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(74) Common Representative: LEISTAD, Geirr, I.; Thin Film Electronics ASA, P.O. Box 1872 Vika, N-0124 Oslo (NO).

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(71) Applicant (for all designated States except US): THIN FILM ELECTRONICS ASA [NO/NO]; P.O. Box 1872 Vika, N-0124 Oslo (NO).

(72) Inventors; and

(75) Inventors/Applicants (for US only): SCHWEICKERT, Robert [US/US]; 9824 Robin Avenue NE, Albuquerque, NM 87112 (US). LEISTAD, Geirr, I. [NO/NO]; Jonssstubben 19, N-1337 Sandvika (NO).

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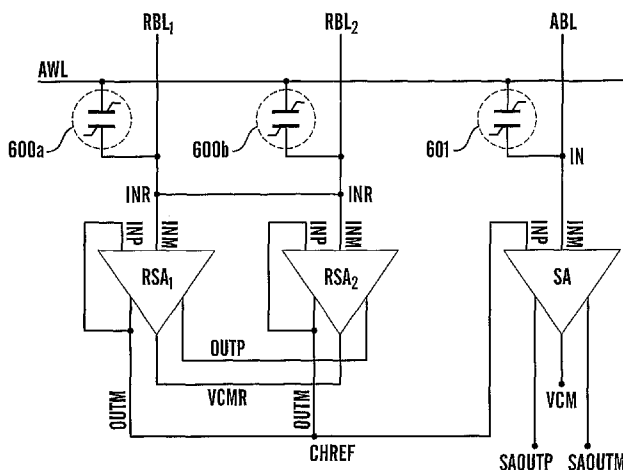
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(54) Title: SENSE AMPLIFIER SYSTEMS AND A MATRIX-ADDRESSABLE MEMORY DEVICE PROVIDED THEREWITH



(57) Abstract: A sense amplifier system for sensing the charge of a charge-storing means (601) comprises a first and second charge reference means (600a, 600b) connected in parallel and similar to the charge-storing means (601) and having respectively opposite polarization. The charge reference means (600a, 600b) and the charge-storing means (601) have a common input node (WL), and first and second pseudo-differential reference sense amplifiers (RSA1, RSA2) are connected with output nodes (RBL1, RBL2) of the charge reference means (600a, 600b) for generating reference signals to a common reference node (CHREF) connected with a pseudo-differential sense amplifier (SA). The pseudo-differential sense amplifier (SA) has a second input for receiving an output signal from the charge-storing means (601) and generates an output signal indicative of a polarization state of the charge-storing means. Another embodiment adapted for sensing the charges of a plurality of charge-storing means (701) and comprising at least two pairs of charge reference means is also described. A non-volatile matrix-addressable memory system comprising an electrical polarizable dielectric memory material exhibiting hysteresis and a sense amplifier system as described is also claimed.

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