

Abstract

Mains rectifier circuit

The invention relates to a mains rectifier circuit for power supply units, in particular for switched-mode power supplies, having a full-wave rectifier (D1 ... D4) which is connected to the mains voltage and having a smoothing capacitor (CL) which is connected downstream of said full-wave rectifier (D1 ... D4), the smoothing capacitor being charged at a clock frequency, which is considerably higher than the mains frequency, via the series circuit formed by a boost inductance (LB) and a diode (DS), in the case of which series circuit the junction point between the boost inductance and the diode is connected to earth via a controlled switch (SB), the smoothing capacitor (CL) and the load (SNT) are connected to the full-wave rectifier (D1 ... D4), an auxiliary rectifier (D1', D2') is provided, from which the series circuit formed by the boost inductance and the diode leads to the smoothing capacitor, and the switch is controlled via a drive circuit (AB) such that additional charging current is supplied to the smoothing capacitor, via the boost inductance, in time periods around the zero crossings of the rectified half-cycles.

FIG 1