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ABSTRACT

METHOD FOR MANUFACTURING DUAL VOLTAGE FLASH INTEGRATED CIRCUIT

A method is provided for manufacturing a multiple voltage flash memory integrated circuit structure on a semiconductor substrate [16] having a plurality of shallow trench isolations [18] and a floating gate structure [22]. A first dielectric layer [28] is formed and a portion removed to expose regions of the semiconductor substrate [16] for first and second low voltage devices. A second dielectric layer [38] is formed over the first dielectric layer [28] and the semiconductor substrate [16] and a portion removed to expose a region of the semiconductor substrate [16] for the second low voltage device. A third dielectric layer [58] is formed over the second dielectric layer [38] to form: a floating gate device [11] including the first, second, and third dielectric layers [28,38,58]; a first voltage device [12] including the first, second, and third dielectric layers [28,38,58]; a second voltage device [13] including the second and third dielectric layers [38,58]; and a third voltage device [14] including the third dielectric layer [58].

FIGURE 4B



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