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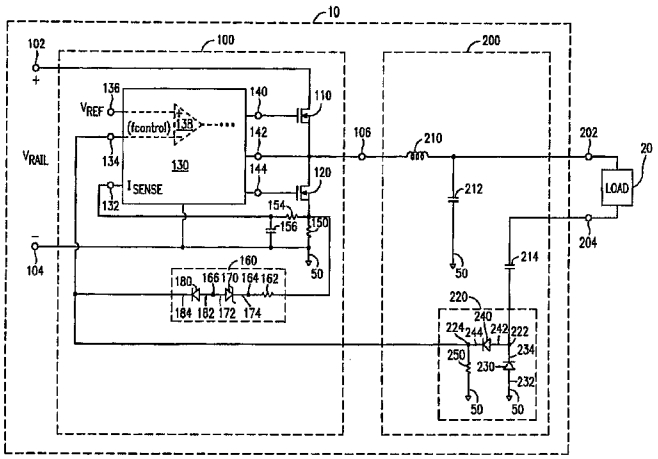
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(54) Title: INVERTER WITH IMPROVED OVERCURRENT PROTECTION CIRCUIT, AND POWER SUPPLY AND ELECTRONIC BALLAST THEREFOR




(57) Abstract: An inverter (100) comprises first and second input terminals (102,104), an inverter output terminal (106), a series arrangement of a first inverter transistor (110) and a second inverter transistor (120), a driver circuit (130), a primary current sensing circuit (150,154,156), and an auxiliary current sensing circuit (160). Primary current sensing circuit (150,154,156) is coupled between second inverter transistor (120) and a current-sense input (132) of driver circuit (130). Auxiliary current sensing circuit (160) is coupled between second inverter transistor (120) and a frequency control input (134) of driver circuit (130). During operation, if the current flow through inverter transistors (110,120) exceeds a predetermined peak limit, auxiliary current sensing circuit (160) provides an auxiliary signal to frequency control input (134) of driver circuit (130), thereby increasing a drive frequency at which driver circuit (130) commutates inverter transistors (110,120). The increase in the drive frequency reduces the peak current flow through inverter transistors (110,120), thereby protecting inverter transistors (110,120) from excessive power dissipation and potentially destructive heating.

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# INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER
IPC: **H02H 7/122**( 2006.01)
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USPC: 363/56.03;323/285
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. : 363/56.03;323/285

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
NONE

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
APS, PLUS

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|---|---|---|
| A | US 6,930,454 A (LOTT) 16 August 2005 (16.08.2005), entire document. | 1-15 |
| A | US 6,822,401 A (BORELLA et al) 23 November 2004 (23.11.2004) entire document. | 1-15 |
| A | US 6,545,432 A (KONOPKA) 8 April 2003 (08.04.2003), entire document. | 1-15 |

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