

Abstract

Drive circuit for a flyback converter with switching transistors in bridge arrangement

A flyback converter comprises a first (6) and a second (8) switching transistor, a first (10) and a second (12) rectifier diode, and a primary winding (14) of a transformer, which parts are connected in a bridge arrangement. The first switching transistor (6) receives its drive by positive feedback *via* a secondary winding (30), a coupling capacitor (36) and a series resistor (38, 40). Upon commutation of the voltage on the secondary winding (30) the first switching transistor (6) is turned off, a discharge diode (44) providing a discharge path for the coupling capacitor (36) in order to achieve that the first switching transistor (6) is turned on more rapidly in the next switching cycle. However, the discharge diode (44) limits the cut-off voltage on the control electrode of the first switching transistor (6), so that turning off proceeds comparatively slowly. This effect is eliminated by means of a voltage source (46, 48, 52) and a further switching transistor (54) which is turned on upon commutation. The further switching transistor (54) then produces a higher cut-off voltage on the control electrode of the first switching transistor (6), as a result of which the first switching transistor (6) is turned off more rapidly.

Figure 1.

