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(54) Title: LOW THRESHOLD VOLTAGE ANTI-FUSE DEVICE

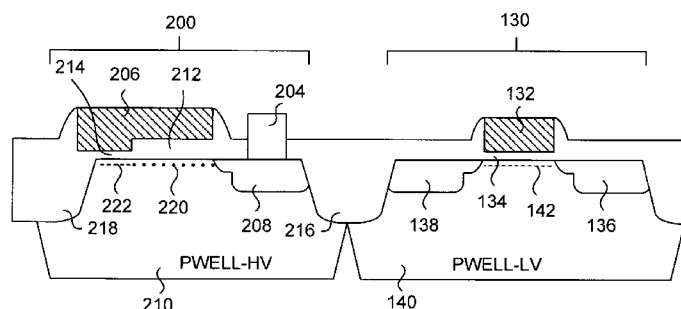


FIG. 7B

(57) Abstract: A one time programmable memory cell having an anti-fuse device with a low threshold voltage independent of core circuit process manufacturing technology is presented. A two transistor memory cell having a pass transistor and an anti-fuse device, or a single transistor memory cell having a dual thickness gate oxide, are formed in a high voltage well that is formed for high voltage transistors. The threshold voltage of the anti-fuse device differs from the threshold voltages of any transistor in the core circuits of the memory device, but has a gate oxide thickness that is the same as a transistor in the core circuits. The pass transistor has a threshold voltage that differs from the threshold voltages of any transistor in the core circuits, and has a gate oxide thickness that differs from any transistor in the core circuits. The threshold voltage of the anti-fuse device is lowered by omitting some or all of the threshold adjustment implants that is used for high voltage transistors fabricated in the I/O circuits.