(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
15 December 2011 (15.12.2011)

WIPO | PCT

(10) International Publication Number
WO 2011/154792 A3

(51) International Patent Classification:
H02J 1/10 (2006.01)

(21) International Application Number:
PCT/IB2011/001168

(22) International Filing Date:
30 May 2011 (30.05.2011)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
61/352,820 8 June 2010 (08.06.2010) US
12/838,268 16 July 2010 (16.07.2010) US

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(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

— *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*

— *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

Published:

— *with international search report (Art. 21(3))*

(88) Date of publication of the international search report:
7 September 2012

(54) Title: ULTRA-HIGH EFFICIENCY SWITCHING POWER INVERTER AND POWER AMPLIFIER

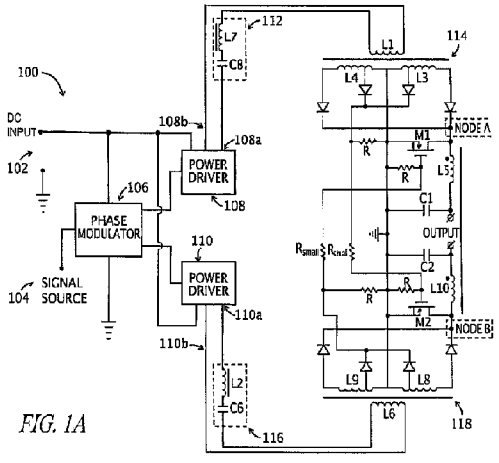

FIG. 1A

(57) Abstract: An apparatus for providing a power output proportional to a source signal, including a phase modulator driving an upper and an lower power driver with carrier waveforms having a relative phase difference and having a signal modulated thereon, and coupled to a resonator circuit to operate as a substantially zero-voltage zero-current switching element, with the output fed into respective upper and lower transformers. Identical symmetrical secondary circuits on the transformers have a rectifier stage electrically connected to an inductor in series with an upper capacitor to form an upper low pass filter, and a high speed semiconductor switch coupled to a node between the inductor and rectifier stage provides a return path to ground. The lower secondary circuit inductor is highly coupled (>=0.99) to the upper inductor, and an output formed across the upper and lower output elements is isolated from rail voltage and balanced with bi-directional current.

WO 2011/154792 A3

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IB 11/01168

A. CLASSIFICATION OF SUBJECT MATTER
IPC(8) - H02J 1/10 (2011.01)
USPC - 307/20
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)
USPC: 307/20

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
IPC(8): H02J 1/10 (2011.01); USPC: 307/11,16-20,24,31,42,43; 323/212,215,299,355,356,364,371; 361/139; 363/13,15,178
(keyword limited; terms below)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
PubWEST(USPT,PGPB,EPAB,JPAB); Google Scholar
Search Terms: node, semiconductor, e core, transformer, filter, winding, over-current, zero-voltage, zero-current, capacitor, inductor, switch, transistor, carrier, signal, modulator, transformer, rectifier.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2010/0109436 A1 (LANNI) 06 May 2010 (06.05.2010), entire document, especially; FIG 1, 3B, para [0012]-[0014], [0019], [0076]-[0080], [0089], [0098]-[0100].	1-15, 17, 18, 20-34
Y	US 2010/0135045 A1 (INOUE) 03 June 2010 (03.06.2010), entire document, especially; FIG 8, 9, para [0002], [0006], [0024]-[0027], [0029], [0033], [0034], [0036]-[0038], [0041], [0045], [0047] -[0049].	1-15, 17, 18, 20-34
Y	US 7,642,758 B2 (MORONG et al.) 05 January 2010 (05.01.2010), entire document ,especially; col 19, ln 54 to col 20, ln 9, col 23, ln 4-14.	14, 15, 29, 30
Y	US 4,961,128 A (Bloom) 02 October 1990 (02.10.1990), entire document ,especially col 6, ln 19 -46, col 7, ln 3-14	22, 23, 33
A	US 2003/0178889 A1 (ALGRAIN et al.) 25 September 2003 (25.09.2003), entire document.	1-15, 17, 18, 20-34
A	US 2008/0175024 A1 (SCHLECHT et al.) 24 July 2008 (24.07.2008), entire document.	1-15, 17, 18, 20-34

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"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
06 November 2011 (06.11.2011)	25 NOV 2011
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer: Lee W. Young PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/210 (second sheet) (July 2009)