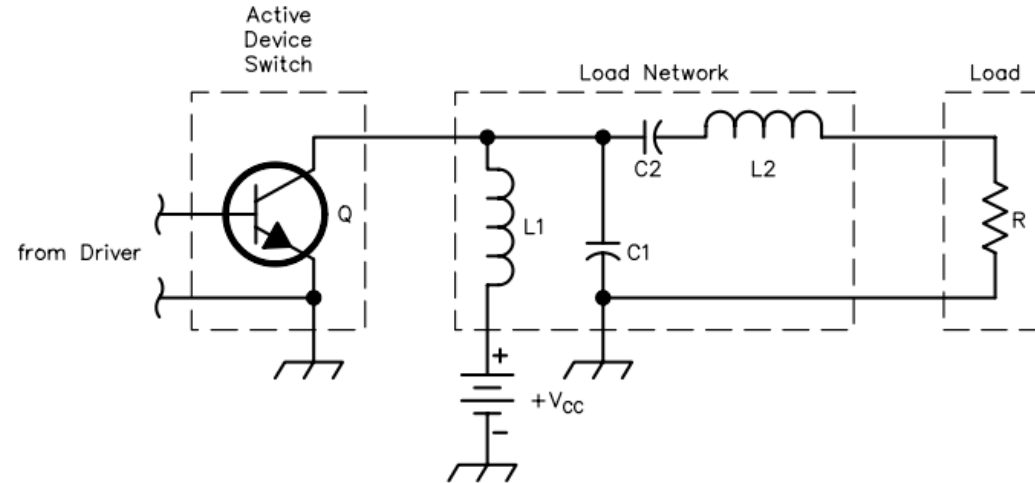


Fig 2—Schematic of a low-order Class-E amplifier.

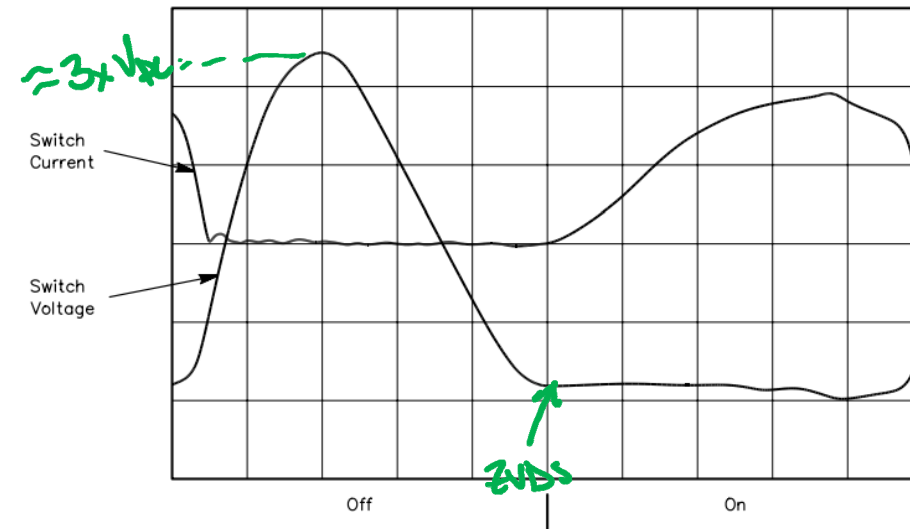
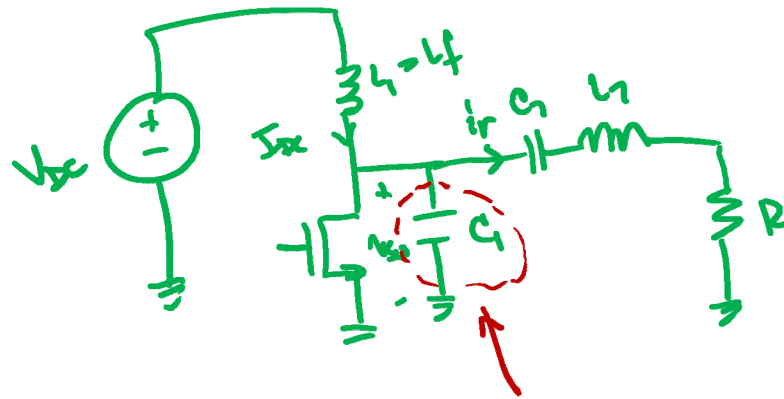


Fig 3—Actual transistor voltage and current waveforms in a low-order Class-E amplifier.

Class Φ_2 VHF DC-DC Converter

Φ_2 Boost Converter

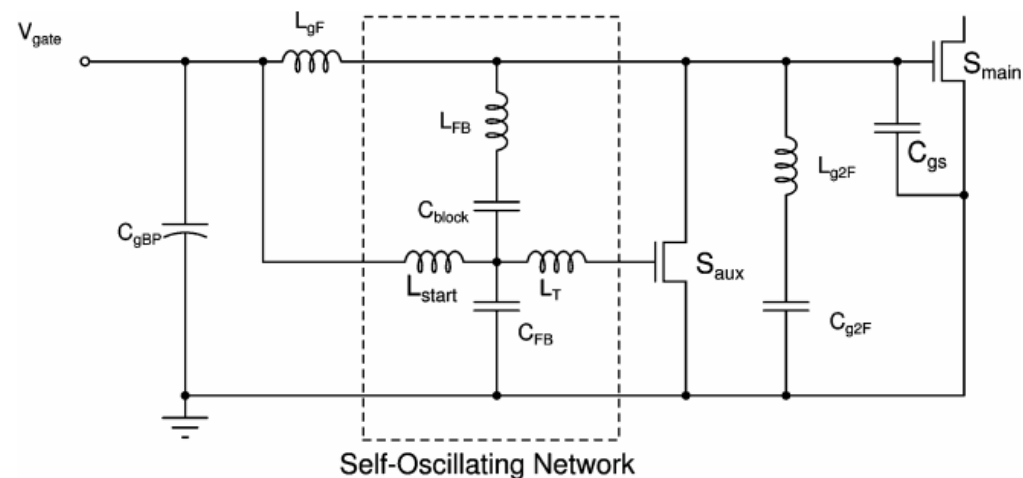
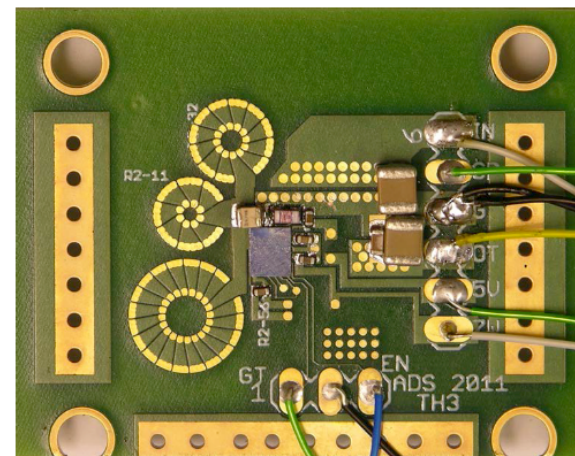
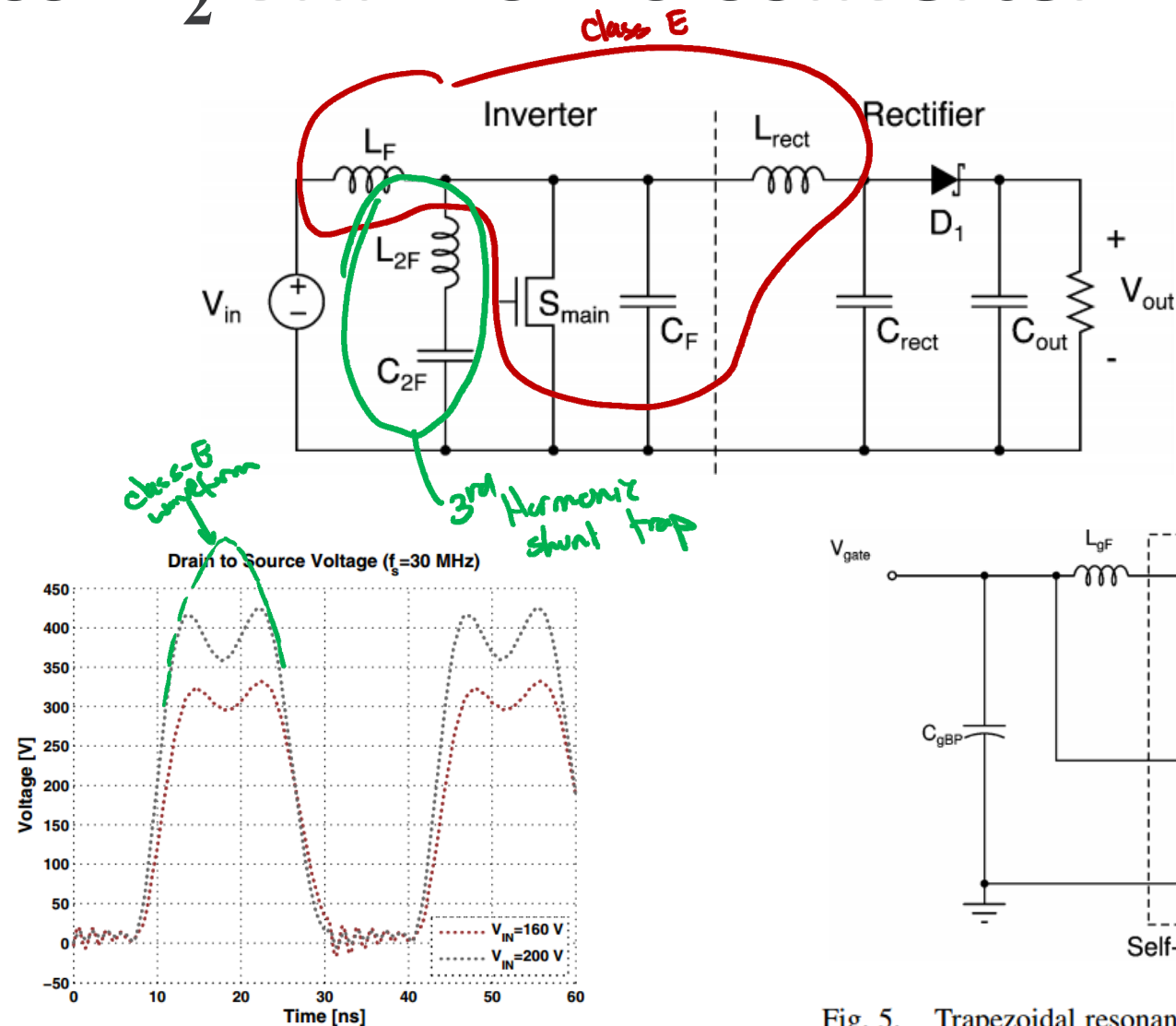


Fig. 5. Trapezoidal resonant gate drive circuit with self-oscillating network. The converter is enabled by applying the voltage V_{gate} , and disabled by setting V_{gate} to zero. This gate driver is employed in the 110-MHz converter (Fig. 9).