

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
3 July 2003 (03.07.2003)

PCT

(10) International Publication Number
WO 03/054887 A1

(51) International Patent Classification⁷: **G11C 11/34, 7/12**

(21) International Application Number: PCT/US02/40078

(22) International Filing Date:
16 December 2002 (16.12.2002)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
10/022,722 20 December 2001 (20.12.2001) US

(71) Applicant: **MICRON TECHNOLOGY INC.** [US/US];
8000 S. Federal Way, Boise, ID 83707-0006 (US).

(72) Inventor: **HUSH, Glen**; 4207 S. Redhawk Place, Boise,
ID 83716 (US).

(74) Agent: **D'AMICO, Thomas, J.**; Dickstein Shapiro Morin
& Oshinsky LLP, 2101 L Street N.W., Washington, DC
20037-1526 (US).

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

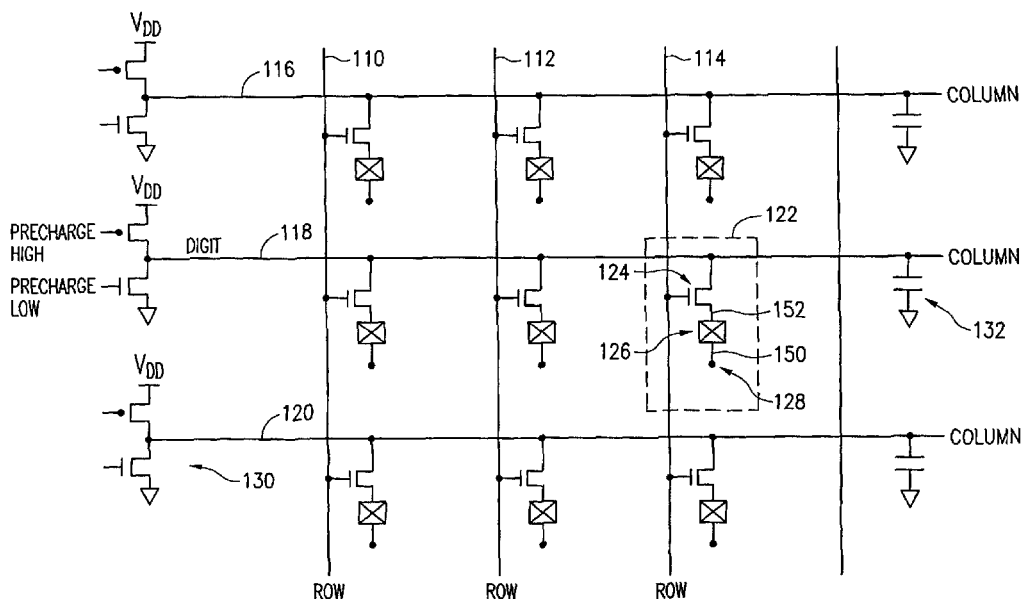
(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

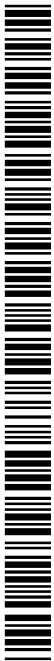
- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: A PROGRAMMABLE CONDUCTOR RANDOM ACCESS MEMORY AND A METHOD FOR WRITING THERETO



(57) Abstract: The present invention provides an improved write circuit and method for writing a programmable conductor random access memory (PCRAM) cell. The method comprises precharging a bit line to a first voltage and applying a second voltage to a first terminal of a chalcogenide memory element. A second terminal of the chalcogenide memory element is selectively coupled to the bit line to produce a voltage across the memory element sufficient to write a predetermined resistance state into the element. The first voltage may take on two different values to program two different resistance states into the memory element.



WO 03/054887 A1