

INPUT
220V 50Hz 0.3A

OUTPUT
5V=2.5A
12V=1.0A
-12V=0.1A

The schematic shows a multi-stage power supply design. It begins with a transformer (TR1) receiving input from a switch (SW1). The primary side has capacitors C2 and C3. The secondary side features a center tap connected to ground via D1 and a full-wave bridge rectifier (D2, D3) with a large electrolytic filter capacitor (C4). This stage produces a raw DC output around +5V. This +5V rail is used for several purposes: it powers a 7812 voltage regulator (U3) to provide a clean +5V output; it serves as the feedback reference for an SG3524 PWM controller (U2); and it is stepped down by an L7912 (U1) to generate a -12V output. The SG3524 (U2) is configured as a switching converter, driving a MOSFET (Q1, D45H2) through a gate driver network consisting of resistors R6, R7, R8 and capacitors C10, C12. The switching converter's output passes through an LC filter (L1, C13) and a diode (D8) to produce a second +5V output. Various other components like Zener diodes (D5, D6), timing capacitors (C5, C6, C7, C8, C9, C11), and resistors (R1, R2, R3, R4, R5) are used for protection, timing, and biasing throughout the circuit.

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