

The Output Adjustable Flyback Converter

Description:

A high voltage step-up DC power supply using adjustable flyback conversion.

Specification:

V_{in} = 220Vac +/-10% @ 50/60Hz

V_{out} = 0~600Vdc @ 0.25A

Switching Frequency: 70~100KHz

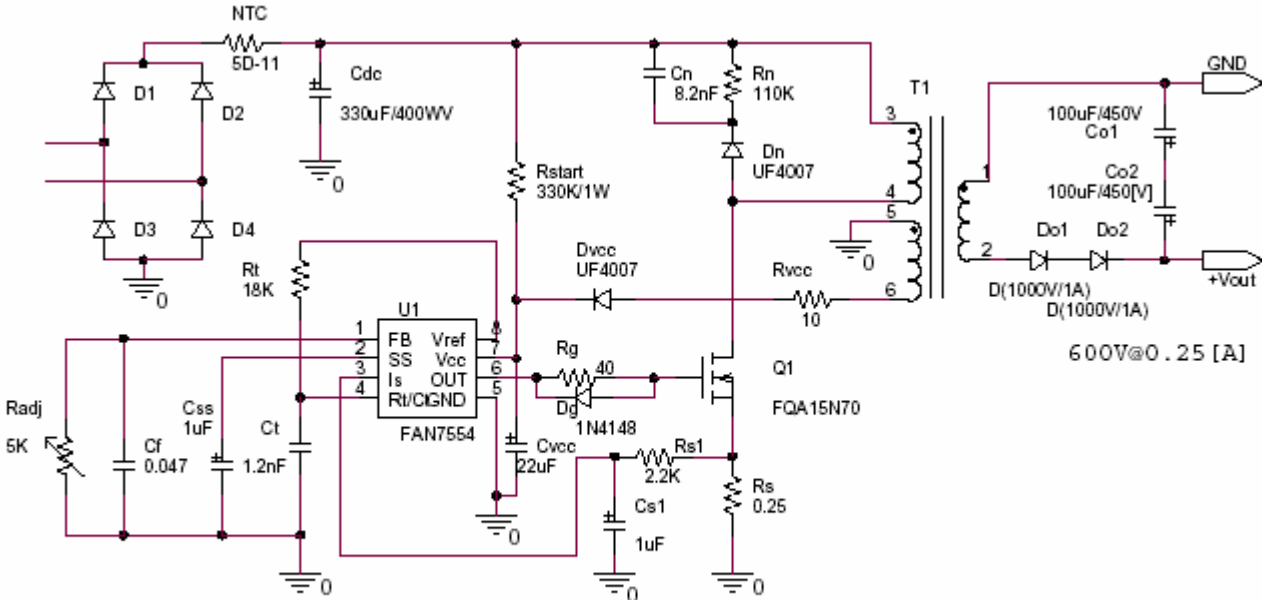


Fig. 1 Main schematic diagram

Design Guidelines:

DCM mode, output power is 200W

The input RMS current in worse condition with discontinuous current mode may be calculated as:

$$I_{rms} = \frac{P_o}{V_{dc}} = \frac{200}{220 \times 0.9 \times \sqrt{2}} \cong 0.72[A]$$

If the optimum operating duty cycle is set at D=0.35, then input peak current can be found as:

$$I_{peak} = \frac{I_{rms}}{D} \times 2 = \frac{0.72}{0.35} \times 2 \approx 4.1 [A]$$

Therefore the voltage sensing limit voltage level from the FAN7554 data sheet is 1.5V