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(54) Title: A READ-ONLY MEMORY AND READ-ONLY MEMORY DEVICES

(57) Abstract

A read-only memory is made electrically addressable over a passive conductor matrix, wherein the volume between intersection of two conductors (2; 4) in the matrix defines a memory cell (5). Data are stored as impedance values in the memory cells. The memory cells (5) comprise either an isolating material (6) which provides high impedance or one or more inorganic or organic semiconductors (9), preferably with an anisotropic conducting property. The semiconductor material (9) forms a diode junction at the interface to a metallic conductor (2; 4) in the matrix. By suitable arrangement of respectively the isolating material (6) and semiconductor material (9) in the memory cells these may be given a determined impedance value which may be read electrically and corresponds to logical values in a binary or multi-valued code. One or more read-only memories (ROM) may be provided on a semiconductor substrate (1) which also comprises driver and control circuits (13), to accomplish a read-only memory device. The device may be realized either planar or also volumetrically by stacking several read-only memories (ROM) in horizontal layers (15) and connecting them with the substrate (1) via addressing buses.

