Title (en)

Voltage generator for a liquid crystal display with voltage divider, differential amplifier and switching circuit

Title (de)

Spannungsgenerator für Flüssigkristallanzeige mit Spannungsteiler, Differenzverstärker und Schaltkreis

Title (fr)

Générateur de tensions pour un affichage à cristaux liquides avec diviseur de tension, amplificateur différentiel et circuit de commutation

Publication

EP 1102235 A1 20010523 (FR)

Application

EP 00403152 A 20001113

Priority

FR 9914349 A 19991116

Abstract (en)

Increase by a factor of at least 75 percent standby mode autonomy for data systems on portable equipment fitted with LCD screens. Eliminates exterior capacity effects on the intermediate levels of the voltage divider which allows integration of the latter, a reduction of the number of input/outputs and a reduction in the size of the chip. The analogue control stable voltage low power consumption generator (VSEGO) comprises: (a) an input circuit (1), receiving a set analogue voltage (Vlcd), which produces an analogue image voltage (Vjp) reduced by a set factor k; (b) a control circuit (2) which receives the voltage (Vjp), as a setting level value, and an image signal (Si), which is formed by the analogue control voltage (VSEGO) reduced by the same k relationship. The control circuit includes an differential amplifier (20) fed, from a constant set voltage (V21) whose amplitude is greater than the maximum value of the image voltage, and from a second set constant voltage (V22). The amplifier delivers a first switching control pulse (VOUTPLUSP) synchronized with the level signal and lower amplitude of the first constant voltage and a second switching control pulse (VOUTMOINSP) synchronized with the level signal but additional to the first control pulse; (c) a switching circuit (3) fed from the set nominal analogue control voltage, the switching circuit includes a first branch (SW1), controlled by the pulse (VOUTPLUSP), formed by an invertor/amplifier, which delivers an auxiliary switching pulse (V-HI-OUT) synchronized with the level signal, and a similar second branch (SW2), controlled by the pulse (V-HI-OUT) and by the second pulse (VOUTMOINSP), which delivers a switched voltage of nominal et value

Abstract (fr)

L'invention concerne un dispositif générateur d'une tension analogique de commande stable à faible consommation. Il comprend un circuit d'entrée (1) recevant une tension analogique de valeur nominale et délivrant une tension analogique image (Vjp) réduite dans un rapport k, un circuit de contrôle (2) recevant la tension analogique image (Vjp) comme signal de consigne et délivrant une première (VOUTPLUSP) et une deuxième (VOUTMOINSP) impulsion de contrôle de commutation, un circuit (3) de commutation alimenté à la tension analogique de valeur nominale comprenant une première branche de commutation (SW1) délivrant une impulsion de commutation auxiliaire amplifiée (V-HI-OUT) et une deuxième branche de commutation (SW2) délivrant à partir de l'impulsion de commutation auxiliaire amplifiée et de la deuxième impulsion de commutation une tension analogique de commande commutée à la tension analogique de valeur nominale déterminée. Application à la commande de segments d'affichage LCD. <IMAGE>

IPC 1-7

G09G 3/36

IPC 8 full level

G09G 3/36 (2006.01)

CPC (source: EP US)

G09G 3/3696 (2013.01 - EP US); G09G 3/3692 (2013.01 - EP US); G09G 2310/06 (2013.01 - EP US); G09G 2330/021 (2013.01 - EP US)

Citation (search report)

- [A] EP 0479304 A2 19920408 - TOSHIBA KK [JP], et al
- [A] US 5561442 A 19961001 - OKADA HISAO [JP], et al
- [A] EP 0570001 A2 19931118 - TOSHIBA KK [JP]

Citation (examination)

- EP 0915361 A1 19990512 - MATSUSHITA ELECTRIC IND CO LTD [JP]
- GB 2010038 A 19790620 - TOKYO SHIBAURA ELECTRIC CO
- JP H1174742 A 19990316 - DENSO CORP

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DOCDB simple family (application)

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