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 ℃ to provide a silicon-containing dielectric film having a wet etch rate of less than 4 Å/min.

[Fig. 5]