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(54) Title: PROCESS GAS RAMP DURING SEMICONDUCTOR PROCESSING

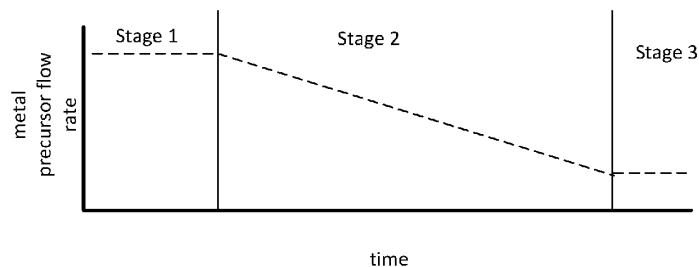


FIG. 3B

(57) Abstract: Provided herein are systems and methods for semiconductor processing including feature fill processes. The methods comprise providing a substrate having a feature to be filled with a metal in a chamber, and flowing a metal precursor and a reducing agent into the chamber to deposit metal in the feature in a chemical vapor deposition (CVD) operation, wherein the CVD operation comprises a ramp down stage in which the flow rate of the metal precursor into the chamber is ramped down from a first flow rate to a second flow rate, or a ramp up stage in which the flow rate of the metal precursor into the chamber is ramped up from the first flow rate to the second flow rate.

[Continued on next page]



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