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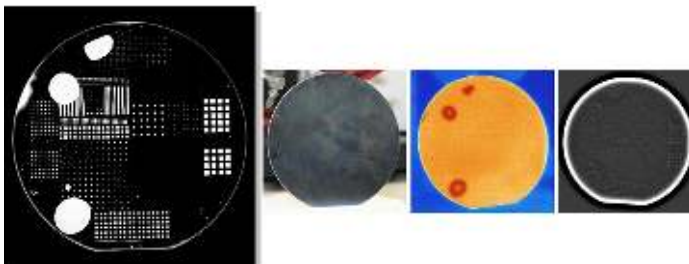
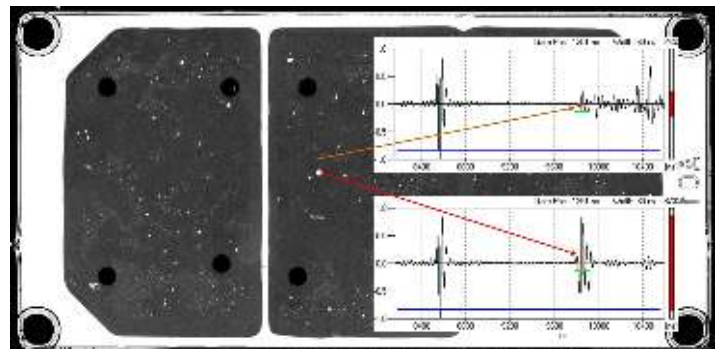
5 - 2000 MHz unique frequency range

Comparison of bonded wafer analysis

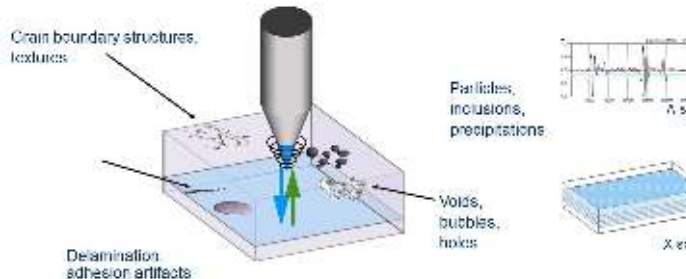
PVA TePla

Scanning Acoustic Microscopy

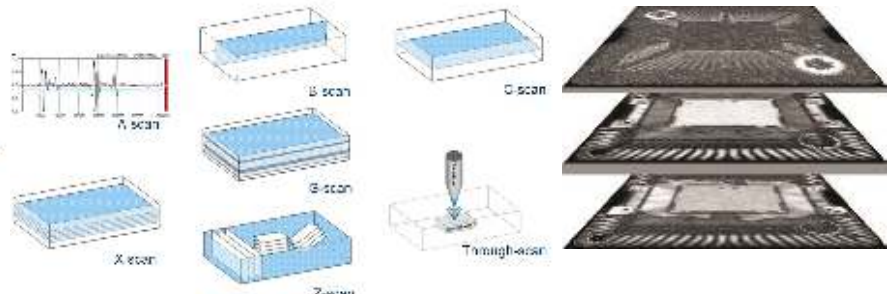
IGBT: A-scan



Detection and Sample Interaction



Different Scanning Modes



Contract Services Rate — \$300 / hour

Complimentary Sample Feasibilities

Please Email For Sample Request Form

System RF-bandwidth 500 MHz Specification Summary and System Description

SAM 302 HD² and SAM 501 HD² built around a core platform that utilizes the latest production and research technology. This provides the flexibility to easily configure a system according to customer requirements, such as throughput, sample size and scanning range. Optional add-ons can be specified to accommodate not only the substrate configuration (wafer, cylinder, device, etc.), but also the manufacturing flow (wafer handling, JEDEC tray, etc.).

High Performance Pulsar Receiver Interface with 500MHz Bandwidth

High frequency, high power, digital pulser / receiver with 500 MHz bandwidth is used in conjunction with ultrasonic transducers up to 400MHz. All transducer parameters are digitally tuned in accordance with archived reference settings. The receiver has 95 dB of gain for maximum signal detection from acoustically absorbing substrates. The gain is digitally selectable in precision 1 dB steps for quantitative materials characterization. The broad amplification bandwidth of the pulser provides high gain up to 50MHz for excellent signal to noise ratio. Extended gain is provided for frequencies higher than 100MHz. The broad amplification bandwidth allows for deeper penetration into samples at a given transducer frequency and at the same time it allows using higher frequency transducers for better resolution at a given depth within a sample. Signal filters (option) are used to effectively suppress noise thus improving signal to noise ratio.

Integrated ADC Board (Analogue Digital Converter)

The signal is sampled at a rate of 1.25 G samples/sec up to 5 G samples/ sec. The ADC board has an analogue bandwidth of 500MHz. (For the Through-scan option the sample rate can be multiplexed for the echo and transmission channel.)

Scanning System

The scanner utilizes a powerful 2 axis (x-y) linear motor drive system with opto-mag encoders. The encoder resolution of 16 nm allows the motor controller highly accurate movements of the motor controller. Vibrations are avoided by sophisticated acceleration profiles. Hence the scanning system is optimized for high speed and accuracy.

Scanning System (cont.)

Included are trigger interface, encoder interface, and x; y; z motor controller units.

Scanning range: 200µm x 200µm – 320mm x 320mm (**SAM 302 HD²**) - 500mm x 500mm (**SAM 501 HD²**)

2 Z axis (front and back side): patent protected auto focus system, z=100 mm, motorized

Recommended scanning speed: 1.5 m/ sec

Maximum scanner acceleration: 20 m/ sec²

Encoder resolution: 10nm

Dynamic repeatability: +/- 0.05µm

Minimum pixel size: 0.5µm/ pixel

Sample tank: 670mm x 560mm x 150mm

1 HISA (front) and 1 HISA DTS back (option):
Detection of start and echo pulse (surface echo peaks)

2 Z drives, 50mm travel range, high speed linear motion system

Pulse measurement system for HISA

Graphical User Interface WINSAM 8

The functionality of the SAM 302 HD² is controlled by an advanced intuitive graphical user interface and control program WINSAM 8 utilizing a Windows® 10 platform. WINSAM 8 is easy to learn and can be used for a variety of tasks ranging from detailed analysis to automated inspection routines.

Main Features

- ◆ Variable gain, gate width and gate delay setting before and during scanning
- ◆ Threshold selectable, positive-negative peak phase detection: amplitude, bipolar.
- ◆ Automatic storage and recall of instrument setup parameters with every image saved in "tif" format. All SAM parameters and settings are recalled and reset automatically, allowing the system to perform a new analysis under identical conditions as the previous image by simply opening and loading a stored image.
- ◆ Automatic scan size set-up by drawing a window over the area of interest. This creates a full pixel resolution image of the area of interest.
- ◆ Zoom and panning of image to magnify area of interest.
- ◆ Fully flexible scan field dimensions in x and y.
- ◆ Free Flexible image resolution by selectable pixel size, configuration in Winsam software.
- ◆ Minimum pixel size 0,5µm
- ◆ Image storage depth 8 bit, selectable LUT.
- ◆ TIFF file includes multiple gate images.