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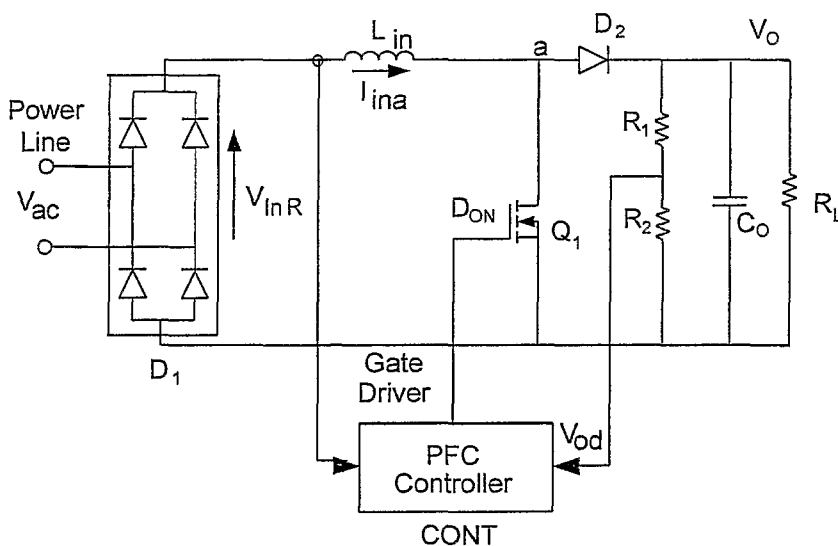
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(54) Title: METHOD AND CONTROL CIRCUITRY FOR IMPROVED-PERFORMANCE SWITCH-MODE CONVERTERS



(57) Abstract: A system and method for supplying power to a load (R_L) and for controlling the power Factor presented to the power line. Output voltage (V_o) is controlled by a digital, outer, control loop (Digital), and inner, analog, control loop (Analog) causes the input current (I_{ina}) to be substantially proportional to the input voltage (V_{in}) at any particular point in the power line cycle. Thus, the system presents a load (R_L) to the power line that appears to be purely resistive. The use of an analog multiplier is not required, nor is sampling of input voltage. Limiting of inrush current provides for brown-out protection and soft-start.

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INTERNATIONAL SEARCH REPORT

International application No.

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A. CLASSIFICATION OF SUBJECT MATTER IPC: G05F 1/10(2006.01),1/40(2006.01) H02M 5/42(2006.01) USPC: 323/222,271,283 According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) U.S. : 323/222, 271, 283, 220, 223, 225, 225, 268, 273, 282 Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) EAST: power factor correction, digital, analog		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5,631,550 A (CASTRO et al) 20 May 1997. See Fig. 1	1-21
A	US 5,847,942 A (BAZINET et al) 8 December 1998. See Fig. 3	
A	US 6,043,633 A (LEV et al) 28 March 2000. See Fig. 10	1-21
A	US 6,728,121 A (BEN-YAAKOV et al) 27 April 27 2004. See Fig. 7	1-21
A	US 7,015,682 A (SANTIN et al) 21 March 2006. See Fig. 1	1-21
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