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(54) Title: HIGH-POWER CARBON HARDMASK DEPOSITION AND CHARGE DISSIPATION

(57) Abstract: Carbon-containing hard masks are generally formed using plasmas that are maintained using RF power below about 3000 W to prevent charge to build up on the faceplate resulting in current arcs. Described herein are techniques for forming a carbon-containing hardmask using RF power above 3000 W. This high-power process may be performed such that the processing region is kept free of current arcs. A carbon-based layer may be formed on the showerhead or faceplate to distribute charge and prevent the current arcs from charge buildup. A charge drain may also be included that collects charge from the surface of the substrate during the deposition process and provides a conductive pathway from the processing region to reduce the potential for current arcs.

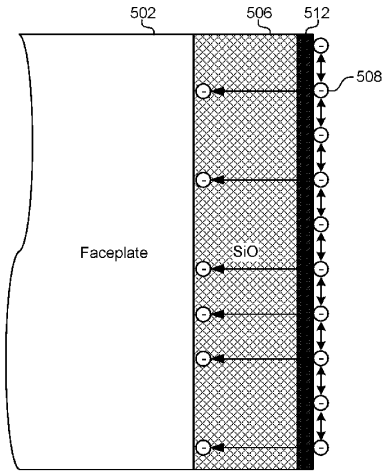

FIG. 5B

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