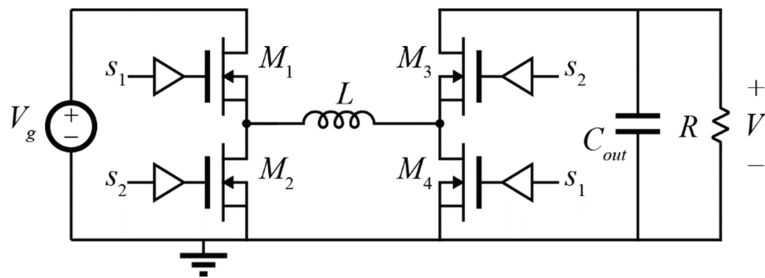
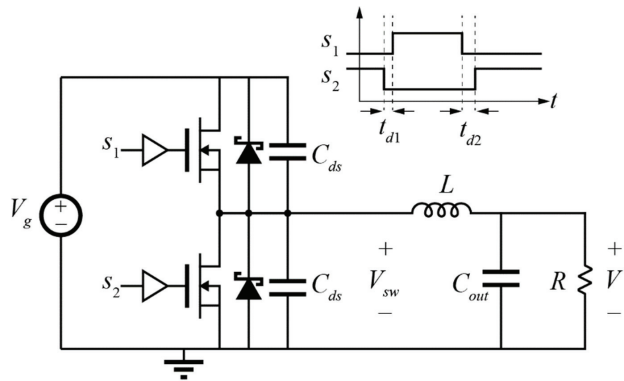
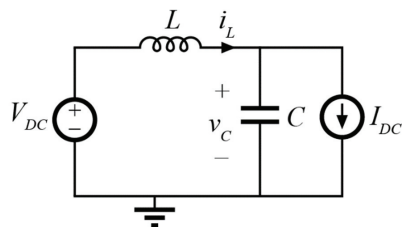


Time-Domain Analysis of Switching Transitions



Resonant Circuit Solution



Normalization and Notation

$$v_c(t) = V_{DC} + (V_0 - V_{DC})\cos\left(\frac{t}{\sqrt{LC}}\right) + (I_0 - I_{DC})\sqrt{\frac{L}{C}}\sin\left(\frac{t}{\sqrt{LC}}\right)$$

$$i_L(t) = I_{DC} + (I_0 - I_{DC})\cos\left(\frac{t}{\sqrt{LC}}\right) + (V_{DC} - V_0)\sqrt{\frac{C}{L}}\sin\left(\frac{t}{\sqrt{LC}}\right)$$

State Plane Analysis

