

Prob C.I.1. $V_{OH} \approx 4.3 \text{ V}$, $V_{OL} \approx 0.5 \text{ V}$, $V_{IH} \approx 2.9 \text{ V}$, $V_{IL} \approx 2.6 \text{ V}$, $NM_H = 1.4 \text{ V}$, $NM_L = 2.1 \text{ V}$.

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Prob C.I.2.

1. $t_{pLH} \approx 0.7 \mu\text{s}$, $t_{pHL} \approx 0.05 \mu\text{s}$.

2. $t_r \approx 0.3 \mu\text{s}$, $t_f \approx 0.05 \mu\text{s}$.

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Prob C.I.3.

1. $V_{OH} \approx 4.2 \text{ V}$, $V_{OL} \approx 0.6 \text{ V}$, $V_{IH} \approx 3.4 \text{ V}$, $V_{IL} \approx 3.1 \text{ V}$, $NM_H = 0.8 \text{ V}$, $NM_L = 2.5 \text{ V}$.

2. $t_{pHL} \approx 24\text{ns}$, $t_{pLH} \approx 12\text{ns}$.

3. $t_r \approx 10 \text{ ns}$, $t_f \approx 40 \text{ ns}$.

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Prob C.I.4. $t_{pHL0} \approx 0.1\text{ps}$, $t_{pLH0} \approx 0.05\text{ps}$; $k_{HL0} \approx 1\text{s/F}$, $k_{LH0} \approx 0.5\text{s/F}$.

$$t_{pHL} = t_{pHL0} + k_{HL0} \cdot C_L = 0.9\text{ps}$$

$$t_{pLH} = t_{pLH0} + k_{LH0} \cdot C_L = 0.45\text{ps}.$$

$$N=18$$

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Prob C.I.5. $N_1 = N_2 = 10$.

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