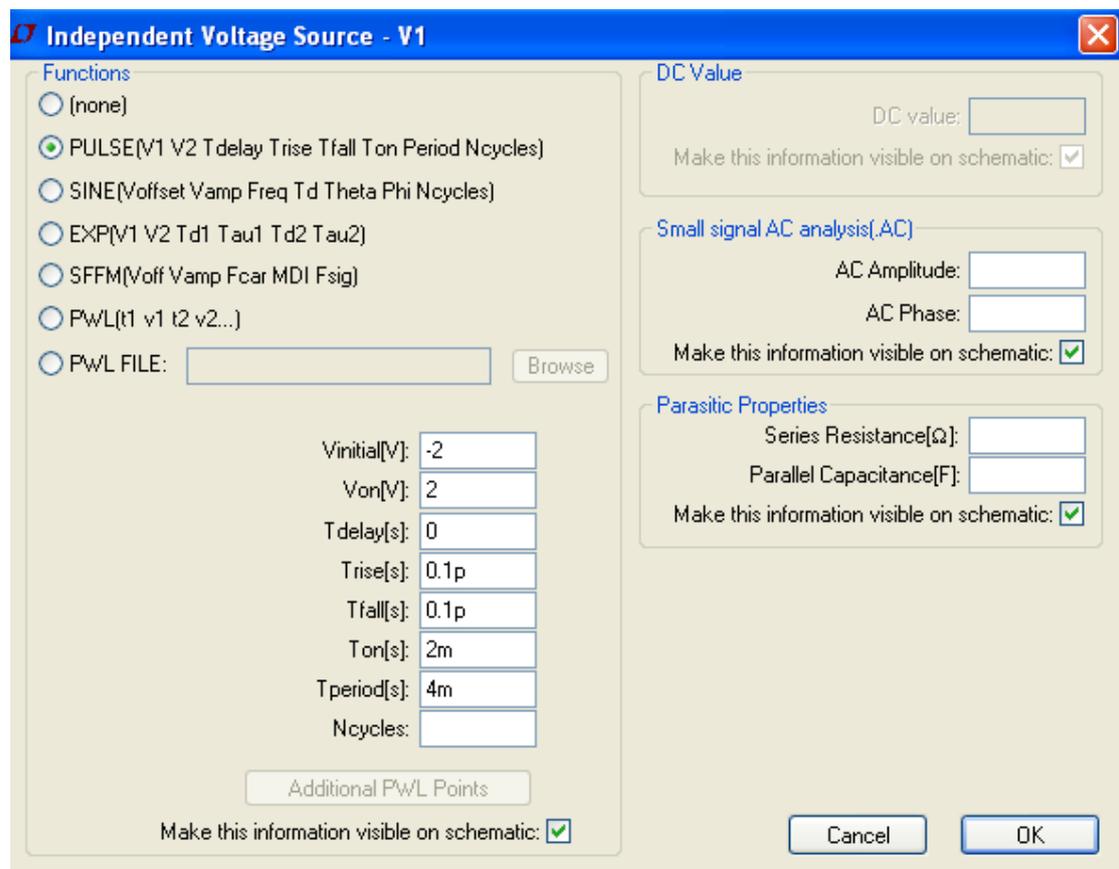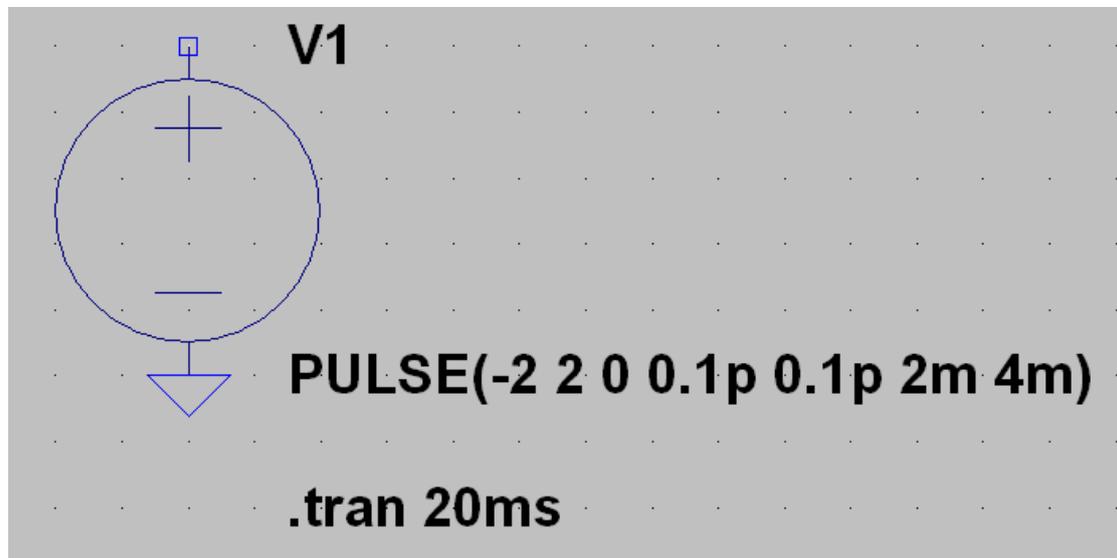Pulse Source in LTSpice

Add a voltage source to your window, set parameters as shown below:

Vinitial is the start voltage, Von is the max voltage. In this example the pulses will go between -2 and 2 volts. Rise time and fall time has been set as short as possible.

Ton is the duration of Von and Tperiod is the total duration of the cycle.

These two parameters gives you the frequency of the pulse, 4 ms as in the example gives a frequency of 250Hz,for 10Khz Tperiod should be 0.1 ms and Ton 0.05ms, if you want 31 khz the Tperiod should be 0.0322ms and the Ton should be the half of that (0.0161). You would also have to edit the stop time in the simulation command to see the pulses, for 31 Khz it should be 1 ms or less.