

FSM 128C2C Automated Film Stress & Wafer Bow Measurement System



FSM128C2C

**Non-contact
Laser scanning**

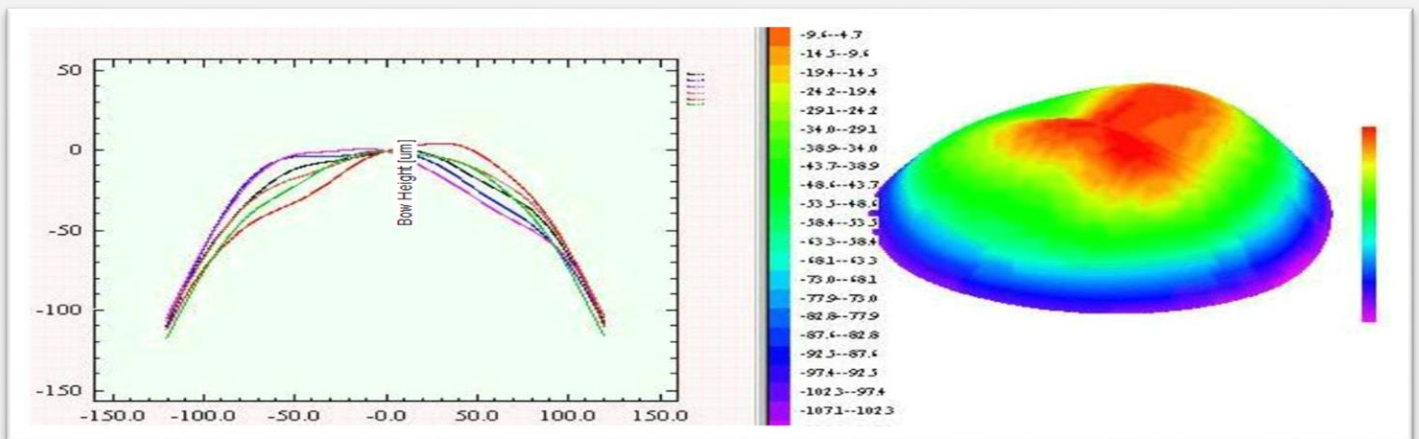
**3 D Mapping &
Profiling**

**Room
Temperature**

**Wafer Size: 150mm to
300mm**

Robotic Cassette Handling

Semiconductor, Optoelectronics & FPD Application



Frontier Semiconductor

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FSM 128C2C Automated Film Stress & Wafer Bow Measurement System (Room Temperature)

Introduction

The FSM 128C2C series is a fully automated system designed for stringent production environments, including next-generation devices in 300mm fabs, III-V, and MEMS industries. It offers robotic cassette handling and supports wafers ranging from 150mm to 300mm. Configurations include open cassette, SMIF, and mini-environment modules.

Specifications

- **Film Stress Range:** 1 MPa to 1.4 GPa (Si wafers with $\geq 1\mu\text{m}$ bow/curvature change)
- **Bow Sensitivity:** Detects 1-micron changes (P-doped Si)
- **Wafer thickness:** <5mm
- **Scan Range:** 3mm edge exclusion
- **Mapping:** 32 scan lines (6 recommended) with 40 data points/mm
- **Bow Measurement:** Measures up to 2000 μm bow heights
- **Advanced Optics:** Patented dual laser switching
- **Software:** Windows 7–11, export to Excel™ or JPEG
- **Operating Conditions:** Ambient temperature
- **Measurement Method:** Non-contact laser scanning
- **Scanning:** High-precision single scan and programmable multiple diametric scans for 2D/3D mapping
- **Repeatability:** 1% (1 sigma) on 20m curvature mirror
- **Accuracy:** <2.5% on 20m radius curvature mirror
- **Laser Class:** Class 1
- **Wafer Compatibility:**
 - FSM 128C2C: 150mm to 200mm
 - FSM 128C2G-SMIF: Mini-environment option
 - FSM 128L C2C: 300mm open cassette
 - FSM 128L C2C (SF/DF): 300mm with single or dual FOUP configurations

Data and Connectivity

- Export results to Excel™ or JPEG.
- Optional accessories: Wafer slot mappers, cassette ID readers, SECS/GEM communication.

System Requirements

- **Computer:** Intel Core i5 or later, 2GB RAM, 1TB hard drive, 4 USB ports, 2 Ethernet ports.

Dimensions & Weight

- **FSM 128C2C:** 38" (W) x 45" (D) x 75" (H), 850 lbs
- **FSM 128L C2C:** 41" (W) x 57" (D) x 75" (H), 1,000 lbs
- **FSM 128L C2C (DF):** 58" (W) x 68" (D) x 75" (H), 1,210 lbs

Power Requirements

- 110V/220V; 20A



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