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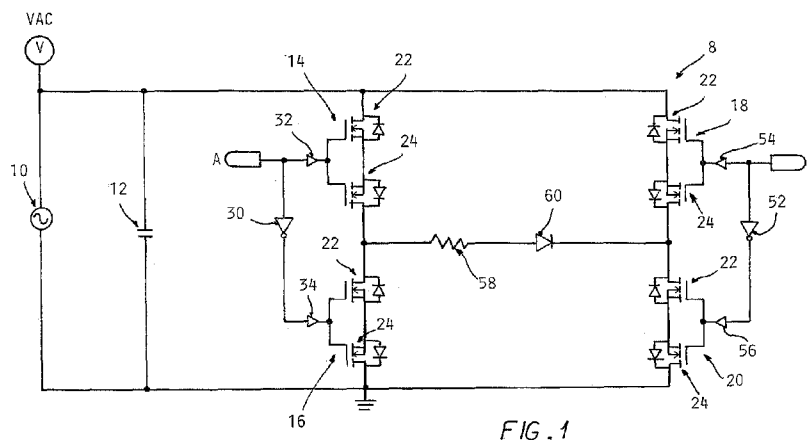
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(54) Title: DIRECT AC-TO-DC CONVERTER FOR PASSIVE COMPONENT MINIMIZATION AND UNIVERSAL OPERATION OF LED ARRAYS



(57) Abstract: Disclosed herein is a power converter circuit for a LED lighting device. The power converter includes a pair of input terminals adapted to be connected to a signal source, at least one LED, a first circuit adapted to supply current to the at least one LED and including: a first bi-directional switch connected between one input terminal and one side of the at least one LED, and a second bi-directional switch connected between the other side of the at least one LED and the other input terminal, and a second circuit adapted to supply current to the at least one LED and including: a third bi-directional switch connected between the other input terminal and the one side of the at least one LED, and a fourth bi-directional switch connected between the one input terminal and the other side of the at least one LED.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2010/021448**A. CLASSIFICATION OF SUBJECT MATTER****H05B 37/02(2006.01)i, H02M 7/02(2006.01)i**

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)

H05B 37/02; H02M 7/06; H05B 39/04

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

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

eKOMPASS(KIPO internal) & Keywords: LED, power, conversion, converter, switch, transistor

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 6373733 B1 (WU; JENG-SHYONG et al.) 16 April 2002 See abstract; column 2, line 6 - column 3, line 59; claim 1 and figures 2, 3.	1-22
A	US 2005-0162093 A1 (JOS TIMMERMANS et al.) 28 July 2005 See abstract; paragraphs [0023] - [0029]; claim 8 and figure 5.	1-22
A	US 7378805 B2 (OH IN-HWAN et al.) 27 May 2008 See abstract; column 6, line 44 - column 8, line 29; claim 1 and figures 2.	1-22
A	US 2008-0129211 A1 (LIN RONG-TSUNG et al.) 05 June 2008 See abstract; paragraphs [0018] - [0021]; claim 1 and figure 2A.	1-22

 Further documents are listed in the continuation of Box C. See patent family annex.

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Information on patent family members

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