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(54) **Title**: POLAR REGIONS FOR ELECTROSTATIC DE-CHUCKING WITH LIFT PINS

(57) **Abstract**: An apparatus for electrostatic chucking and dechucking of a semiconductor wafer includes an electrostatic chuck with a number of zones. Each zone includes one or more polar regions around a lift pin that contacts a bottom surface of the semiconductor wafer. The apparatus also includes one or more controllers that control the lift pins and one or more controllers that control the polar regions. The controller for the lift pins receives data from one or more sensors and uses the data to adjust the upward force of the lift pins. Likewise, the controller for the polar regions receives data from the sensors and uses the data to adjust the voltage in the polar regions.

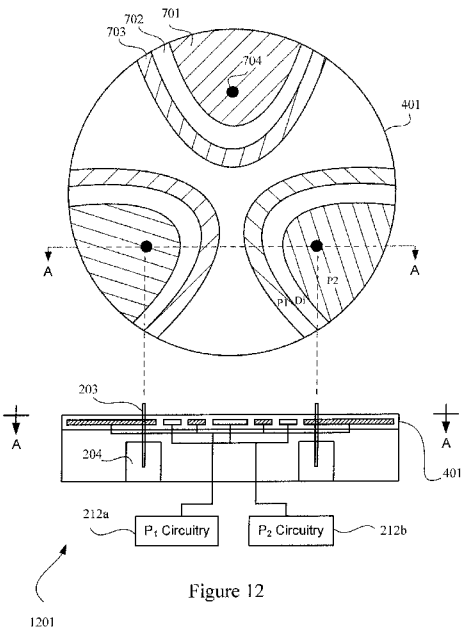


Figure 12

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— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*