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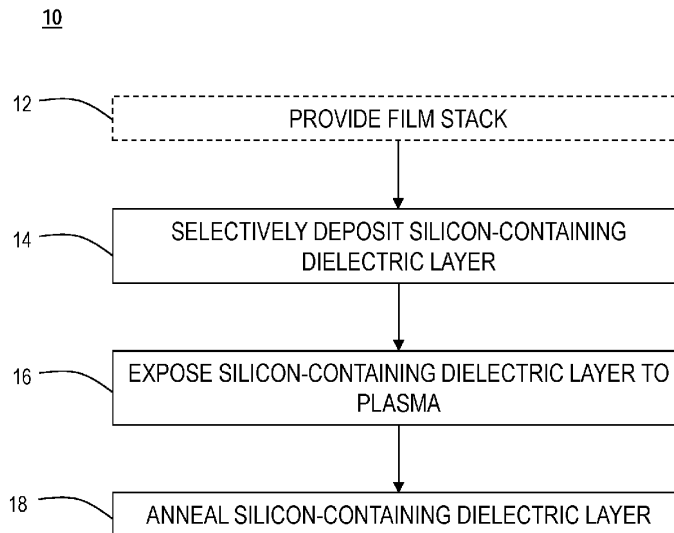


FIG. 1

(57) Abstract: Methods of manufacturing memory devices are provided. The methods improve the quality of a selectively deposited silicon-containing dielectric layer. The method comprises selectively depositing a silicon-containing dielectric layer in a recessed region of a film stack. The selectively deposited silicon-containing dielectric layer is then exposed to a high-density plasma annealed at a temperature greater than 800 °C to provide a silicon-containing dielectric film having a wet etch rate of less than 4 Å/min.

[Continued on next page]

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