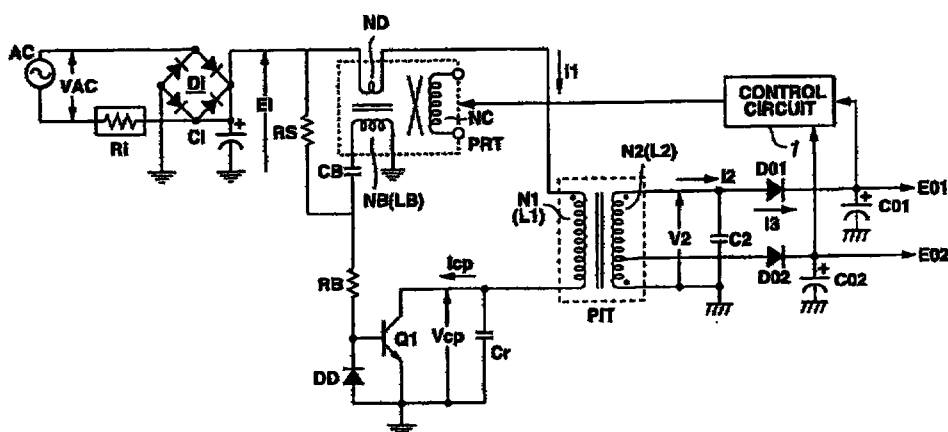




INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁷ : H02M 3/338, 7/217	A1	(11) International Publication Number: WO 00/69059 (43) International Publication Date: 16 November 2000 (16.11.00)
(21) International Application Number: PCT/JP00/02994 (22) International Filing Date: 10 May 2000 (10.05.00) (30) Priority Data: 11/129725 11 May 1999 (11.05.99) JP (71) Applicant (for all designated States except US): SONY CORPORATION [JP/JP]; 7-35, Kitashinagawa 6-chome, Shinagawa-ku, Tokyo 141-0001 (JP). (72) Inventor; and (75) Inventor/Applicant (for US only): YASUMURA, Masayuki [JP/JP]; Sony Corporation, 7-35, Kitashinagawa 6-chome, Shinagawa-ku, Tokyo 141-0001 (JP). (74) Agents: KOIKE, Akira et al.; No.11 Mori Building, 6-4, Toranomon 2-chome, Minato-ku, Tokyo 105-0001 (JP).	(81) Designated States: AU, BR, CA, CN, ID, IN, KR, MX, PL, RU, SG, TR, US, VN, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Published With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.	

(54) Title: SWITCHING POWER SUPPLY CIRCUIT



(57) Abstract

A switching power supply circuit of the resonance type which can handle high loadpower and has high power conversion efficiency, small size and light weight is provided. The switching power supply circuit may be formed as a composite resonance converter wherein a voltage resonance converter is provided on a primary side and a parallel resonance circuit is provided on a secondary side. The switching power supply circuit may include an insulating converter transformer having a pair of E-shaped cores each with outer and center legs in which a gap is formed between the middle legs thereof so that a loose coupling condition having a coupling coefficient higher than a predetermined level may be obtained. A half-wave rectifier circuit of an additive mode may be provided on the secondary side. A switching frequency of a switching element for switching a dc input voltage to the insulating converter transformer on and off may be varied to effect constant voltage control.