



Series Resonant Converter

phase-shift modulation (one of many modes of operation)

Design so that $f_0 = \frac{1}{2\pi\sqrt{L_r C_r}} \ll f_s$ (otherwise may lose ZVS)

* In next few slides, neglect ZVS transitions \rightarrow analyze same as before



Subinterval I

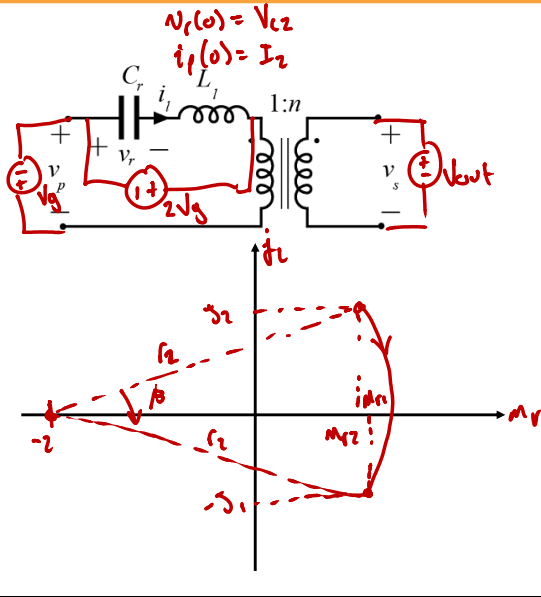
$v_r(0) = -V_{r1}$
 $i_r(0) = I_1$

$V_{base} = V_g$
 $I_{base} = \frac{V_g}{R_o}, R_o = \sqrt{\frac{L_r}{C_r}}$

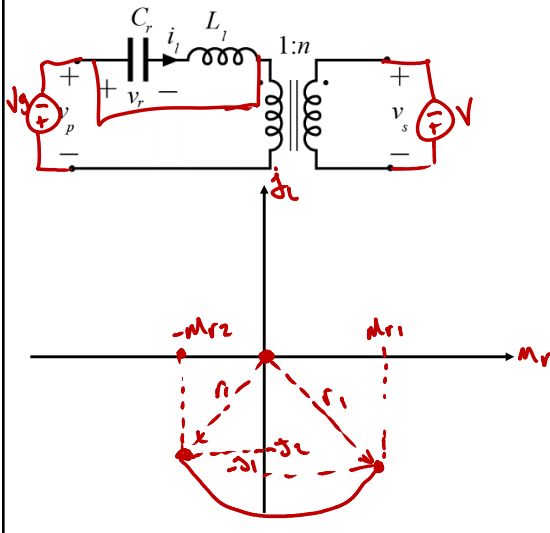
* First look at $v = nV_g$



Subinterval II



Subinterval III





Subinterval IV

