

Semiconductor Wafer Positioning (Physical Vapor Deposition)

GOAL

Safely handling and keeping the semiconductor wafers precisely aligned in chambers where materials are deposited by physical vapor deposition (PVD).

Avoiding wafer breakage, due to mis-alignment, at the very small entrance to the chamber.

Ensuring uniform deposition of the material layer on the wafer.

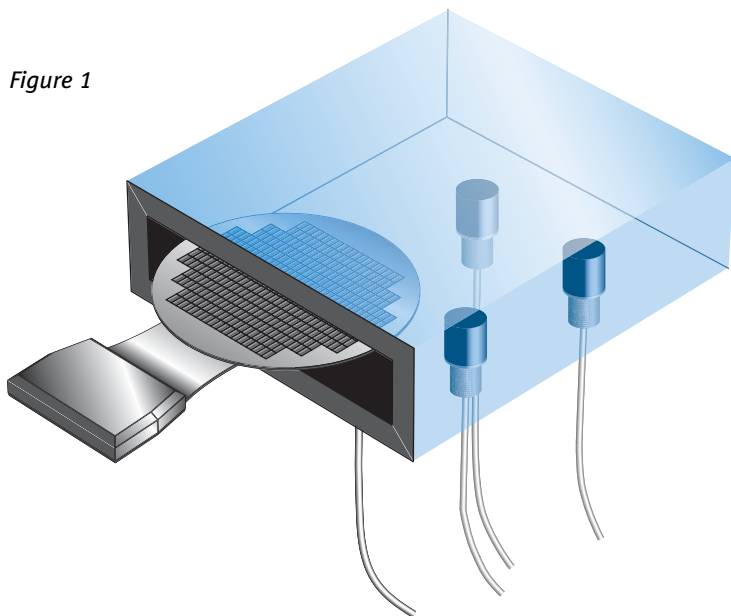
SOLUTION

SMT-9700

In PVD systems, wafers are moved into several chambers, each depositing a different material. The sensors are mounted inside the deposition chambers (see Figure 1). Each sensor measures the position of the end effector that enters the chamber carrying the wafer. Kaman's systems provide an analog output — or an optional digital interface — to signal out-of-tolerance position.

Result: Improved uptime and higher yields.

Figure 1



THE KAMAN ADVANTAGE

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

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

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

Repeatability. The sensor allows highly reproducible alignment of the wafer in the chamber.

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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