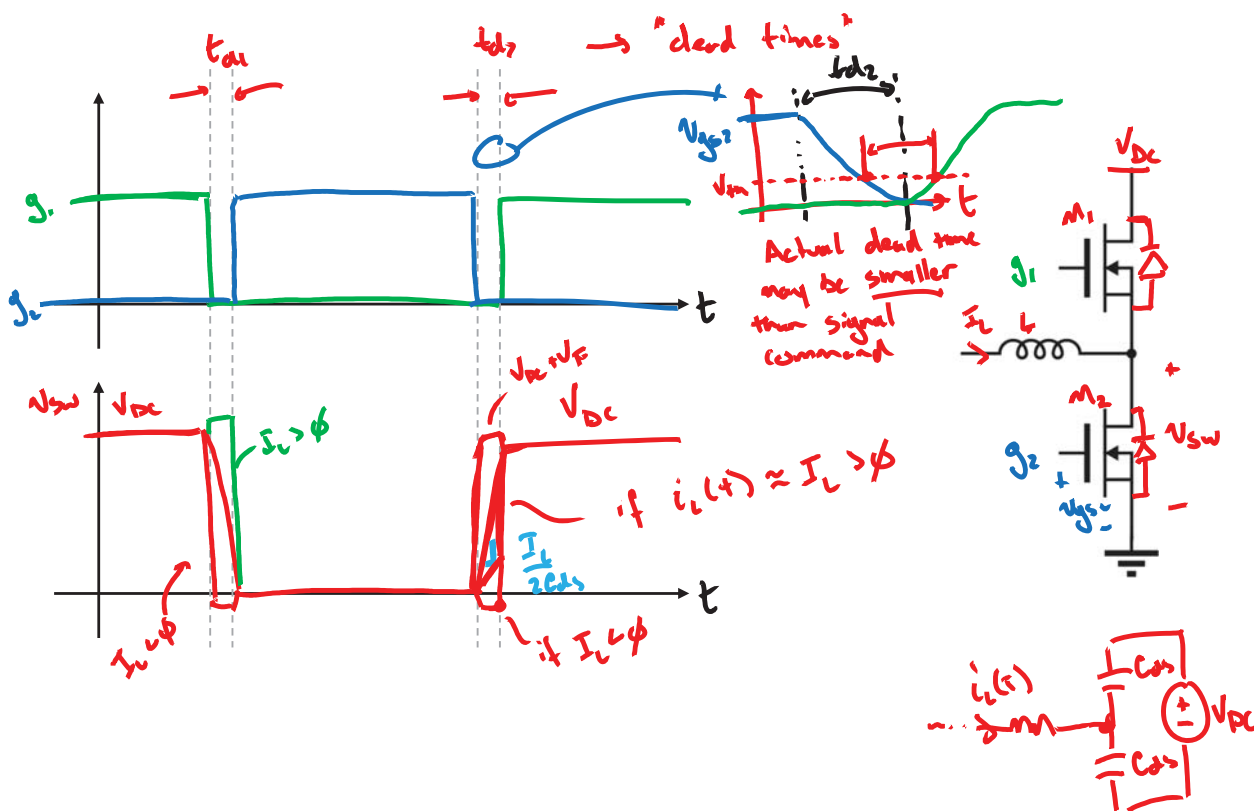
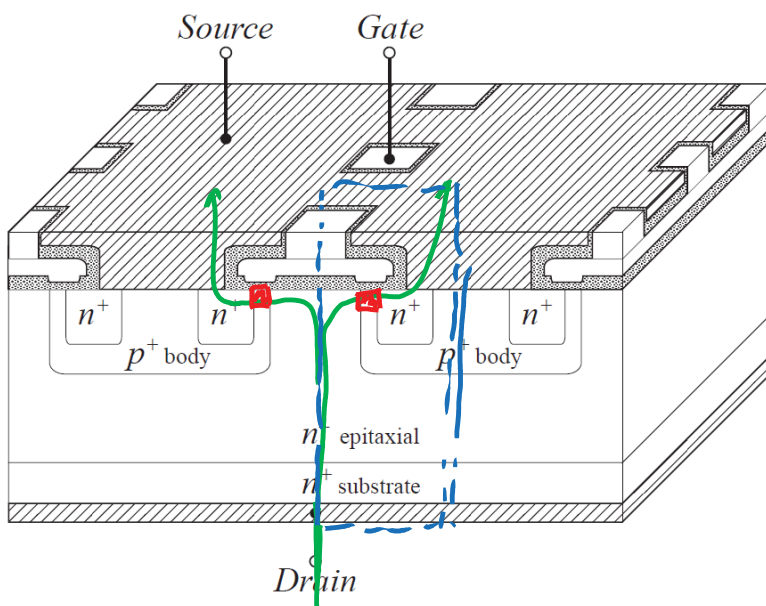


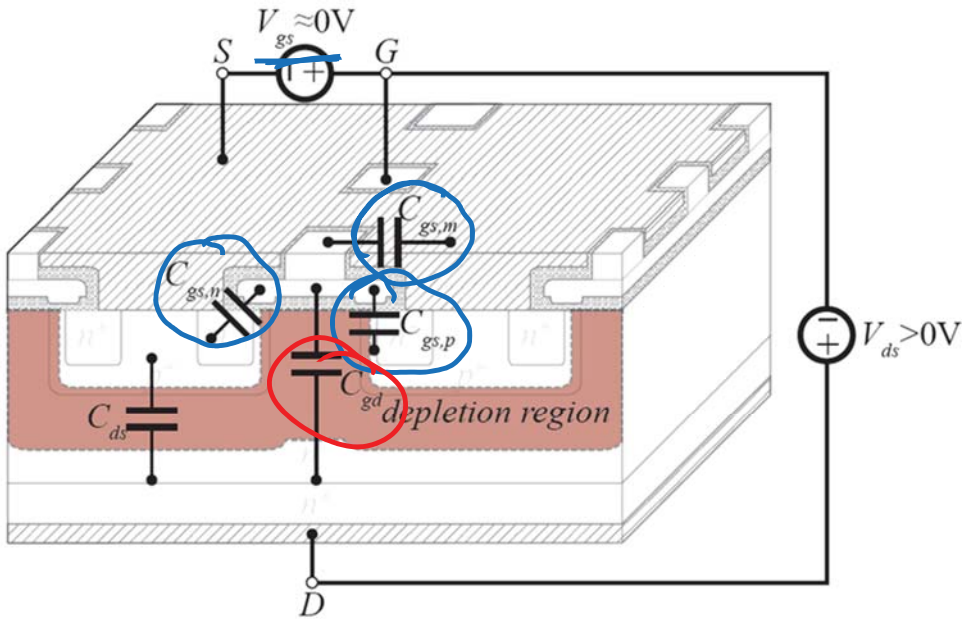
Synchronous Switching



MOSFET Cross Section



MOSFET Depletion Capacitance

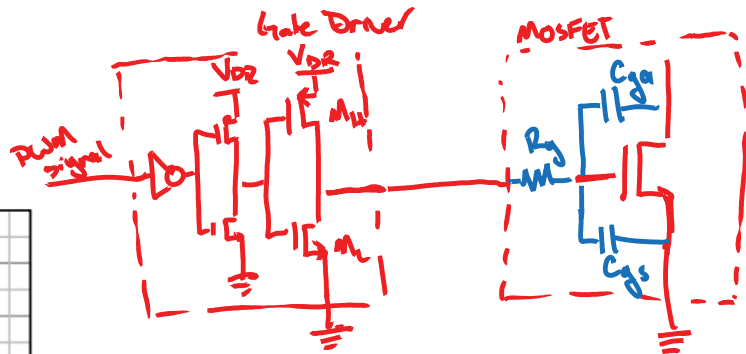
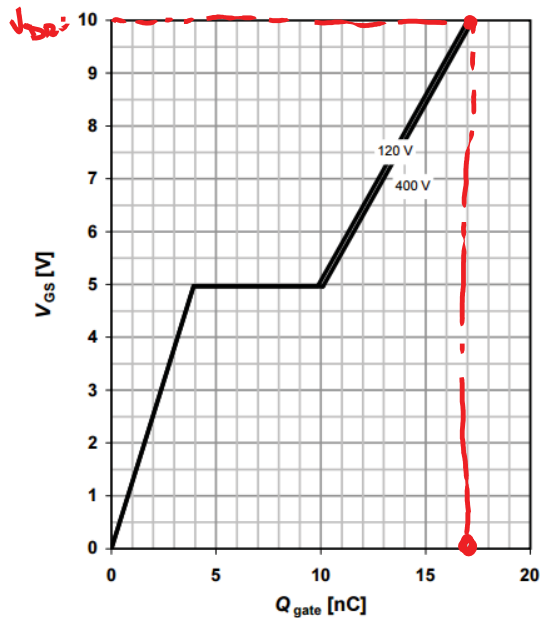


Gate Charge

9 Typ. gate charge

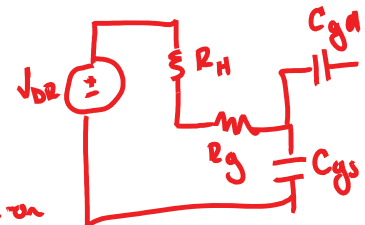
$V_{GS} = f(Q_{gate})$; $I_D = 5.2 \text{ A}$ pulsed

parameter: V_{DD}



$M_{H1} \rightarrow R_{H1}$
 $M_L \rightarrow R_L$

Turn-on



total turn-off + turn-on

$$P_g = Q_g V_{dr} f_s$$

$$E_{gon} = \frac{1}{2} Q_g V_{be}$$

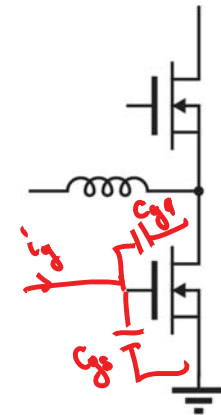
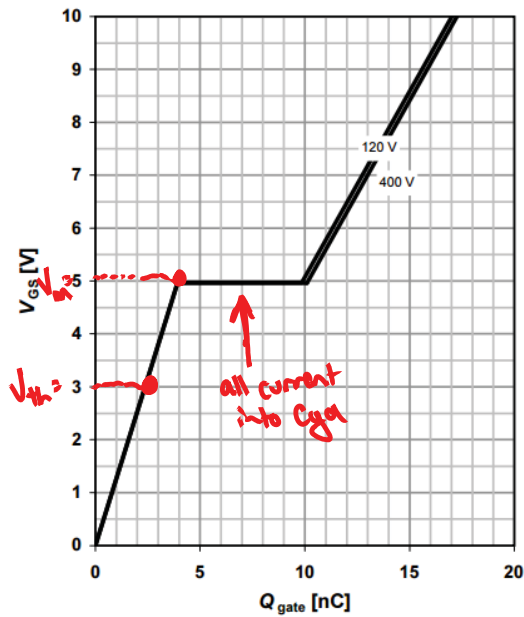
Overlap Time

9 Typ. gate charge

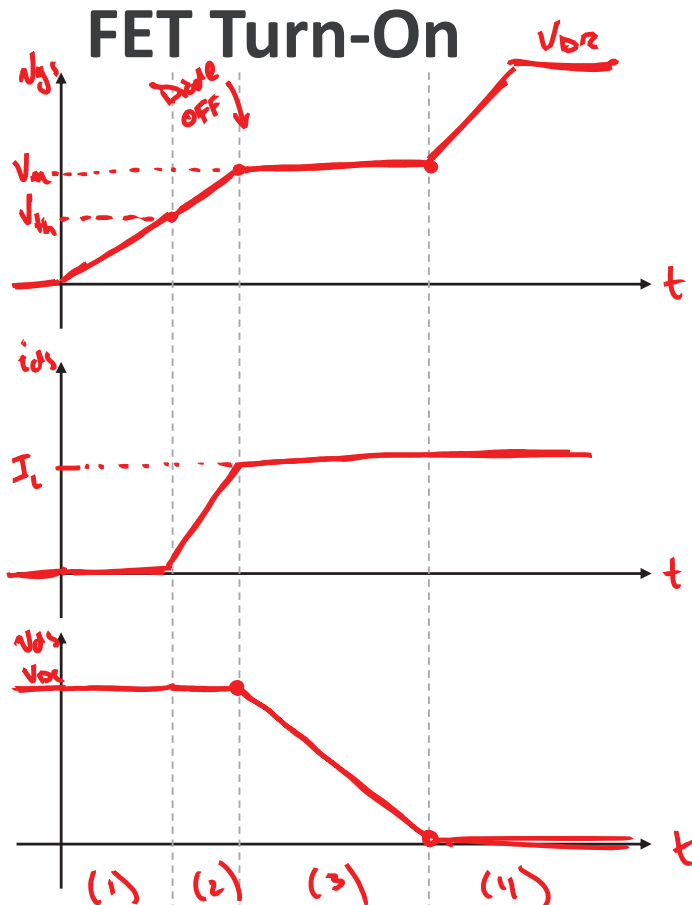
$$V_{GS} = f(Q_{gate}); I_D = 5.2 \text{ A pulsed}$$

parameter: V_{DD}

Gate threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 0.34 \text{ mA}$	2.5	3	3.5
Gate resistance	R_G	$f = 1 \text{ MHz, open drain}$	-	1.8	-
					Ω



FET Turn-On



in act/sat
 $i_{as} \approx g_{fs} (V_{gs} - V_{th})$

