

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
16 November 2006 (16.11.2006)

PCT

(10) International Publication Number
WO 2006/121538 A1

(51) International Patent Classification:
H02M 3/335 (2006.01)

(21) International Application Number:

PCT/US2006/012615

(22) International Filing Date: 4 April 2006 (04.04.2006)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
11/125,300 9 May 2005 (09.05.2005) US

(71) Applicant (for all designated States except US): **ALLEGRO MICROSYSTEMS, INC.** [US/US]; 115 Northeast Cutoff, Worcester, Massachusetts 01615-0036 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **WEKHANDE, Shashank, S.** [IN/US]; 10 Barrington Avenue, #206, Nashua, NH 03062 (US). **MANGTANI, Vijay, R.** [IN/US]; 7 Terramar Lane, Nashua, NH 03062 (US). **WEN, Sihua** [CN/US]; 28 Kessler Farm Drive, Apt. 603, Nashua, NH 03063 (US).

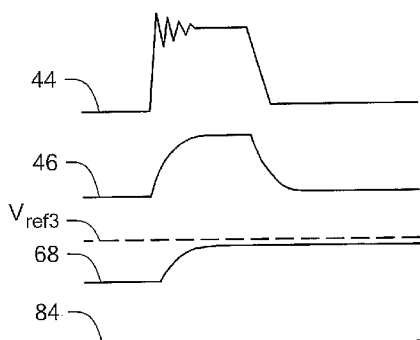
(74) Agents: **CROWLEY, Judith, C.** et al.; Daly, Crowley, Mofford & Durkee, LLP, Suite 301A, 354A Turnpike Street, Canton, Massachusetts 02021 (US).

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

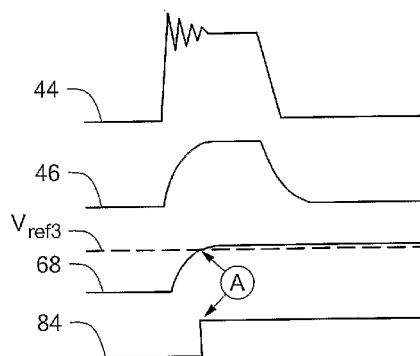
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT,

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(54) Title: CAPACITOR CHARGING METHODS AND APPARATUS



A



B

(57) Abstract: A capacitor charging circuit with primary side output voltage sensing for generating a control signal indicative of whether the output voltage has reached a desired level. The control signal is unaffected by voltage spikes occurring when the main switch is turned off. In one embodiment, the primary side voltage is filtered for comparison to a reference voltage to provide the control signal. In another embodiment, the control signal transitions in response to the primary side voltage being greater than a reference voltage and the secondary current being discontinuous. In a further embodiment, the control signal transitions only in response to a predetermined delay occurring after the primary side voltage becomes greater than a reference voltage and the secondary current becomes discontinuous. According to a further aspect of the invention, an auxiliary switch reduces the reverse recovery time of the output diode to speed up the capacitor charging time.



RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- *with international search report*
- *with amended claims*

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))*

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