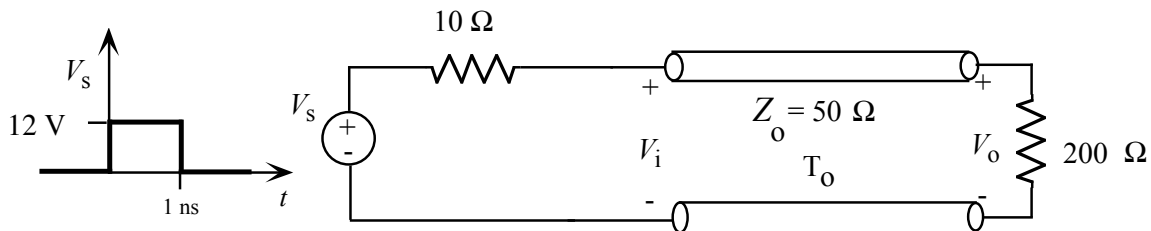


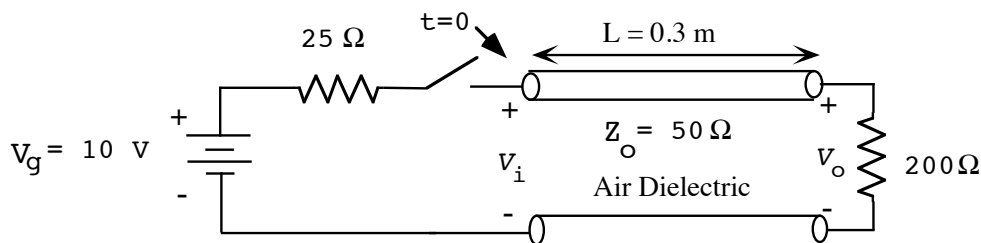
TL-1 Use PSpice to find $V_i(t)$ and $V_o(t)$ for $0 < t < 8$ ns in the circuit below when the one-way delay of the transmission line is:

- a) $T_o = 0.05$ ns
 b) $T_o = 0.7$ ns

In both cases, estimate the duration of the load response using the “rule” that the waveform starts when it reaches 70% of its peak value, and is off when it stays below 10% of its peak value. (Hint: PSpice models transmission lines with the part “T”, which has parameters TD (one-way delay in seconds) and Z_0 (characteristic impedance in Ohms).



TL-2 Analyze and plot $V_i(t)$ and $V_o(t)$ for $0 < t < 4$ [ns]. Assume that the velocity of propagation on the transmission line is 3×10^8 m/s.



TL-3. Measurements of the voltage and current at two points of a section of a 100Ω transmission line were made at $t = 0$. The distance between the two points is 0.4 m. If the velocity of the line is 2×10^8 m/s (slower than the vacuum speed of light), what will be the voltage V and current I at the midpoint between these two points at $t = 2$ ns?

