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(54) Title: SILICON OXIDE GAP FILL USING CAPACITIVELY COUPLED PLASMAS

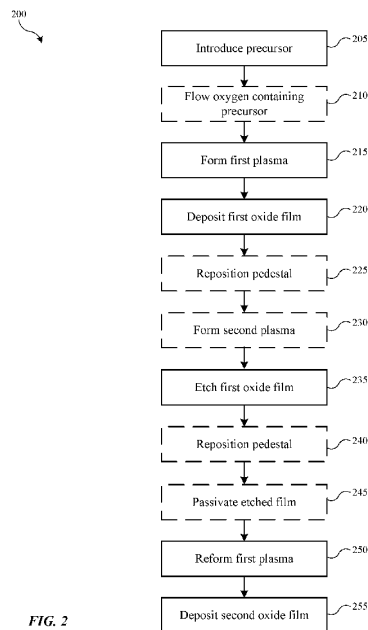


FIG. 2

(57) Abstract: Exemplary deposition methods may include introducing a precursor into a processing region of a semiconductor processing chamber via a faceplate of the semiconductor processing chamber. The methods may include flowing an oxygen-containing precursor into the processing region from beneath a pedestal of the semiconductor processing chamber. The pedestal may support a substrate. The substrate may define a trench in a surface of the substrate. The methods may include forming a first plasma of the precursor in the processing region of the semiconductor processing chamber. The methods may include depositing a first oxide film within the trench. The methods may include forming a second plasma in the processing region. The methods may include etching the first oxide film, while flowing the oxygen-containing precursor. The methods may include re-forming the first plasma in the processing region. The methods may also include depositing a second oxide film over the etched oxide film.

[Continued on next page]

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