

**Tutorial 1(Simulation)**

Q1. Consider the circuit in the figure below, the diode(D1) has the reverse saturation current  $I_s = 5 \times 10^{-16}$  A and the source  $V_{in}$  delivers a 5mA of the peak current to  $R_1$  for a peak input level of 2V.

- Theoretically determine the required value of  $R_1$ .
- Verify the result by SPICE, by setting the relevant parameters.

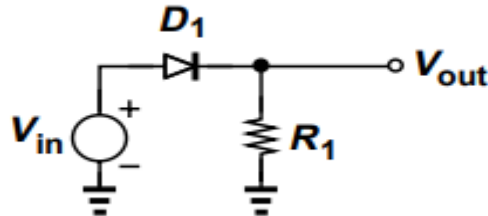


Fig. 1

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