Electronic

CONTACT-FREE ANALYSIS AT VERY LOW FREQUENCY

Method and device for microelectronic components internal analysis

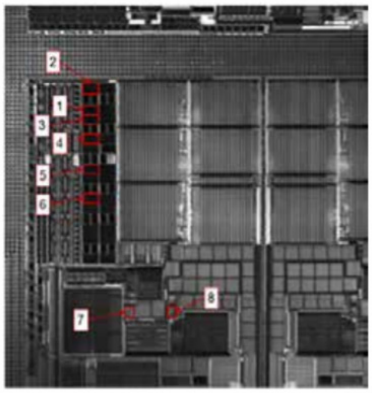
Technological benefits

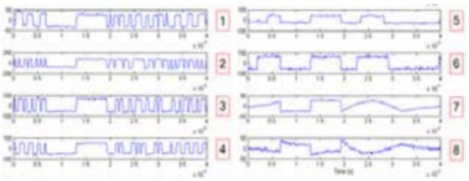
Very Low Frequency Analysis

- Microelectronic components analysis in dynamic operation.
- Low frequency signals measurement usually undetectable by laser sampling.
- Low-frequency spectrum conservation without distortion.
- Improved output signal quality.

A simple and powerful system

- Adaptable on existing laser scanning microscopes without modification.
- Possibility to optimize the photo-detection gain on a narrower band.





Invention overview

The current techniques allow only a measurement at several tens of kilohertz at least because of the bandwidth of the optical system.

This invention allows to make a measurement below the kilohertz using an amplitude modulation of the laser source.

This modulation allows to transpose the electrical measurement «at very low frequency» to a higher frequency measurement that is optimal for the optical system.

Commercial benefits

Recognized Capabilities

- Valuation by the manufacturer of Hamamatsu instruments

Exclusiveness

- Only method of this type of non-contact low-frequency measurements

Economical

- Compatible with most of existing hardware.
- Guarantees conservation.
- Increased efficiency.

Potential applications

Electronic Quality Control

- Failure analysis of electronic components
- Design analysis of electronic components

Microcontrollers, processors (computer, GSM, GPS).

Video components.

Non-volatile memory, MEMS

TRL : 5/6

Property 100% CNES

B1346

For more information

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