Method and apparatus for depositing a layer on a semiconductor wafer by vapor deposition in a process chamber

Abstract

Method and apparatus for depositing a layer on a semiconductor wafer by vapor deposition in a process chamber having an upper and a lower cover. The method comprises measuring the temperature on the front side of the semiconductor wafer; heating the semiconductor wafer to a deposition temperature; controlling the temperature of the upper cover of the process chamber to a target temperature, wherein the temperature of the upper cover is measured in the center of the outer surface of the upper cover and is used as an actual value of the controlled variable of a control loop for controlling the temperature of the upper cover; setting a gas flow rate with which a process gas for depositing the layer is conducted through the process chamber; and depositing the layer on the front side of the semiconductor wafer heated to the deposition temperature during the control of the temperature of the upper cover of the process chamber to the target temperature.

Fig. 1