Thin Film Stress Measurement System FSM 500TC

The FSM 500TC is a thin film stress measurement system that can test the stress of different films on different substrates, such as SiO₂/Si, Si₃N₄/GaAs, etc. The system can also test coefficient of thermal expansion (CTE) of the films. It has an N₂ ambient and a programmable temperature control system, allowing the evaluation of the thermal properties and stability of the films at temperature ranging from room up to 500°C.

System Overview

➢ The FSM 500TC system uses a Non-Destructive Optilever™ Laser Scanning technique to measure the change of curvature induced in a wafer due to the deposited film.

➢ A clean blank wafer is measured prior to film deposition. Its data is compared to measurements taken on the same sample after film deposition.

Typical Applications

1. Substrate bow control for TSV, Semiconductor.

2. Glass panel flatness control for display application.

3. In LED industry, the tool can be used for bow and warp measurement of sapphire or SiC substrate.

4. The stress control due to film deposition in the following process such as Sputtering, Evaporation, etc.

Specifications

➢ Dual laser wavelength to avoid destructive interference from dielectric thin film.

➢ Stage can accommodate wafer ranges from 2 to 8 inch diameter.

➢ 3D map capability and high number of data point enable user to detect local stress variation.

➢ Process temperature range from room temperature up to 500°C.

For enquiries, please contact:

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