ECG 721 Memory Circuit Design

Oct. 5, 2015

Section 18.1
Lecture 12

\[ V_{IN} \rightarrow \text{Do} \]

\[ 0 \rightarrow 1 \]

\[ 1 \rightarrow 0 \]

[Graph with V_{IN}, V_{OUT} axes and curves]
\[ V_{oT} = V_{DD} \]

\[ V_{in} = V_{SPL} \]

\[ V_{SPL} = V_{SPPH} + \left(0 - V_{SPPH}\right) \cdot (1 - e^{-t/\tau_C}) \]

\[ t_{\text{rise}} = \frac{1}{\tau_C} \]
\[
\frac{B_1}{B_2} = \frac{w_1}{w_2} \cdot \frac{L_2}{L_1} \cdot \frac{V_{DD} - V_{SPP}}{V_{SPP} - V_{THW}}
\]

\[
\frac{B_3}{z^2} \left( V_{DD} - V_X - V_{THW} \right) = \frac{R_1}{z} \left( V_{SPP} - V_{THW} \right)^2
\]

\[
V_{BS3} = \left( V_{BS3} \right)^2
\]

Vin = V_{SPP} = V_{THW} + V_X