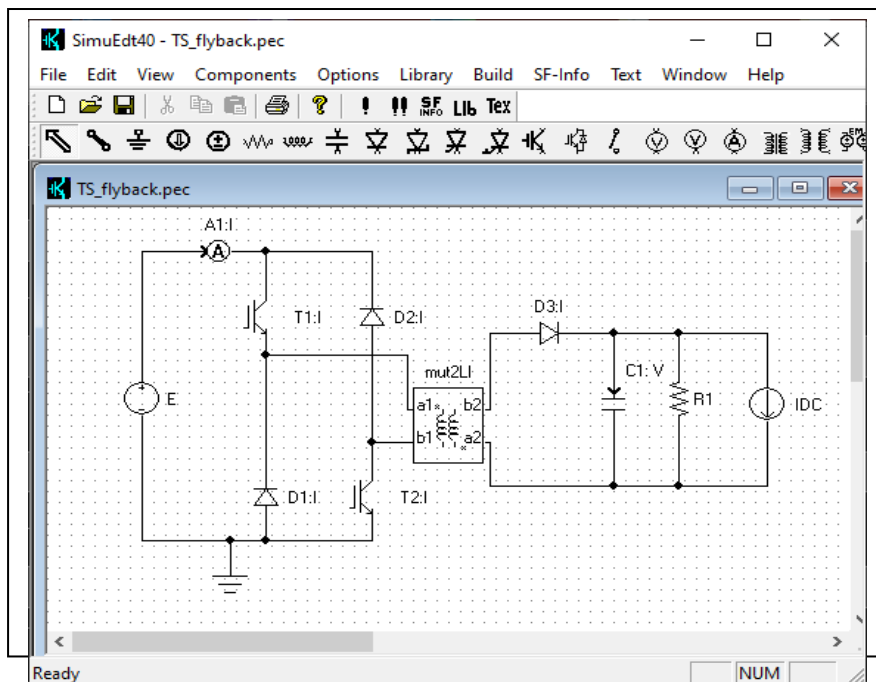


Open Source two switches flyback converter (TS_FLYBACK_OS)

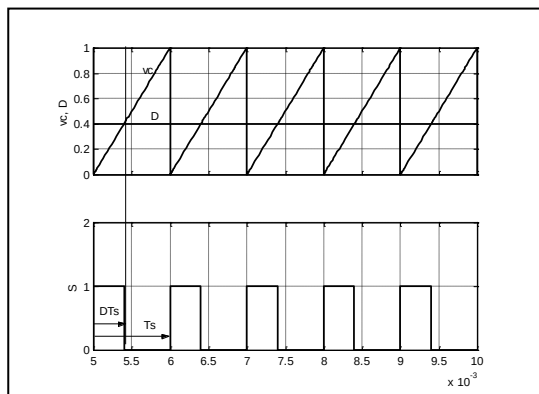
The topology of the two switches flyback converter can be derived from that of the two switches forward converter by reversing the winding connection with respect to the dot notation. The advantage of such topology over that of the basic flyback converter, is that the magnetic energy stored in the primary leakage inductance is returned to the source circuit through the diodes of the converter. Moreover the voltage rating of each of the switches is one-half of that of the basic forward converter, thus allowing it to be suitable for high power applications.



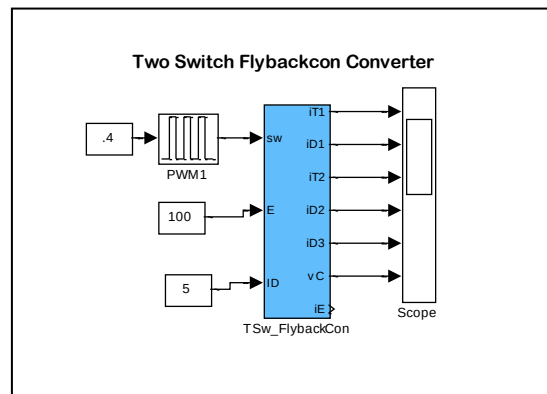
TS_FLYBACK_OS converter

The figure below shows the **Simulink** model of the TS_FLYBACK converter “t_TS_flyback_OS.mdl” including its control. The constant blocks “E” and “D” deliver the value of the input dc voltage E and the duty ratio D respectively. The duty ratio is defined as the ratio of the switch turn-on time T_{on} to the switching period T_s . ($D = T_{on}/T_s$)

The pulse-width modulator block “PWM” delivers the switching signal of the converter according to the value of the duty ratio. . It works on the principle of the sawtooth wave crossing method. The converter power circuit is modeled using the C-S-function.



Pulse-width modulation



Simulink model of the TS_flyback converter