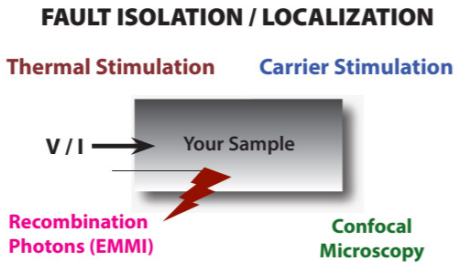
NANOLAB TECHNOLOGIES | Eurofins Materials Science

TECHNIQUE NOTE

SOM 4000: One-Stop Electrical Fault Isolation Solution

OVERVIEW

- Voltage/Current IN - Recombination Photons OUT
- Max. Magnification: 100X
- Area Resolution: 5 µ
- Spectral Range: 700 nm - 1.5 µ
- Sample Size: 300 mm (docked)



STRENGTHS / ADVANTAGES

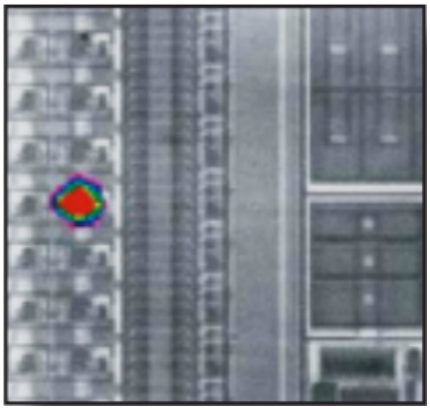
- 300 mm wafer analysis - backside
- State-of-the-art InGaAs detector
- High resolution confocal laser microscopy
- Thermal (1340 nm) and Carrier (1064 nm) laser stimulation
- Up to 8 probes - analytical probing
- Low cost setup for backside analysis

ROUTINE IMAGING AND ANALYSES

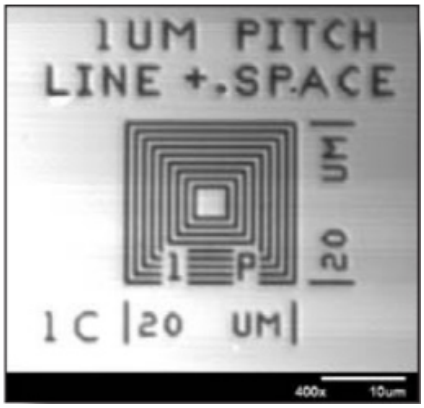
- Backside photon emission for leakage
- Backside laser stimulation for shorts and opens
- Frontside photon emission for leakage
- Frontside laser emission for shorts
- High resolution confocal microscopy for die cracks, chip out or damage to active layer

NanoLab's State-Of-The-Art 'SOM 4000'

Photon Emission (InGaAs detector)



Confocal Laser Imaging



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ADVANCED ANALYSES

- Pulsed Laser analysis without Lock-In
- Tester docked analysis with Soft Defect Localization (SDL)
- Specialty work? - Give us a call.

GLOBAL USES

- Failure analysis
- Yield enhancement
- ESD/Latch-up failures
- Problem solving
- Design debug
- Qualification failures

APPLICATIONS

- Leakage localization
- Short localization
- Functional failure localization
- Open localization
- Pre-screening of cracks
- Pre-screening of chipouts
- Latchup and ESD
- Many more - let's talk.

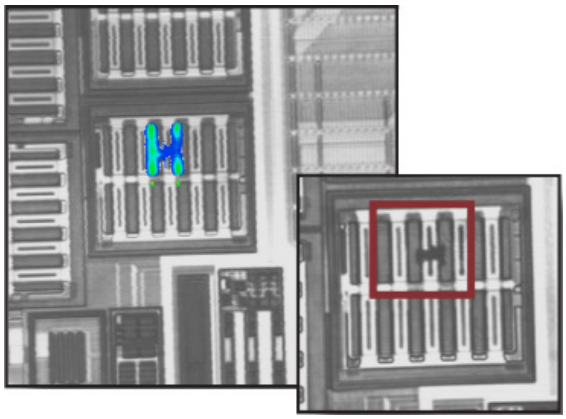
IMAGES AND PLOTS

- 1x - 100x magnification
- 2K x 2K laser scan array
- 20 ms camera exposure
- JPEG images of raw and overlayed data
- MPEG/AVI movies of Latchup events
- Panoramic images
- Specialty spectra - call us.

SAMPLE TREATMENTS

- Low cost backside prep
- Cleaner Imaging using Anti-Reflection coating
- Customized backside prep for backside imaging
- Advanced treatments - let us help with your special needs.

Laser Induced Thermal Emission



Carrier Laser Stimulation