

Technical Description of the HA1275W

The transformer of the HA1275W electronic light is based on an electronic step-down converter. It is used to supply 12V to the low voltage halogen lamp attached. The converter is based on the standard self oscillating, half bridge circuit as described by the schematic diagram attached. The input line filter, comprising L1 & C7, serves to minimize the RFI generated by the converter. The a.c. is then rectified by rectifier diodes D3-D6. C5, C6, Q1, Q2 & T2 form the half bridge. The rectified voltage is chopped by transistors Q1 & Q2. R1 & R2 give bias to transistors Q1 & Q2 respectively. T1 is the oscillator transformer to provide the self-oscillation of the converter. R3, R5, C3 & D1 form the start-up network. D2 & R6 are used to avoid a circuit imbalance between the drive of Q1 & Q2 when the converter is in steady state. F1, R4, R7, R8, R9, R10, C2, C4, D7 & Q3 form the over-current protection circuit. C8, C9, R11 & R12 are employed to improve the stability of the circuit.