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(71) Applicant (for all designated States except US): RHOMBUS, INC. [US/US]; Suite 200, 2480 Sand Hill Road, Menlo Park, CA 94025 (US).			
(72) Inventors; and (75) Inventors/Applicants (for US only): JOHNSON, Mark, G. [US/US]; 125 Arbuco Way, Los Altos, CA 94022 (US). LEE, Thomas, H. [US/US]; 939 Bubb Road, Cupertino, CA 95014 (US). SUBRAMANIAN, Vivek [IN/US]; 1070 Noel Drive, Menlo Park, CA 94025 (US). FARMWALD, P., Michael [US/US]; 190 Golden Oak Drive, Portola Valley, CA 94028 (US). CLEEVES, James, M. [US/US]; 551 Summit Drive, Redwood City, CA 94062 (US).			
(74) Agents: TAYLOR, Edwin, H. et al.; Blakely, Sokoloff, Taylor & Zafman LLP, 7th floor, 12400 Wilshire Boulevard, Los Angeles, CA 90025 (US).			

(54) Title: **VERTICALLY STACKED FIELD PROGRAMMABLE NONVOLATILE MEMORY AND METHOD OF FABRICATION**

(57) Abstract

A very high density field programmable memory is disclosed. An array is formed vertically above a substrate using several layers (51a1, 51a2, 51b2), each layer (51a1) of which includes vertically fabricated memory cells. The cell in an N level array may be formed with N+1 masking steps plus masking steps needed for contacts. Maximum use of self alignment techniques minimizes photolithographic limitations. In one embodiment the peripheral circuits are formed in a silicon substrate and an N level array is fabricated above the substrate.

