Thin Film Stress Measurement System

FLX(Flexus) Series

De-facto standard for stress measurement

With higher speeds and integration continuously desired in the semiconductor industry, the control and management of substrate and film quality has gained even more importance and scrutiny. The film deposition process needs to be highly optimized to increase the yield of the devices. New materials like SiC and GaN have been intensively studied and are now being used for higher performance semiconductors. The FLX Series is the non-contact/non-destructive sample deflection and film stress measurement system using the dual laser technology.

Features / Application

- Top global market share in desktop stress metrology system
- Quality control of film deposition/coating equipment
- Film quality management in various industries
- Research and Development of the substrate and film material
- Optimizing the film process in semiconductor and display manufacturing
- Made in Japan with high quality and service

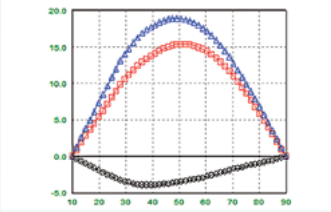
Product Lineup

Model	FLX2320S	FLX2320R	FLX3300T	FLX3300R
Sample size	3 ~ 8 inch		8 ~ 12 inch	
Measurement range *1	1 ~ 4000MPa			
Measurement repeatability (1σ) *2	±1.3MPa			
Data	Stress (MPa), Deflection (um), BOW(um), Radius (um), Graph, 3D Mapping, etc			
Measurement lasers	670nm, 780nm			
Measurement temperature	RT to 500℃	Room Temp	RT to 500℃	Room Temp
Sample rotation	Manual	Auto	Manual	Auto
Power supply	230V	100V	230V	100V
Gas	CDA / N2	—	CDA / N2	—
Standard dimension	W560×D460×H460		W663×D550×H492	
Standard weight	48kg		60kg	
options	Stress Standard, Locators, 3D Software, Offline Software, Transformer, Low-Temp (−65 ℃), etc.			

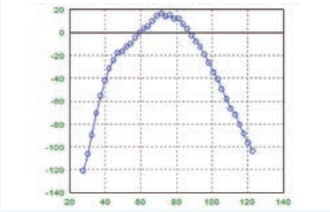
*1 : Measure 8" Si wafer (t=725um) with 1um thick film
*2 : 8" Standard Stress Pair wafers are measured 10 times

Specifications and dimensions are subject to change without notice.

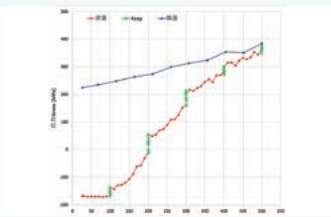
Analysis



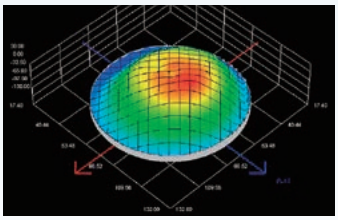
Deflection change



Stress uniformity

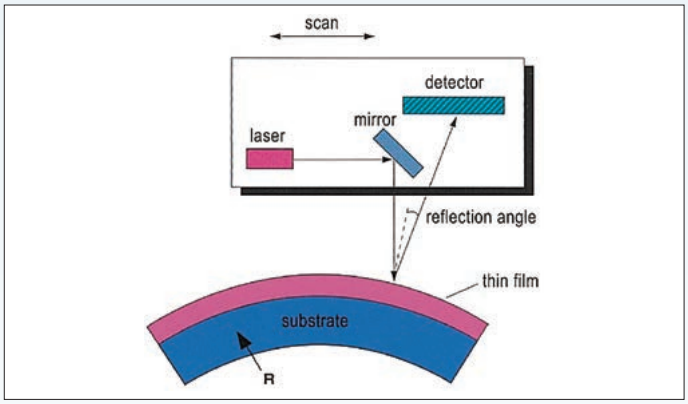


Temp/Stress data



3D Mapping

Measurement Theory



The laser is reflected on the surface of the sample. Samples before and after film deposition are measured separately and the difference in the curvature radius of the samples is used to accurately calculate the film stress.

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