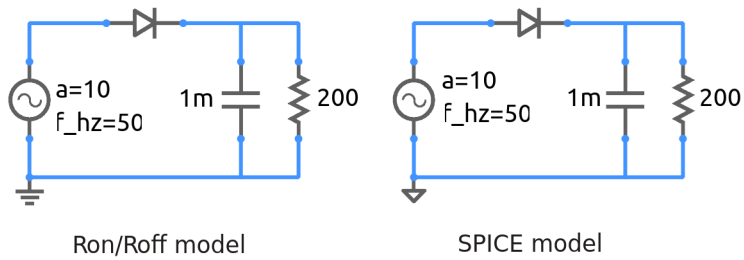# ee101_half_rectifier.sqproj

The purpose of this simulation exercise is to understand the operation of a half-wave rectifier and also to compare the simulation results obtained for two diode models (see figure): (a) simple R_{on}/R_{off} model with a given V_{on} and (b) a more accurate model (used in SPICE) which incorporates the Shockley diode equation.

Exercise Set

1. For the given circuit parameter values, calculate the ripple voltage V_R.

2. Estimate the peak diode current.

3. Compare your values with simulation results obtained with the two diode models.

4. Comment on the validity of the simple diode model.