

Semiconductor Wafer Positioning (Chemical Vapor Deposition)

GOAL

Applying uniform films onto silicon wafers by chemical vapor deposition (CVD).

Ensuring uniform deposition of the chemical layer on the wafer.

SOLUTION

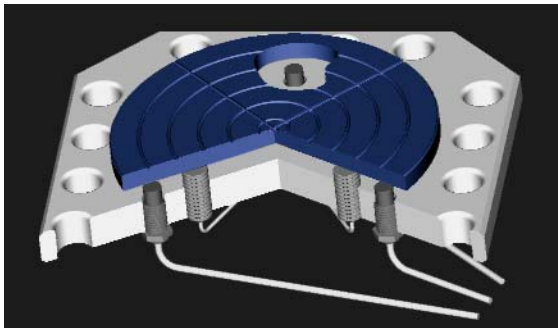
SMT-9700

Before deposition begins, Kaman's sensors ensure that the plate holding the wafer is parallel to the showerheads that disperse the process gases (see Figure 1). The sensors are used for calibration to verify that the plate's position is within limits.

Kaman's system provides an analog output — or an optional digital interface — to signal out-of-tolerance conditions. If the plate is tilted, an actuator levels it.

Result: Consistent and uniform deposition quality.

Figure 1



THE KAMAN ADVANTAGE

Good reasons to use the Kaman SMT-9700 measuring system:

Direct measurement. A sensor ring attached to a spring-loaded floating plate allows direct measurement of the position of the showerhead.

Non-contact. Using eddy current technology, each sensor can measure the position of the target without ever touching it.

High resolution. The system can sense position change to one nanometer.

System versatility. The system is available with a wide range of sensor options.

*Every application is unique.
Contact Kaman for application engineering assistance.*

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