



US007238981B2

(12) **United States Patent**
Marotta

(10) **Patent No.:** **US 7,238,981 B2**
(45) **Date of Patent:** **Jul. 3, 2007**

(54) **METAL-POLY INTEGRATED CAPACITOR STRUCTURE**

(58) **Field of Classification Search** 257/296,
257/299, 300, 307, 311, 532, 535, 536, E27.024,
257/E27.025, E27.033, E27.034, E27.048,
257/E27.016; 327/535, 536; 365/226, 189.09,
365/225.7

(75) **Inventor:** **Giulio Giuseppe Marotta**, Via Fontecerro (IT)

See application file for complete search history.

(73) **Assignee:** **Micron Technology, Inc.**, Boise, ID (US)

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(*) **Notice:** Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 82 days.

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(21) **Appl. No.:** **10/921,463**

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(22) **Filed:** **Aug. 19, 2004**

Primary Examiner—Minhloan Tran

(65) **Prior Publication Data**

Assistant Examiner—Benjamin Tzu-Hung Liu

US 2006/0039208 A1 Feb. 23, 2006

(74) *Attorney, Agent, or Firm*—Leffert Jay & Polglaze, P.A.

Related U.S. Application Data

(62) Division of application No. 10/228,823, filed on Aug. 27, 2002, now Pat. No. 6,897,511.

(57) **ABSTRACT**

A metal-poly integrated capacitor structure that may be used in a charge pump circuit of a non-volatile memory. In one embodiment, the capacitor comprises a poly silicon layer, a first metal layer and a second metal layer. The first metal layer is positioned between the poly silicon layer and the second metal layer. The first metal layer has a first terminal and a second terminal. The first terminal is electrically isolated from the second terminal.

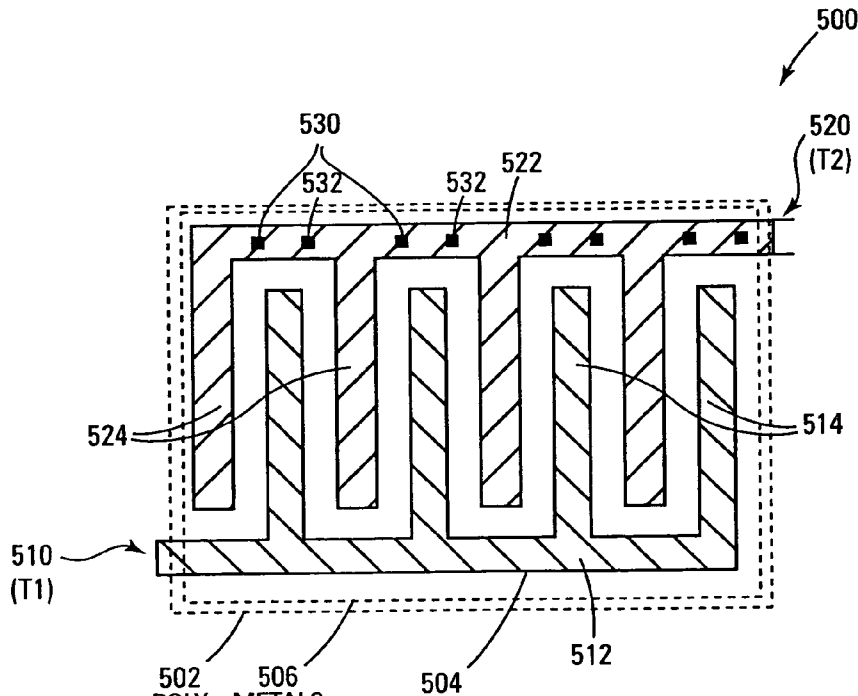
(30) **Foreign Application Priority Data**

Aug. 29, 2001 (IT) RM2001A0517

(51) **Int. Cl.**
H01L 27/108 (2006.01)

13 Claims, 6 Drawing Sheets

(52) **U.S. Cl.** 257/307; 257/535; 257/E27.016



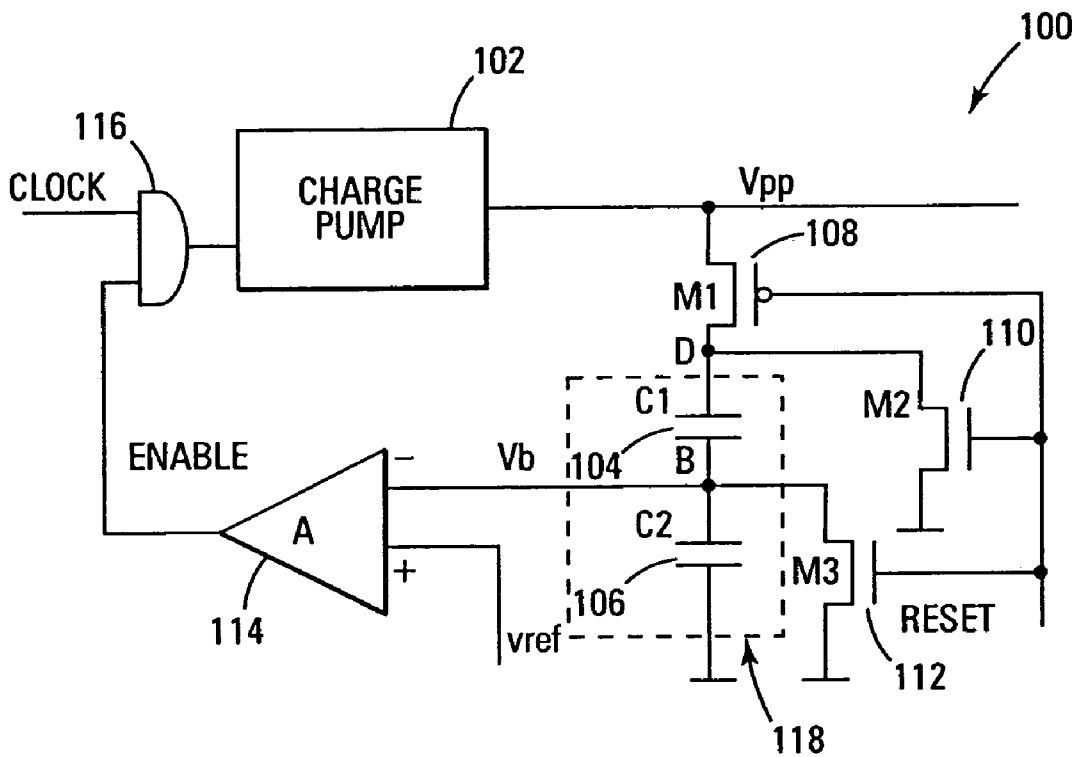


Fig. 1
Prior Art

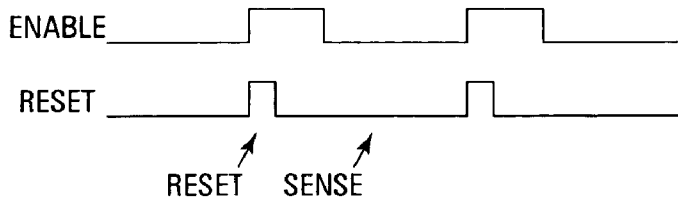


Fig. 2
Prior Art

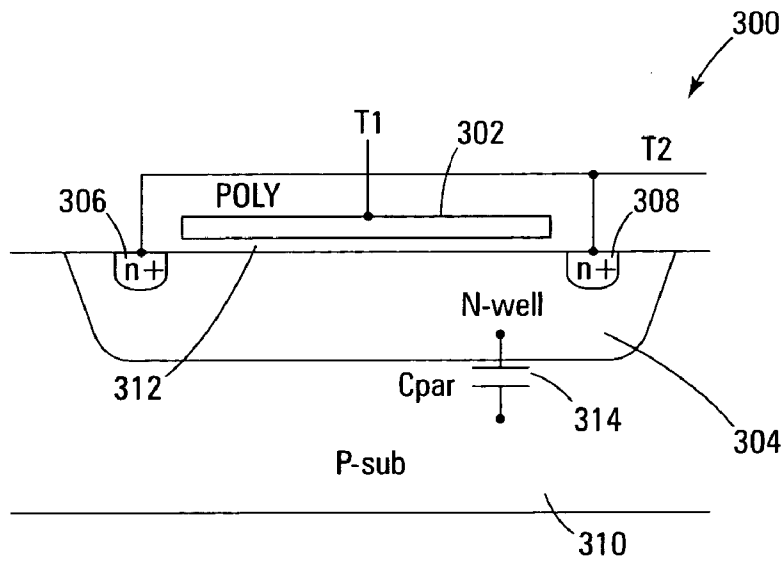


Fig. 3
Prior Art

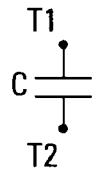


Fig. 3A
Prior Art

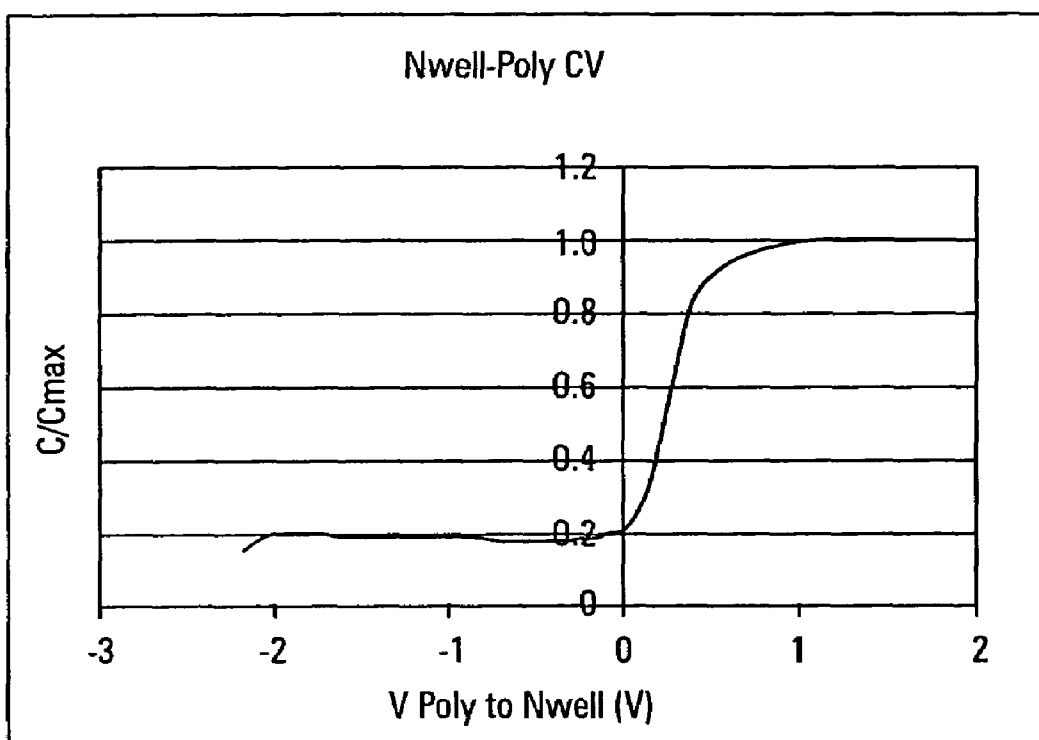


Fig. 4

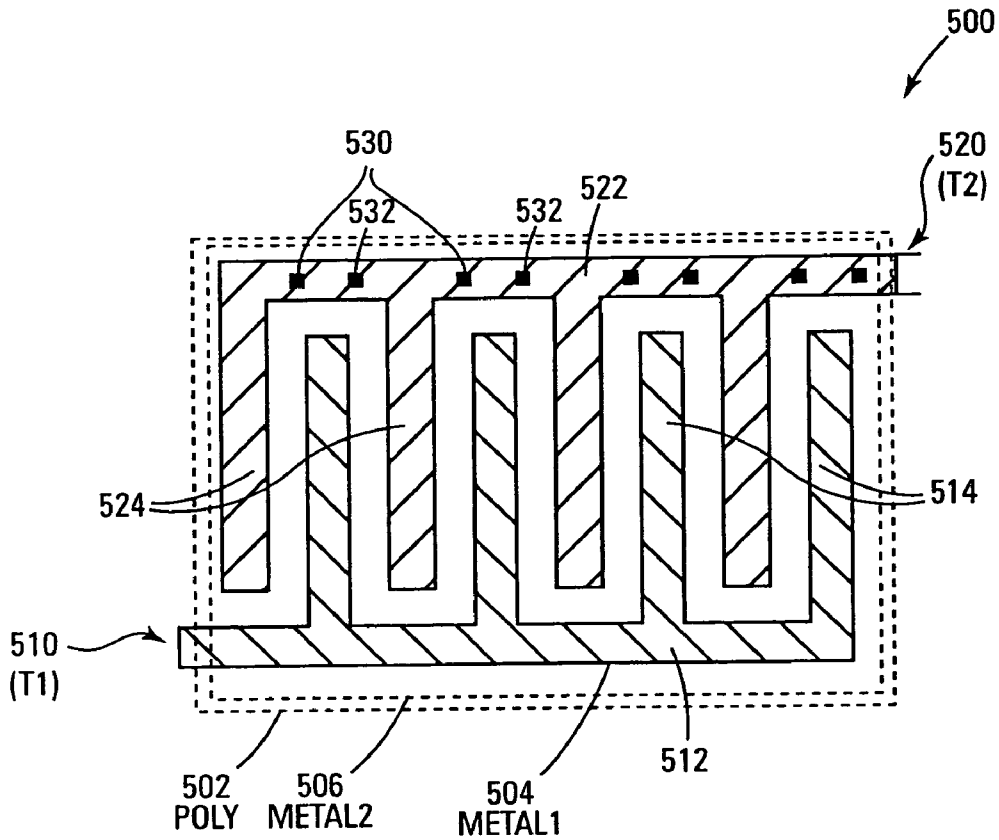


Fig. 5

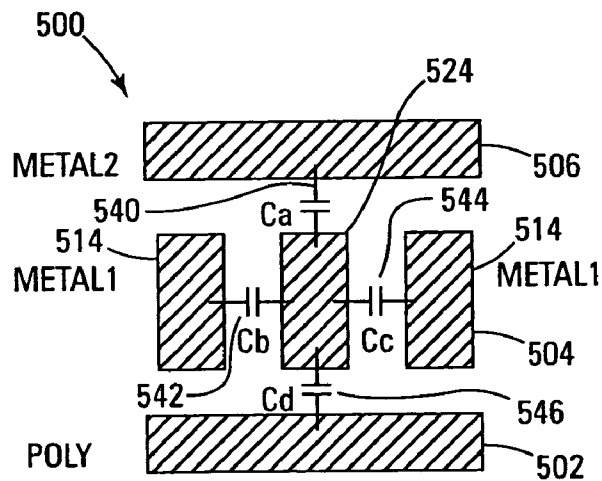


Fig. 5A

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