

JS005521422A

United States Patent [19]

Mandelman et al.

[11] Patent Number:

5,521,422

[45] Date of Patent:

May 28, 1996

[54] CORNER PROTECTED SHALLOW TRENCH ISOLATION DEVICE

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[21] Appl. No.: **348,709**

[56]

[22] Filed: Dec. 2, 1994

622, 623, 626, 647

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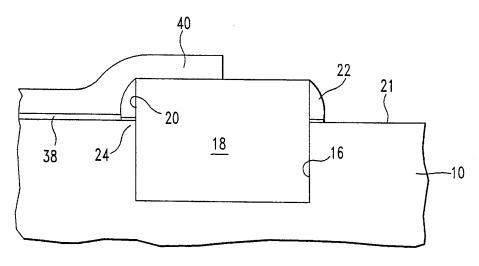
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Primary Examiner—Sara W. Crane Assistant Examiner—Alice W. Tang Attorney, Agent, or Firm—James M. Leas

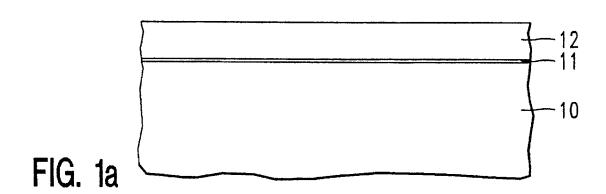
[57] ABSTRACT

A semiconductor structure to prevent gate wrap-around and corner parasitic leakage comprising a semiconductor substrate having a planar surface. A trench is located in the substrate, the trench having a sidewall. An intersection of the trench and the surface forms a corner. A dielectric lines the sidewall of the trench. And, a corner dielectric co-aligned with the corner extends a subminimum dimension distance over the substrate from the corner.

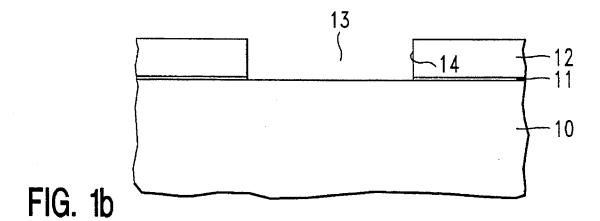
10 Claims, 5 Drawing Sheets

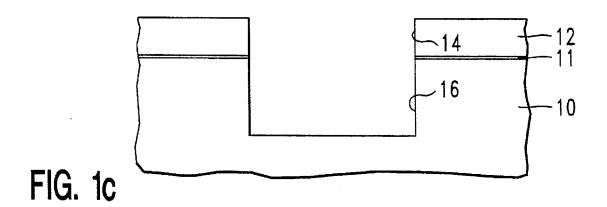






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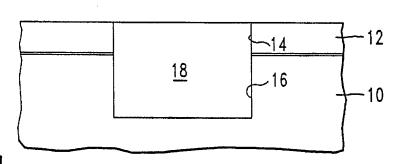
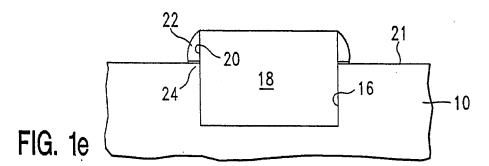
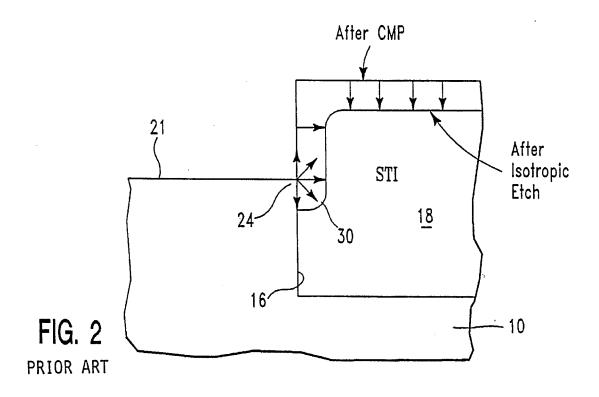
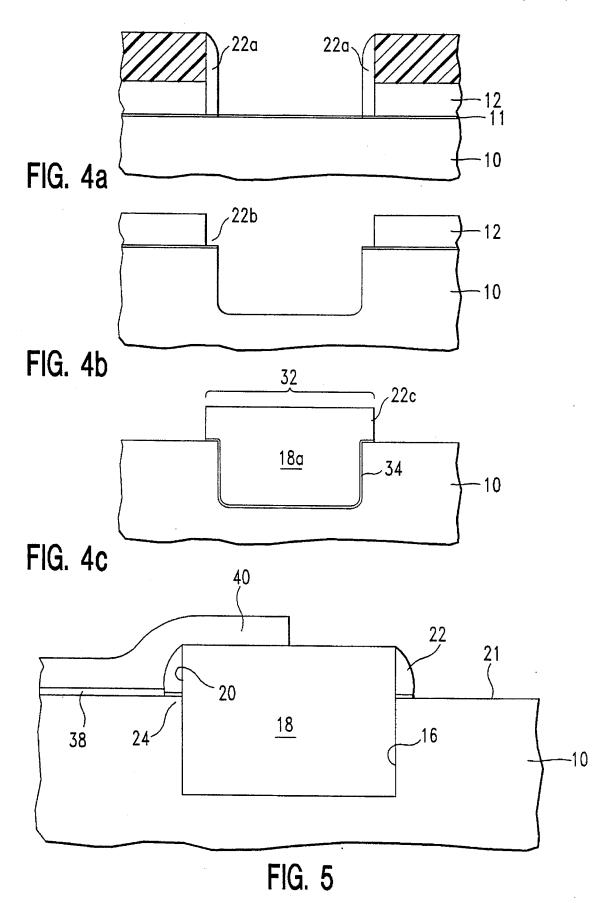


FIG. 1d







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